



# EVMS

Eastern Virginia Medical School

Institutional Catalog  
2018-2019



**Institutional Catalog**  
**2018-2019**

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### ***Welcome to EVMS!***

Welcome to Eastern Virginia Medical School. In the late 1960s, the community recognized the need for high-quality specialty care in Hampton Roads. So, its leaders banded together and raised the money to start a medical school in 1973.

Since that time, we have graduated more than 10,000 health professionals.

Our students tell us time and again that they come to EVMS for the collegiality among their peers and their ready access to faculty. They also love our strong spirit of service. EVMS is home to first student-led free clinic in Virginia. Our vision is to become the most community-oriented school of medicine and health professions in the country, and you can be a part of that effort.

Our students benefit from the latest in medical modeling and simulation technology and our pioneering standardized-patient programs. In addition to our MD curriculum, we offer more than 20 other degree and certificate programs through our School of Health Professions. Some 350 resident physicians continue their training in 39 residency, fellowship and internship programs supporting clinical practices, our hospital partners and the region's patients. More than 150 full-time EVMS physicians and surgeons care for more than 1,600 people every day at practices throughout the area — including the region's only Level 1 trauma center. Our world-renowned faculty also conducts cutting-edge research focused on Hampton Roads' most pressing health needs.

The EVMS impact is felt throughout the Commonwealth of Virginia. More than 3,500 alumni practice around the state. Last year, more than 15,000 health professionals took advantage of our continuing medical education programs to learn more about the latest treatments and maintain their licensure. All told, EVMS has an estimated \$1.2 billion annual impact on the regional economy.

Thank you for your interest in EVMS.

Richard V. Homan, MD

President and Provost, Dean of the School of Medicine





## Leadership

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### Board of Visitors

The Board of Visitors is the governing body of EVMS. The board consists of 17 members who are appointed by the governor, the General Assembly, local cities and the EVMS foundation.

### President, Provost & Dean of the School of Medicine

The President and Provost of EVMS and Dean of the School of Medicine provides day-to-day leadership for the institution and leads EVMS' academic and research enterprises.

### Vice President & Dean of the School of Health Professions

The Vice President & Dean of the School of Health Professions directs academic planning, medical modeling and simulation, program development, accreditation, educational outreach and HP programs.

### Vice President and Chief Operating Officer

The Vice President and Chief Operating Officer has direct responsibility for External Affairs and a role in future strategic initiatives, governmental affairs and day-to-day operations.

### Vice President for Administration & Finance

The Vice President for Administration & Finance directs EVMS' administrative functions, including Human Resources, Materials Management, Financial Services, IT, Facilities and Police & Public Safety.

### Vice President & General Counsel

The Vice President & General Counsel oversees legal and compliance support for the institution.

### Vice Provost for Faculty Affairs and Institutional Effectiveness

The Vice Provost for Faculty Affairs and Institutional Effectiveness provides leadership, support and oversight for matters related to faculty, strategic planning, and institutional effectiveness.

### Vice Dean of Academic Affairs

The Vice Dean of Academic Affairs oversees student-focused administrative components, such as Admissions and Enrollment, Student Affairs and Global and Service Learning, as well as curriculum reform.

### Vice President for Diversity & Inclusion

The Vice President for Diversity & Inclusion leads efforts to build institutional capacity and human capital to address gaps in health equity and workforce diversity.

### Vice Dean of Research

The Vice Dean of Research provides leadership and strategic oversight for EVMS' research enterprise while strengthening infrastructure and enhancing collaboration and translational

research capacity.

### Vice Dean of Graduate Medical Education

The Vice Dean of Graduate Medical Education oversees operations for internships, residencies and fellowships, coordinating affiliations with clinical training sites and managing accreditation.

### Vice Dean for Clinical Affairs

The Vice Dean for Clinical Affairs provides leadership and strategic direction for all EVMS-sponsored patient-care programs and activities in concert with EVMS Medical Group.

### EVMS Medical Group Chief Executive Officer

EVMS Medical Group's Chief Executive Officer leads EVMS' not-for-profit physician group, managing approximately 50 offices in Hampton Roads in which more than 150 physicians practice.

### Senior Associate Vice President of Development and Alumni Relations

The Senior Associate Vice President of Development and Alumni Relations guides relationships with individuals, alumni, foundations and corporations capable of gifts to EVMS.

### Assistant Vice President for Finance

The Assistant Vice President for Finance has direct responsibility for financial reporting, debt management, cash management, capital projects, investments and post-award grant administration.

### Assistant Vice President of Marketing & Communications

The Assistant Vice President of Marketing & Communications oversees public and media relations, content marketing, executive communications, creative services, digital media, branding and advertising.

### Vice Dean for Research

The Senior Associate Dean for Research provides leadership for various administrative functions that support research, including research development, collaboration and regulatory compliance.

### Director, EVMS-Sentara Healthcare Analytics and Delivery Science Institute

The Director of the EVMS-Sentara Healthcare Analytics and Delivery Science Institute oversees data-analysis services and supports research to advance patient outcomes through improved analytics.

### Director of the M. Foscue Brock Institute for Community and Global Health

The Director of the M. Foscue Brock Institute for Community and Global Health leads efforts to expand and deepen EVMS' impact on issues of local and global health.



## **Administrative Offices**

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### **Admissions**

Find your next step in applying here at EVMS. Some requirements will include overall academic records, cumulative GPA and additional factors.

### **Alumni Relations**

Alumni Relations' mission is to keep EVMS alumni, classmates and faculty connected to the school and each other.

### **Budget Office**

The Budget Office develops and monitors the annual EVMS budget in coordination with Business Management and Health Services.

### **Business Management**

Business Management provides service and support in the daily planning, direction and coordination of the business functions for EVMS.

### **Development**

Development seeks to maximize support to EVMS from individuals, corporations and foundations by creating and maintaining mutually beneficial relationships between these entities and EVMS.

### **Diversity and Inclusion**

EVMS is committed to improving access to healthcare, providing more culturally competent care and reducing healthcare disparities, particularly among minority and underserved populations.

### **Emergency Management**

Emergency Management provides a safe and secure environment for students, faculty, staff, patients and visitors to enable continuity of learning, teaching, working and patient care.

### **Facilities**

Facilities is responsible for facilities maintenance, vehicle maintenance, new construction, renovation of existing facilities, student housing, groundskeeping and housekeeping.

### **Faculty Affairs**

Faculty Affairs oversees the faculty appointment and reappointment process including credentialing, compensation contracts, promotion, tenure and reporting to regulatory bodies.

### **Financial Services**

Financial Services handles financial reporting, payroll, accounts payable, student billing, loans and collections, general accounts receivable and collections and financial systems support.

### **Fire & Life Safety**

Fire & Life Safety inspects buildings and equipment to identify safety hazards and conducts training regarding fire and life safety practices.

### **Human Resources**

Human Resources provides qualified job applicants a comprehensive employee benefit program, training programs, a safe work environment and a competitive wage program.

### **Information Technology**

Information Technology includes the Business Service Center, Database Center, Media Services and the Network Information Center.

### **Internal Audit**

Internal Audit provides independent, objective assurance and consulting services designed to add value and improve the institution's operations.

### **Marketing & Communications**

Marketing & Communications works to raise the public profile of EVMS, manage media contacts, direct crisis communications and protect the institution's brand identity.

### **Materials Management**

Materials Management procures and administers goods and services for EVMS' internal customers in a timely manner while providing quality customer service.

### **Occupational Health**

Occupational Health provides services to employees and students at EVMS, including immunizations, medical surveillance and treatment of work-related exposures.

### **Office of The General Counsel**

The Office of the General Counsel provides advice and services to EVMS on a wide variety of legal issues.

### **Police & Public Safety**

Police & Public Safety is a certified law enforcement agency dedicated to enhancing safety, security and emergency management for the EVMS community.

### **Risk Management**

Risk Management provides support and resources to promote an environment of safety for patients, staff and the community.

### **Special Events**

Special Events plans and implements institutional events and ceremonies to support EVMS' mission and academic priorities.

### **Student Affairs**

Student Affairs offers connection to the incredibly diverse community of resources, services, and opportunities at EVMS. The department is committed to the success of every student.

## **Telecommunications**

Telecommunications provides reliable and effective voice and data communication services to EVMS.

## University Information

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### Mission Statement

Eastern Virginia Medical School is an academic health center dedicated to achieving excellence in medical and health professions education, research and patient care. We value creating and fostering a diverse and cohesive faculty, professional staff and student body as the surest way to achieve our mission. Adhering to the highest ethical standards, we will strive to improve the health of our community and to be recognized as a national center of intellectual and clinical strength in medicine and Health Professions. Our commitment to ensuring institutional effectiveness is demonstrated by the continuous assessment processes we use to improve program performance and student learning outcomes.

### Vision

Eastern Virginia Medical School will be recognized as the most community-oriented school of medicine and health professions in the United States.

### Values

Three core values drive our daily efforts:

- **Excellence:** We determine with our stakeholders what is valuable and hold ourselves to high performance standards that fulfill our promises.
- **Collegiality:** We serve our community and one another, building strong and mutually supportive relationships. We work as a cooperative, united team to further our purposes of education, research and patient care.
- **Integrity:** We strive to maintain the highest ethical standards and accept accountability for all we do and say.

### Goals

To fulfill our mission and vision, we must be strategically focused on the areas that provide the greatest leverage for effecting change in our academic health center and our greater community. To that end, EVMS has identified seven long-term goals:

- **Cultural Alignment:** Strengthen our entire organization's collective pursuit of our mission, vision, and values.
- **Education:** Maintain the highest professional standards for our residential and distance learning programs to prepare graduates to excel in their chosen profession and to respond to societal healthcare needs.
- **Research:** Enhance and strengthen our research enterprise in order to improve community and national health.
- **Patient Care:** Enhance our clinical enterprise to provide the highest quality patient care distinguished by our research and academic clinicians.
- **Affiliates:** Strengthen relationships with our affiliates by determining and delivering value.

- **Finances and Funding:** Ensure ongoing financial stability.
- **Marketing:** Strengthen our brand awareness and reputation to increase preference and support from students, patients, physicians and the community.

### Diversity Statement

The education, research and patient care mission of Eastern Virginia Medical School (EVMS) is shaped by many considerations: the demographics of the surrounding communities, the significant presence of military personnel, retirees and their families, the rural and underserved communities of the Commonwealth of Virginia, and the broader national and global need to address gaps in the health workforce and the accessibility of health care.

Eastern Virginia Medical School has a unique history as one of the few institutions in the United States established by the local community to serve the local community. Indeed, its vision is to be the most community-oriented school of medicine and health professions in the nation. In fulfilling that vision, EVMS strives to attract talented students, trainees, faculty, staff and leaders who bring diverse attributes and experience to drive our collective commitment to excellence.

Eastern Virginia Medical School embraces diversity broadly defined, but places a special emphasis on recruitment of women, traditionally underrepresented minorities in medicine and the health professions (African Americans, Latinos, American Indians and Native Alaskans, and Native Hawaiians and Pacific Islanders), veterans and individuals who come from socioeconomically disadvantaged backgrounds. Acknowledging that diversity is a fluid and evolving concept, we will continually strive to be inclusive of individuals and groups in the broadest possible manner.

### History

For more than four decades, EVMS has been the place for aspiring physicians and health professionals, passionate educators and medical pioneers.

In the 1960s, civic leaders in Hampton Roads sought to improve care in the region and created a bold dream to build a medical school. Thanks to determination and community commitment, EVMS opened its doors in 1973, forever transforming the landscape of health care in Hampton Roads.

Today, EVMS holds an honored position in American history as one of the only schools of medicine and health professions in the nation to be founded by a grassroots effort. The institution's steady growth from just 23 medical students to an organization with a more than \$1.2 billion annual economic impact is an inspiring testament to what vision, community commitment and innovation can accomplish.

### Campus Facilities

EVMS Facilities provides a safe, clean, functional, comfortable and sustainable environment for our students, faculty, staff and visitors. We design, construct, operate, maintain, service, and enhance our infrastructure, grounds and environment with a strong commitment to excellence, collegiality, and integrity.



EVMS Facilities is responsible for Building Operations and Maintenance, Campus Housing, Groundskeeping, Housekeeping, Pest Control, Telecommunications, Vehicle Maintenance, renovations to existing buildings and new construction on the Eastern Virginia Medical Center campus.

## **EVMS Campus Safety & Alerts**

The EVMS Police and Public Safety offers enhanced services to EVMS emergency notification system users. We have partnered with Rave Mobile Safety to provide the EVMS Rave Alert notification system, which delivers messages to your mobile phone and email address in the event of an emergency.

EVMS Rave Alert subscribers are able to manage emergency services in one online location and choose features that include the EVMS Rave Guardian service, which transforms a mobile phone into a personal alarm beacon that allows EVMS Police to respond more quickly when help is needed. EVMS employees, staff, students and residents are automatically enrolled in the system to receive EVMS email alerts. When they provide a mobile phone number they are also automatically enrolled in the mobile text alerts system as well.

We encourage each member EVMS community to log in to the EVMS Rave Alert website to confirm contact information.

## **Police and Public Safety**

The Eastern Virginia Medical School Police & Public Safety is a certified law-enforcement agency through the Virginia Department of Criminal Justice Services and dedicated to enhancing safety, security and emergency management for the EVMS community. The department's services are available 24/7 with offices in Lewis Hall and the Staff Garage. Our communications center can be reached at 757.446.5199.

The mission is to create and maintain a safe and secure environment for our students, faculty, staff, patients and visitors. We do this through active patrols, security and fire/life safety assessments, staffing posts in campus facilities, training and professional development, oversight of building access control, alarm systems and building cooperative relationships with other law-enforcement and security agencies.

In addition to regular police, security and safety services, the department also provides other services for students, faculty, staff, patients and visitors. These services include:

- Vehicle assistance with jump starts, lock-outs, flat tires, and other minor vehicle problems
- After-hour escorts
- Lost and Found property management
- Conducting self-awareness level training and seminars for students, faculty and staff
- Oversight of Emergency Operations Plan and Continuity of Operations Plan
- Maintaining the "Rave Guardian" Electronic Escort System
- Fire & Life Safety Training

EVMS complies with the Department of Education's Jeanne Clery Act and collects, maintains and publishes crime

and safety information that is available to the public. The department publishes the Annual Security/Fire Safety Report Oct 1. This report contains crime statistics for the campus community for a three-year running period and information about EVMS Police & Public Safety; EVMS emergency and security policies; crime reporting and prevention; sexual assault; fire safety at EVMS' campus housing, Hague Club Apartments; and other security/safety topics of concern to the EVMS community. A CSA (Campus Security Authority) needs to file a report with EVMS Police when he or she becomes aware of information that a crime incident is occurring or may have occurred on campus or in a non-campus location. If the incident is happening and constitutes an emergency, dial 911 or 757.446.5911 immediately. If it is information about a crime that is not currently in progress, contact EVMS Police at 757.446.5911, provide as much information as possible (approximate date and time of occurrence, location and individuals involved). To obtain a paper copy of Annual Security/Fire Safety Report, email Police & Public Safety. Please take time to view the 2018 Annual Security/Fire Safety Report for a comprehensive overview of related services, policies and data. Students residing in Hague Club Apartments who want to designate a confidential emergency contact in the event you are reported missing, please fill out the Confidential Contact Form.

## Accreditation

Eastern Virginia Medical School is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award the Doctor of Medicine degree, Masters' degrees, Doctoral degrees, and Certificates. Contact the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097 or call 404.679.4500 for questions about the accreditation of Eastern Virginia Medical School.

EVMS is also accredited by the Liaison Committee on Medical Education (LCME). The school received full, eight-year accreditation during its most recent review, which was completed in early 2013.

In addition, many of the programs in our School of Health Professions have received specialized accreditations from appropriate crediting bodies.

- The Art Therapy & Counseling Masters Program is accredited by the American Art Therapy Association. This accreditation has been in effect since 2011 and will come up for review again in 2017-2018.
- The Physician Assistant Masters Program is accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc (ARC-PA). This accreditation has been in effect since 2009 and will come up for review again in 2026.
- The Public Health Masters Program is accredited by the Council on Education for Public Health (CEPH). This accreditation has been in effect since 2012 and will come up for review again in 2019.
- The Surgical Assistant Masters Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). This accreditation has been in effect since 2009 and will come up for review again in 2019.
- The Virginia Consortium in Clinical Psychology Doctoral Program is accredited by the American Psychological Association (APA). This accreditation has been in effect since 2013 and will come up for review again in 2020.

## Policy on Accreditation and Program Integrity

Eastern Virginia Medical School (EVMS) considers accreditation of its programs to be essential to educational and institutional excellence. It is the policy of EVMS that all EVMS educational programs seek the appropriate regional, national, and/or specialized program accreditation as soon as such is available to the program. Further, each program that has achieved accreditation status shall ensure that it conducts all of its activities in such a manner as to maintain its accredited status on a permanent basis including notifying the appropriate accrediting body of any substantive change as defined herein. Programs for which accreditation is not available because no entity currently serves as a related program accrediting body shall develop policies, procedures, and best practices that ensure the highest educational quality and program integrity and shall be subject to a formal self-study process at least every five years.

## Substantive Change

- A. Definition. "Substantive Change" means a significant modification or expansion of the nature and scope of the educational mission or program(s) at EVMS and includes:
1. Any change in the established mission or objectives of the institution;
  2. Any change in legal status, form of control, or ownership of the institution;
  3. The addition of courses or programs that represent a significant departure, either in content or method of delivery, from those that were offered when the institution was last evaluated;
  4. The addition of courses or programs of study at a degree or credential level different from that which is included in the institution's current accreditation or reaffirmation;
  5. A change from clock hours to credit hours;
  6. A substantial increase in the number of clock or credit hours awarded for successful completion of a program;
  7. The establishment of an additional location geographically apart from the main campus at which the institution offers at least 50 percent of an educational program;
  8. The establishment of a branch campus;
  9. Closing a program, off-campus site, branch campus or institution;
  10. Entering into a collaborative academic arrangement such as a dual degree program or a joint degree program with another institution
  11. Acquiring another institution or a program or location of another institution;
  12. Adding a permanent location at a site where the institution is conducting a teach-out program for a closed institution; and
  13. Entering into a contract by which an entity not eligible for Title IV funding offers 25% or more of one or more of the accredited institution's programs.
- B. Board of Visitors Approval. All proposed Substantive Changes shall be approved by the EVMS Board of Visitors in accordance with EVMS Bylaws and applicable law. All educational programs for which academic credit is awarded must be approved by the EVMS Board of Visitors.
- C. Southern Association of Colleges and Schools (SACSCOC).
1. Notification and/or Approval. In addition to reaffirmation of accreditation by SACSCOC every 10 years, EVMS must notify and, in some cases receive approval, from SACSCOC prior to initiating a Substantive Change. All notifications must be timely made in accordance with SACSCOC policy and must be coordinated

through the EVMS SACSCOC Liaison. As SACSCOC may need to be notified as much as 12 months in advance, it is imperative that the SACSCOC Liaison be consulted at the outset of any discussions regarding a proposed change. No change may actually be implemented until such time as the SACSCOC Liaison advises that the proposed change may proceed.

2. SACSCOC Liaison. Substantive Change notifications and requests for approval may only be made through the designated SACSCOC Liaison or his/her designee. Information on the current SACSCOC Liaison can be found on the EVMS website.

- D. Other Accrediting Bodies. EVMS programs that are also accredited by other regional, national or other specialized accrediting bodies shall follow the prescribed processes of each relevant accrediting body for notifying and obtaining prior approval for all Substantive Changes planned.

## The EVMS Compact

The EVMS School of Medicine and School of Health Professions are committed to maintaining a positive environment for study and training, in which individuals are judged solely on relevant factors such as ability and performance, and can pursue their educational and professional activities in an atmosphere that is humane, respectful and safe. As such, student and resident/fellow mistreatment is destructive of these fundamental principles and will not be tolerated within the EVMS community and its affiliated learning sites.

EVMS defines mistreatment as behavior that shows disrespect for learners and interferes with their respective learning process. Such behavior may be verbal, emotional, or physical. When assessing behavior that is perceived as mistreatment, students are expected to consider the conditions, circumstances, and environment surrounding such behavior. Provision of healthcare is inherently stressful. Medical and health professions student training is a rigorous process where the welfare of the patient is the primary focus and that, in turn, may impact behavior in the training setting.

Reflective of this philosophy, all EVMS faculty, including community faculty, will abide by the Association of American Medical Colleges Compact between Teacher and Learners of Medicine, modified to be inclusive of the School of Health Professions faculty and students, and referred to as The Compact.

### Compact Between Teachers and Learners of Health Professions and Medicine

Preparation for a career in medicine or health professions demands the acquisition of a large fund of knowledge and a host of special skills. It also demands the strengthening of those virtues that undergird the relationship between professionals and patients that sustain the health care profession as a moral enterprise. Likewise, professional training entails both formal education in a specific discipline and an apprenticeship in which the graduate student trains under the supervision of investigators who are qualified to fulfill the responsibilities of a mentor. This Compact serves both as a pledge and as a reminder to teachers and learners that their conduct in fulfilling their mutual obligations is the medium through which the medical and health professions inculcate their ethical values.

### Guiding Principles

- **Duty:** Medical and health professions educators have a duty not only to convey the knowledge and skills required for delivering their profession's contemporary standard of care or research, but also to inculcate the values and attitudes required for preserving their profession's social contract across generations.
- **Integrity:** The learning environments conducive to conveying professional values must be suffused with integrity. Students learn enduring lessons of professionalism by observing and emulating role models who epitomize authentic professional values and attitudes.

- **Respect:** Fundamental to the ethic of medicine and health professions is respect for every individual. Mutual respect between learners, as novice members of a profession, and their teachers, as experienced and esteemed professionals, is essential for nurturing that ethic. Given the inherently hierarchical nature of the teacher-learner relationship, teachers have a special obligation to ensure that students and residents/fellows are always treated respectfully.

### Commitments of Faculty

- We pledge our utmost effort to ensure that all components of the educational program for students and residents/fellows are of high quality.
- As mentors for our student and resident/fellow colleagues, we maintain high professional standards in all of our interactions with patients, colleagues, and staff.
- We respect all students and residents/fellows as individuals, without regard to gender, race, national origin, religion, or sexual orientation; we will not tolerate anyone who manifests disrespect or who expresses biased attitudes towards any student or resident/fellow.
- We pledge to uphold the duty hour requirements for students and residents/fellows as stipulated in the applicable accreditation standards.
- In nurturing both the intellectual and the personal development of students and residents/fellows, we celebrate expressions of professional attitudes and behaviors, as well as achievement of academic excellence.
- We do not tolerate any abuse or exploitation of students or residents/fellows.
- We encourage any student or resident/fellow who experiences mistreatment or who witnesses unprofessional behavior to report the facts immediately to appropriate faculty or staff; we treat all such reports as confidential and do not tolerate reprisals or retaliations of any kind.

### Commitments of Students and Residents/Fellows

- We pledge our utmost effort to acquire the knowledge, skills, attitudes, competencies, and behaviors required to fulfill all educational objectives established by the faculty.
- We cherish the professional virtues of honesty, compassion, integrity, fidelity, and dependability.
- We pledge to respect all faculty members, and all students and residents/fellows as individuals, without regard to gender, race, national origin, religion, or sexual orientation.
- As physicians or health professionals in training, we embrace the highest standards of our profession and pledge to conduct ourselves accordingly in all of our interactions with patients and/or colleagues and staff.
- In fulfilling our own obligations as professionals, we

pledge to assist our fellow students and residents/fellows in meeting their professional obligations as well.

## **Reporting of Student Mistreatment**

Students are encouraged to report incidences of mistreatment via four avenues:

- Notify clerkship or program director, or departmental chair
- Notify a Dean: the Dean of the School of Health Professions, Vice Dean for Academic Affairs Education, Associate Dean for Student Affairs, Associate Dean for Health Professions
- Report the incidence on a course/clerkship evaluation
- Report anonymously using the EVMS Ethics and Compliance Hotline found on the EVMS website. This mechanism can be used to report mistreatment by staff members of EVMS or affiliate institutions as well.

If deemed appropriate, reports will be investigated by Human Resources (for faculty, residents/fellows, or staff accused), by the Associate Dean for Student Affairs (for students accused), or by a departmental chair (for community faculty accused).

## **Reporting of Resident/Fellow Mistreatment**

Residents/Fellows are provided three institutional mechanisms for reporting incidents of mistreatment by faculty members, staff, patients, or peers

- Notify chief resident, program director and/or chair
- Notify the Vice Dean for Graduate Medical Education (446-6190)
- Report anonymously using EVMS Ethics and Compliance Hotline found on the EVMS website.

## **Retaliation and False Claims**

Retaliation against a person who reports, complains of, or provides information in a mistreatment investigation or proceeding is prohibited. Alleged retaliation will be subject to investigation and may result in disciplinary action up to and including termination or expulsion.

A person who knowingly makes false allegations of mistreatment, or who knowingly provides false information in a mistreatment investigation or proceeding, will be subject to disciplinary action and, in the case of students, will be considered a violation of the Honor Code.



## Academic Resources

### Edward E. Brickell Medical Science Library

The EVMS Brickell Medical Sciences Library provides information resources and services to EVMS students, faculty, clinicians and staff and to members of the Hampton Roads community. The Brickell Library is open to the public during staffed hours, and all of our information resources can be used by members of the community from within the library. Please come by for assistance.

The Edward E. Brickell Medical Sciences Library has Wi-Fi throughout the facility, which can be accessed by EVMS faculty, students, and staff with EVMS Novell passwords. Before devices can connect to EVMS Wi-Fi, they must be configured by the Network Information Center (NIC). Please visit the NIC in Lewis Hall, Suite 1003. If you need assistance after hours or on the weekend, the NIC has self-serve information on configuring Bring Your Own Device (BYOD) and student wireless (see Student Software section) at their myPortal site (access with your EVMS Novell password).

For network security reasons, the EVMS Library cannot provide Wi-Fi to members of the general public.

Print jobs can be sent wirelessly to the EVMS Library's network-enabled printers. Additional information can be found [here](#).

### Computer Lab

A popular resource that is open 24/7, the EVMS Library's Computer Lab offers PCs as well as two scanners for use by those with EVMS Novell passwords. Lab PCs connect to several printer options, which EVMS students may use with their annual allotment of free printing. Additional information about printing in the EVMS Library can be found [here](#).

For security reasons, no guest log ins are allowed. Guests may use the public access PCs that are available when the library is staffed. For more information, see below.

#### Software

The Computer Lab offers and supports word processing, spreadsheet, graphic, and computer-assisted instruction software. During library hours, staff will do their best to assist patrons in using the software packages installed in the Lab and Classroom. EVMS staff may not be able to answer all questions about specialized software.

Because of software licensing limitations, not all computers are set up identically. If you are looking for a specific software package, please consult with the Lab Manager.

The following are not allowed: Installing programs; copying licensed software; using software that will circumvent licensing or harm the computer, the network, or people. For a more complete list of EVMS policies, procedures, and possible disciplinary actions, please sign in to EVMS myPortal/Information Technology/Policies & Procedures.

#### Storage of Data

Files stored on Lab computers are deleted at logout. Save files to a flash drive, email files to yourself using EVMS Sendit, or use

your EVMS Home Drive. Each EVMS Novell account is given a "Home Drive." This storage is only available while on the EVMS wired network (Lab and Classroom). Using Home Drive storage ONLY is not recommended. You are strongly encouraged to back up your work.

If you are uncertain about the location of your stored data, Lab staff can assist you. Lab staff can also verify that your data is on your storage device.

The Computer Lab assumes no responsibility for lost, damaged, or deleted data.

### Computer Viruses

All computers in the Lab are equipped with software designed to protect computers from viruses. Viruses can corrupt or delete data and make it unrecoverable. Please report messages indicating the presence of a virus to Lab staff immediately.

Faculty, staff, and residents may download free home-use copies of McAfee Antivirus that the EVMS Network Information Center has licensed for your protection. Sign into EVMS myPortal/Information Technology/SoftwareDownload, to download this software for your computer.

### Library Classroom PCs

The EVMS Library's Classroom is a well-used resource. It is used for testing, classes, training, and much more. There is a daily schedule of activities posted outside the Classroom door every morning. Those with EVMS Novell passwords are welcome to use the Classroom PCs when there are no activities scheduled.

The Classroom may be reserved using the Computer Classroom Reservation Form by faculty members for

- EVMS credit courses (receive priority)
- EVMS-sponsored non-credit formal instruction

The Classroom is equipped with

- 30 networked PCs and an instructor PC
- Multimedia projector & screen
- Digital white board
- 3D document camera
- Wireless Microphone

For information about additional equipment that is available through EVMS Media Services, please see the library staff or log in to EVMS myPortal/Information Technology/Media & Audio Visual Technical Services (MAVTS)

### Library Public PCs

These computers have been set up for medical information searching only and have no additional software installed.

### Use of (OPAC) Online Public Access Computer Stations

The Edward E. Brickell Medical Sciences Library, Eastern Virginia Medical School has three (3) workstations available for use by the general public. These computers, with access to Brickell Library and other specified web resources, are provided to further the educational, research, and health information needs of public clients. Signing the log-in sheet constitutes an

agreement to abide by the policies stated below.

Patrons must abide by the following: use policies as set forth by EVMS and Brickell Library:

- **Identification:** All public clients are required to present Circulation staff with a valid government, school, or employer issued picture ID. No exceptions will be made.
- **Priority:** Any public client may sign up to use an OPAC workstation (EVMS faculty, staff, and students with Novell Network accounts may not use these stations, and are directed to the stations in the computer lab and classroom); priority of use is given to EVMS community faculty without a Novell Network account, area health care providers, patients and family members of patients at local area hospitals, and students/faculty/staff at local colleges and universities.
- **Time Limit:** OPAC workstations are only available during the hours that the library Circulation desk is staffed. OPAC stations automatically shut down 30 minutes before the end of the library's staffed hours.
- **Appropriate Use:** OPAC workstations are to be used only for biomedical or health care related research. All other uses are strictly prohibited. Accessible biomedical and health care related Internet sites are determined in conjunction with the Network Information Center.

### Inappropriate Use

Inappropriate use includes, but is not limited to:

- Endeavoring to circumvent security or otherwise gain unauthorized access to computers, software, or networks.
- Intentionally or unintentionally damaging equipment.
- Breaking local, state, or federal regulations including, but not limited to copyright violations, identity fraud, cyber harassment, etc.
- installing/downloading/uploading software, documents, or graphic images onto any of the workstations.
- Using proxy websites to send anonymous emails or otherwise attempt to mask the identity of a machine or account.
- Perpetrating identity fraud in any way including trying to use a computer account the person is not authorized to use.
- Inappropriate use will ultimately be determined by a library staff member. Clients found to be inappropriately using the OPAC workstations will be asked to leave the library and further action may be taken depending on the severity of the offense.
- **Printing:** A reasonable amount of free printing from the OPAC workstations is allowed to clients. Library staff determines what is excessive printing and will instruct the client to terminate printing.
- **Minors:** Clients fourteen (14) years of age and younger must be accompanied by a parent or guardian at the OPAC workstation; these clients cannot be

left unsupervised. Please note that it is not the responsibility of the Library to serve in loco parentis (in place of parent) and cannot be responsible for the well being of unsupervised minors.

- **Notification:** Clients must notify staff members when they are ready to leave; staff will log off the user and terminate the session.

### Information Technology

Information Technology provides excellence in technology equipment and services, supporting faculty, staff, students and community clients on the Eastern Virginia Medical Center campus.

- The Business Service Center provides information technology support to the administrative and academic management functions of EVMS.
- The Database Center maintains academic and research data, as well as gives access to information technology resources by audience.
- Media Services serves the EVMS community with the latest in audio-visual technology not only in the classroom, but in the simulation, distance education and video production settings.
- The Network Information Center supports a wide range of services, including enterprise applications, desktop computing, server configuration and maintenance, network accounts and network communication devices.

### Academic Development

Academic Development helps learners in the EVMS Community develop and enhance their range of academic skills, strategies and behaviors needed to perform in competitive academic, and dynamic professional environments.

- **Services and Resources:** Academic Development provides resources and services for students to promote academic success and to balance the demands of academics, research, clinical activities, personal life commitments, and service to their community through:
- **Academic Counseling:** Academic Counseling helps learners in the EVMS Community acquire more effective and efficient academic skills.
- **Peer Tutoring:** Content-specific peer tutoring is coordinated through Academic Development with authorization by the course director

### Student Disability Services

Eastern Virginia Medical School (EVMS) recognizes its ethical and legal responsibility to provide equal opportunities for qualified students with disabilities and is committed to providing resources for such. Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act require institutions to provide certain reasonable accommodations to qualified students, when necessary, to provide an equal learning opportunity. A "qualified student" is a person with or without a disability who meets the academic and technical

standards requisite to admission or participation in the recipient's education program or activity.

## **Academic and Technical Standards**

All students must meet both academic and technical standards, with or without reasonable accommodations, in order to progress through EVMS and graduate. Academic standards refer to acceptable demonstrations of mastery in various disciplines, before matriculation and after, as judged by faculty members, examinations, and other measurements of performance. Technical standards refer to the essential aptitudes and abilities that allow students to perform in the vast array of requisite ways that are extremely important in the medical field.

All graduates of EVMS must have the knowledge, skills and other competencies to function in a variety of clinical situations and to render a wide spectrum of patient care. Without the essential capacities, students cannot fulfill the requirements of all the courses at EVMS. All students with or without a disability must acknowledge and certify that he or she has read, understands and is able to meet the technical standards of the program in which he or she wishes to enroll. Meeting the EVMS technical standards for one's particular course is, therefore, required for 1) matriculation, 2) subsequent promotion from term to term, and 3) graduation from EVMS. Technical Standards can be found in Appendix A - Technical Standards.

## **Reasonable Accommodation**

Reasonable accommodations are individually determined after a student requests accommodation and submits original documentation to support the accommodation request. The accommodations are intended to provide a student with an equal opportunity to participate in all aspects of each course/activity. Such accommodations, however, are not intended to waive the essential requirements of a program or its technical standards and do not guarantee success. Matriculation into an EVMS program assumes a certain level of cognitive and technical skill. Students with disabilities will be held to the same fundamental standards as their non-disabled peers.

Although not all students should be expected to gain the same level of all technical skills, mastery of some skills is so essential that it must be achieved. Thus, reasonable accommodations will be provided to assist in learning, performing and satisfying the fundamental standards where it does not compromise EVMS programs or interfere with the rights of other students and/or patients. Qualified students with documented disabilities will be provided with reasonable accommodations at EVMS and those accommodations may sometimes involve an intermediary or an auxiliary aid. However, no disability can be reasonably accommodated at EVMS with an auxiliary aid or intermediary that provides cognitive support or medical knowledge, substitutes for essential clinical skills, or supplements clinical and ethical judgment. In other words, accommodations cannot eliminate essential program elements. To ensure the recommended accommodations are provided, it is necessary that the student understand his/her role and carry out his/her responsibilities in arranging reasonable accommodations during his/her course of study.

## **Duties of Students**

Students are responsible for disclosing the presence of a disability, providing adequate disability documentation, requesting accommodations in a timely manner and abiding by the accommodation procedures.

## **Sentara Center for Simulation and Immersive Learning (SCSIL)**

The Sentara Center for Simulation and Immersive Learning (SCSIL) is a full service simulation center offering a full complement of simulation tools and techniques to meet your educational needs. These tools and techniques are used to teach and assess a variety of clinical, communication, and team-based skills. SCSIL provides its services to all disciplines within the healthcare industry as well as non-healthcare related industries. SCSIL offers off-the-shelf curriculum and has the capability to adapt activities to your specific needs.

The simulation methods SCSIL uses include: Standardized Patients (SPs), Physical Teaching Associates (PTAs), Genitourinary Teaching Associates (GTAs), manikin-based simulators, partial task trainers, virtual and immersive environments, computer based simulators, and other educational technologies to meet the outcomes and objectives established by a broad range of clients.



## Polices and Disclosures

### Office of the General Counsel

The Office of the General Counsel provides advice and services to EVMS on a wide variety of legal issues including litigation, employment and equal opportunity, federal and state regulatory compliance, policy development and interpretation, purchasing and sales of goods and services, real estate and other legal matters.

### Institutional Compliance Office

The Institutional Compliance Office is a unit within EVMS Compliance whose mission is to ensure that EVMS maintains the highest standards of ethical conduct in its education and research activities. Our office works closely with EVMS Internal Audit to ensure that all functional areas of the institution are in compliance with laws, rules, regulations and EVMS Policies.

### Title IX

In accordance with Title IX of the Education Amendments of 1972, EVMS does not discriminate on the basis of sex and is committed to providing its educational programs and activities in an environment that is free from sex discrimination and sexual or gender-based harassment (including sexual misconduct and sexual violence). In addition to any recourse provided by the Reporting and Investigation of Harassment Allegations process outlined above, victims of sex discrimination and/or sexual misconduct also have the option to file a formal Title IX Complaint by contacting one of the EVMS Title IX Coordinators:

#### **Institutional Title IX Coordinator:**

Josephine Wiley  
Institutional Title IX Coordinator  
Andrew's Hall  
721 Fairfax Avenue, Suite 509  
Norfolk, VA 23507  
757-446-6008  
WileyJP@evms.edu

#### **Senior Deputy Title IX Coordinators for Students:**

Joann Bautti, MPA Director of Student Affairs Lewis Hall  
700 W. Olney Rd., Room 1182  
Norfolk, VA 23507  
757-446-5017  
BauttiJ@evms.edu

#### **Senior Deputy Title IX Coordinators for Employees:**

Matthew Schenk, PHR  
Director of Human Resources  
Smith Rogers Hall  
358 Mowbray Arch, Ste. 101  
Norfolk, VA 23507  
757-446-6043  
schenkmr@evms.edu

All reports/complaints involving sex discrimination or sexual misconduct will be handled in such a manner as to try and protect the privacy of all parties involved and will only be shared with individuals who have a need to know. Please note,

however, that complete confidentiality/ anonymity cannot be guaranteed. In many cases it is possible to address and resolve issues without revealing a reporter/complainant's identity. In other cases, however, this may not be possible. Even when the reporter/complainant requests anonymity and/or requests that the alleged perpetrator not be punished, EVMS must move forward with addressing the allegations.

If a student chooses not to make a report/complaint, and especially in cases of sexual assault, a student may still want, or need, to talk with someone confidentially. The Confidential Resources List provides confidential resources, such as hotlines, counseling, and victim advocacy, to individuals who have experienced sexual assault, relationship (dating and domestic) violence, or other sexual misconduct.

Detailed information about EVMS' Title IX can be found on the EVMS Title IX page.

Title IX protection against discrimination based on sex covers nursing mothers. EVMS has made a commitment to be a breast feeding-friendly environment for students. Information about the program, support, and location of lactation rooms throughout the EVMS campus can be found at:

[https://myportal.evms.edu/education/occupational\\_health\\_nursingmothersinformation/index.php](https://myportal.evms.edu/education/occupational_health_nursingmothersinformation/index.php)

### Informal Resolution Options

In keeping with our core value of collegiality, we would like every effort to be made to address allegations of Sex Discrimination (including some types of Sexual Misconduct) through informal resolution before making a formal complaint, report or grievance. Options for informal resolution include:

- A. Direct Communication. In many instances you can take action to address Sex Discrimination by communicating with the individual whose behavior is unwanted or inappropriate. You should only pursue this direct communication:
  1. When it is not a matter of domestic, dating, or sexual violence.
  2. When you know the other party (the person is not a stranger) and believe he/she will be receptive (i.e. they may not know they are making inappropriate comments).
  3. When you do not feel physically threatened and there is no risk of physical harm.
  4. Via phone, email, or other method of communication that is not face-to-face. Such communication should include:
    - a. A factual description of the incident(s) including date, time, place, witnesses and a description of the specific unwelcome behavior;
    - b. A description how you felt or consequences you may have suffered due to the unwelcome behavior; and
    - c. A request that the unwelcome behavior cease immediately. If you do not feel comfortable communicating with the



individual directly, or if you believe the communication was or will not be successful, talk to a Coordinator and/or you may also want to consider making a complaint as outlined in Section III.

- B. Administrative Communication. If you are not comfortable with direct communication as outlined above, you are encouraged to attempt to resolve matters of Sex Discrimination through the EVMS administrative structure as follows:
1. Faculty, residents or staff who would like to proceed informally, but with the assistance of their administrative unit should contact their office manager, department administrator, or EVMS Human Resources.
  2. Students should contact their educational program director or Student Affairs.
  3. All others may contact the EVMS Office of Compliance at 446-6008.

Once reported, that administrative unit will meet with you and the accused, individually (or together if you so desire) and work towards a satisfactory resolution. Please note that, as set forth in Confidentiality and Confidential Resources, once a matter is reported to your administrative structure, confidentiality cannot be guaranteed and a Title IX Coordinator may need to be notified of your report.

Finally, remember that informal resolution is not a requirement and you always have the right to make a formal complaint as outlined in the Complaint Process. In addition, informal resolution is not appropriate in instances that involve domestic violence, dating violence, sexual violence, or other threat of imminent harm and, in such instances, you should talk to a Coordinator and/or consider filing a formal complaint.

## Confidentiality and Confidential Resources

**Duty to Report.** All EVMS faculty and staff have a duty to report misconduct to the EVMS Office of Compliance pursuant to the EVMS Code of Conduct. In addition, Responsible Employees (any member of one of the following departments: EVMS Police and Public Safety, Student Affairs, Human Resources, Legal and Compliance, Student Housing) must immediately report all relevant facts regarding reports of sex discrimination/sexual misconduct to a Title IX Coordinator. As such, requests to discuss sex discrimination and/or sexual misconduct with faculty or staff “off the record” cannot be honored. If you desire to speak with someone on a confidential basis, please see Section D, Confidential Resources below.

1. Confidentiality. All reports/complaints involving sex discrimination or sexual misconduct will be handled in such a manner as to try and protect the privacy of all parties involved and will only be shared with individuals who have a need to know. Please note, however, that complete confidentiality/anonymity cannot be guaranteed. In many cases it is possible to address and resolve issues without revealing a reporter/complainant’s identity. In other cases, however, this may not be possible. Even when the

reporter/complainant requests anonymity and/or requests that the alleged perpetrator not be punished, EVMS must move forward with addressing the allegations. In such event, or if an anonymous report is received on the EVMS Compliance Hotline, EVMS will make every effort to investigate and respond consistent with the reporter/complaint’s request for confidentiality/anonymity. The Institutional Title IX coordinator will assess the circumstances and determine if such request can be honored. If it cannot, and there is no threat to the campus (see Section C below), the reporter/complainant will be notified that confidentiality/anonymity cannot be maintained, what disclosures and to whom will be necessary, and the Title IX Coordinator will work with the reporter/complainant to determine how best to proceed. It should be noted that insisting on maintaining anonymity may substantially limit the ability of EVMS to complete its investigation and respond effectively. An individual who requests anonymity that results in a limited investigation may, at any time within a year of the anonymous complaint, request that a full investigation be conducted.

2. Confidentiality and Threats to the EVMS Campus. There are times when the circumstances of a report or complaint reveal a potential or continuing threat to the EVMS campus, its employees, students, or visitors. This threat may override any request for confidentiality and the Institutional Title IX Coordinator shall notify the EVMS Safety Management and Response Team (SMART), which will evaluate the circumstances and any request for confidentiality/anonymity. SMART will make a determination regarding actions required for campus safety. The reporter/complainant shall be notified by a Title IX Coordinator as soon as possible that confidentiality/anonymity could not be maintained, what disclosures and to whom will be necessary or were made. In addition, most allegations of sexual violence against students that are reported to the Institutional Title IX Coordinator will require review by the Sexual Violence Review Committee and potential disclosure to law enforcement and the Commonwealth’s Attorney, as outlined here.
3. Confidential Resources. Title IX is meant to empower individuals. Thus, while we strongly encourage you to make a report or formal complaint about sex discrimination or sexual misconduct to ensure EVMS can take swift action to address the issue, it is also your right to not to make a report or formal complaint. If you choose not to make a report/complaint, and especially in cases of sexual assault, you may still want, or need, to talk with someone confidentially. The Confidential Resources provides confidential resources, such as hotlines, counseling, and victim advocacy, to individuals who have experienced sexual assault, relationship (dating and domestic) violence, or other sexual misconduct. This list is not exhaustive and certain other individuals/organizations that have professional status, such as health care providers,

mental health professionals, and clergy may also be in legally protected roles that permit them to talk with you and guarantee confidentiality. In addition, discussions that take place at EVMS sponsored public awareness events (i.e. sexual assault support groups or forums) are confidential.

Please remember that talking about sexual assault or sexual misconduct with a confidential resource is not the same as making a report/complaint to EVMS. If you utilize a confidential resource, EVMS will not be notified of the incident, nor will it be able to conduct an investigation into the incident or pursue disciplinary action against the perpetrator. If you first choose to talk with a confidential resource you can always decide to make a report/complaint to EVMS (or law enforcement) at a later time. In addition, you can always use the EVMS anonymous Compliance and Ethics Hotline (1-800-461-9330) to make an anonymous report. This hotline is manned by a third party vendor and you can provide as much, or as little, information about yourself as you desire. While EVMS' response to an anonymous report may be limited, EVMS will still investigate every allegation to the fullest extent possible and take immediate and appropriate action to correct sex discrimination and/or sexual misconduct in any of its programs or activities.

## Records Retention Policy

It is the policy of Eastern Virginia Medical School (EVMS) to manage its records in an efficient and orderly fashion pursuant to applicable law rules and regulations. This policy provides best practices on the creation, storage, and disposition of important records retained by EVMS.

**EVMS Records** – any information created, received, or sent by an EVMS employee in the course of EVMS business, regardless of whether in paper or electronic format. Records include, but are not limited to documents, minutes, forms, photographs, microfiche, audio, and video recordings, correspondence, invoices, journals, ledgers, purchase orders, grant documentation, and computer data or other machine readable electronic records, including electronic mail.

**Areas of Responsibility** – EVMS department with responsibility for the creation, storage, retention, and destruction of records related to that department's function, but with impact across one or more EVMS departments. EVMS Areas of Responsibility include, but are not limited to, Human Resources, Registrar, Financial Aid, Financial Services, Information Technology, Sponsored Programs and Grants Accounting.

- A. Creation and Storage. Departments and Areas of Responsibility should create EVMS Records that appropriately document their core activities and that comply with applicable laws, rules, regulations, EVMS Policies, and best practices. Once created, departments and Areas of Responsibility must store EVMS Records in a manner that facilitates timely and accurate retrieval and ensures that EVMS Records are maintained in a secure and stable environment. In addition, EVMS Records must meet any additional storage or security requirements dictated by any applicable external laws

or regulations (i.e. FERPA, HIPAA, etc.)

## B. Retention and Destruction.

1. Retention Schedules. The Office of the General Counsel shall determine the Areas of Responsibility and departments that will be required to develop an EVMS Record retention schedule and shall assist such areas in the development of same. The final retention schedule and , and any future updates, shall be provided to the Office of the General Counsel and shall:
  - a. Describe the type of record;
  - b. Specify the length of time that the record must be retained and any law, rule, or regulation that dictates the retention period;
  - c. Specify the location of such record if not normally stored by the department or Area of Responsibility; and
  - d. Specify any special method by which the record must be destroyed, if applicable.
2. Method of Record Destruction. All sensitive or confidential EVMS Records (containing social security numbers and/or ID numbers, other sensitive information, or EVMS proprietary business information) and all copies thereof, must be destroyed by cross-shredding or through the use of external shredding vendors. Note that electronic records are not destroyed when merely sent to the trash or recycle bins on the computer. Electronic records must be electronically "wiped" clean or the media or storage device must be physically destroyed by burning, cutting or "chopping-up" of physical disks. For information on external shredding vendors and/or destroying of electronic media, please contact EVMS Materials Management.
3. Exceptions to Destruction. EVMS Records may not be destroyed if they are the subject of any potential legal action or proceeding, litigation, audit, investigation, or review, even if the records retention schedules or other policies or procedures indicate that the records are eligible for destruction. In most cases, the Office of the General Counsel will send a "LitigationHold Notice" to parties that have EVMS Records that should not be destroyed.

## C. Requests for EVMS Records.

1. Internal Records Requests. Records requested by another EVMS department are subject to the release policies of the department or Area of Responsibility that has responsibility for creation and maintenance of such EVMS Records.
2. External Records Requests. No records should be released unless approved by the EVMS Office of the General Counsel. All requests for records by outside entities must be immediately forwarded to the EVMS Office of the General Counsel, OGC@

## Copyright

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (title 17 of the US Code). These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.

Penalties for copyrighted infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or "statutory" damages affixed at not less than \$750 and not more than \$30,000 per work infringed. For "willful" infringement, a court may award up to \$150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys' fees. For details, see Title 17, US Code, Sections 504, 505.

Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to \$250,000 per offense. For more information, please see the website of the U.S. Copyright Office.

For information on how to obtain permission to reproduce or use copyrighted content, see the Brickell Medical Sciences Library.

## Family Education Rights and Privacy Act

Eastern Virginia Medical School's (EVMS) policy regarding the confidentiality of student records is in compliance with the Family Educational Rights and Privacy Act of 1974 (FERPA). FERPA was enacted to protect the privacy of education records, to establish the right of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading data. It is EVMS' policy to maintain as confidential all personally identifiable information in education records except that which is considered to be "directory information."

Directory information is defined as that information which would not generally be considered harmful or an invasion of privacy if disclosed. Designated directory information at EVMS includes: student name, telephone number, EVMS e-mail address, degrees or certificates sought and/or conferred, program/class year, dates of attendance, awards and honors received, enrollment status, photograph, the name of the most recent previous educational institution attended, and residency or other internship or post-completion placement.

EVMS, without consent of the student, may disclose directory information unless the student has restricted the release of this information. Students have the right to request that directory information not be disclosed to third parties by submitting the "FERPA Directory Hold Form" (available in the Office of the Registrar, Lewis Hall, Room 1147) to the Registrar within (10) days of the start of any new or renewing term. If this form is not completed and received in person (with photo ID) in the Office of the Registrar within the timeframe stated above, it

will be assumed that directory information may be disclosed. Students may elect to withhold directory information at any point during their enrollment.

EVMS cannot assume responsibility to contact you for subsequent permission to release directory information. Please consider very carefully the consequences of any decision by you to withhold directory information. Should you decide to do so, any future requests for such information from non-institutional persons to third parties cannot be processed even after you graduate.

FERPA affords students in attendance certain rights with respect to their education records. These rights are:

1. The right to inspect and review the student's education records within 45 days of the day EVMS receives a request for access.

All students should submit to the Registrar a written request that identifies the record(s) the student wishes to inspect. The form to request access to inspect and review student academic records is available via the Office of the Registrar. The Registrar will make arrangements for access and notify the student of the time and place where the records may be inspected.

2. The right to request the amendment of the student's education records that the student believes is inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA.

All students who wish to ask EVMS to amend a record should contact the Office of the Registrar, in writing, clearly identify the part of the record the student wants changed, and specify why it should be changed. The form to request an amendment to a student record is available via the Office of the Registrar. If EVMS decides not to amend the record as requested, EVMS will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosure of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

(Please note: EVMS will not release information from a student's educational record without the student's written consent except as indicated below.)

FERPA permits disclosure, without a student's prior written consent, to:

- A. School officials with legitimate educational interests. A "school official" is a person employed by EVMS in an administrative, supervisory, academic or research, or support staff position (including EVMS law enforcement personnel and health staff); faculty sponsoring an honor society; contractors, consultants, volunteers or other outside parties providing services instead of using EVMS employees or officials (such as an attorney, auditor, or collection agent); a person serving on the Board of Visitors; or a student serving

on an official EVMS committee, such as a disciplinary, student progress or grievance committee, or assisting another school official in performing his or her tasks. Inter-institutional disclosure may be made between EVMS and entities that administer or participate in joint or affiliated programs or activities and that further a legitimate educational interest because such disclosures are considered made to “school officials”. A school official has a “legitimate educational interest” if the official needs to review an education record in order to fulfill his or her professional responsibilities for EVMS.

- B. Officials of another school in which a student seeks or intends to enroll so long as the disclosure is related to the enrollment or transfer.
- C. EVMS may disclose education records to appropriate parties, including a student’s parent(s), if it determines that there is a significant threat to the health or safety of a student or other individuals, but only to those persons whose knowledge of the information is necessary to protect the health or safety of the student or other individuals.
  - 1. The right to file a complaint with the U.S. Department of Education concerning alleged failures by EVMS to comply with the requirements of FERPA.

they obtain from other Federal or State data sources, including workforce development, unemployment insurance, child welfare, juvenile justice, military service, and migrant student records systems.

The name and address of the Office that administers FERPA is:  
Family Policy Compliance Office

**U.S. Department of Education**  
**400 Maryland Avenue, SW Washington, DC 20202-5901**

As of January 3, 2012, the U.S. Department of Education’s FERPA regulations expand the circumstances under which your education records and personally identifiable information (PII) contained in such records — including your Social Security Number, grades, or other private information — may be accessed without your consent. First, the U.S. Comptroller General, the U.S. Attorney General, the U.S. Secretary of Education, or state and local education authorities (“Federal and State Authorities”) may allow access to your records and PII without your consent to any third party designated by a Federal or State Authority to evaluate a federal- or state-supported education program. The evaluation may relate to any program that is “principally engaged in the provision of education,” such as early childhood education and job training, as well as any program that is administered by an education agency or institution. Second, Federal and State Authorities may allow access to your education records and PII without your consent to researchers performing certain types of studies, in certain cases even when we object to or do not request such research. Federal and State Authorities must obtain certain use-restriction and data security promises from the entities that they authorize to receive your PII, but the Authorities need not maintain direct control over such entities. In addition, in connection with Statewide Longitudinal Data Systems, State Authorities may collect, compile, permanently retain, and share without your consent PII from your education records, and they may track your participation in education and other programs by linking such PII to other personal information about you that





## Cost of Attendance

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### What is a Cost of Attendance (COA) Budget?

Regulations regarding a student's COA were established by the Higher Education Act, as amended. The COA is designed to support the student attending school -- not extended family -- except as noted under budget adjustment allowances.

COA is reviewed annually and updated with estimated information in March of each year; information is not finalized until the June Board of Visitors meeting.

Note: Tuition and fees are subject to change without notice.

A student's annual COA includes:

- Direct costs (expenses paid to the school):
  - tuition
  - mandatory fees
  - health insurance (unless a waiver is submitted)
- Additional expenses (funds a student may need for other allowed costs):
  - room (lodging, basic utilities)
  - board (food)
  - books and supplies
  - transportation for educational purposes (gas, auto insurance, maintenance, but not the purchase of a vehicle)
  - personal (basic hygiene, laundry, etc.)
  - loan fees
  - miscellaneous

Regional cost of living indices are used in adjusting room, board and transportation allowances. Programs are polled for books and supply costs. Adjustments are made annually for actual direct costs based on recommendations by EVMS Financial Service and the Office of the Vice President for Administration & Finance as approved by the board.

Students' actual expenses will vary according to lifestyle and personal choices. Please review this summary of COA related to living, personal and travel allowances. A carefully planned personal budget for these expenses can help save money and reduce overall indebtedness. Learn more about financial planning.

Federal regulation requires that all financial aid calculations be based on a single COA budget for a program. See specific programs for current cost of attendance budget:

- Doctor of Medicine
- School of Health Professions

Important: Your COA does not support your family. If you have unusual expenses during an enrollment period, review the policy on budget adjustment allowances to see if you may be eligible to request a budget increase. Requests may be granted based on documented expenses during an enrollment period for:

- eligible travel expenses greater than transportation allowance

- dependent child care
- actual education loan fees withheld from disbursement (if greater than initial estimated amount)
- paid medical bills not reimbursed by insurance
- purchase of personal computer (once per program)

All requests will be considered on a case-by-case basis within federal regulations.



## Accounts Receivable and Student Billing

Accounts Receivable bills and collects payments for outside vendors, contractual services and hospitals. All students in the Doctor of Medicine, Art Therapy, Biomedical Sciences, Surgical Assistant, Physician Assistant and Public Health programs are billed through this office and tuition is collected and posted to their individual accounts.

For questions about your student account please email.

### Student Billing

Tuition is due in full on the first day of class, in accordance with the Student Accounts Receivable Policy. Typically, student bills are disbursed one month prior to the start of class, based on the individual student bills can be viewed online on the student portal. Statements are posted every Monday.

### Withdraw Accounting

Students who desire to withdraw from EVMS must complete a Leave of Absence and Withdrawal Form, which is available from the EVMS Registrar. A student using financial aid to help pay educational expenses, whose account was paid-in-full prior to withdrawal, is likely to owe EVMS after withdrawal. The schedule that is used to determine the amount of tuition due to EVMS is below. Return of Title IV funds are handled in accordance with federal law. Please refer to EVMS's official Student Accounts Receivable Policy for additional information on withdraw accounting. Students considering withdraw should consult Financial Aid. Additional information and answers can be found in Financial Aid, Direct Deposit Form.

The percentage of tuition owed to EVMS will be calculated according to the following schedule:

Withdrawl Date/Percentage of Term Completed	Percentage of Tuition Owed to EVMS
0% (Withdrawal within the first 7 calendar days)	0%
25%	50%
26%-50%	75%
51%-100%	100%



## Admissions

### Admission to the School of Health Professions & School of Medicine

All applications must go through a Centralized Application Service (CAS). If you are applying to the:

- Doctor of Medicine Program, complete your application through the American Medical College Application Service (AMCAS).
- Medical Master's Program, complete your application through the Post Baccalaureate Centralized Application Service (PostBACCAS).
- Physician Assistant Program, complete your application through the Central Application Service for Physician Assistants (CASPA).
- All other programs must complete, complete your application through the Graduate Central Application Service (GradCAS).

Applicants must read the information regarding their program of interest to which they are applying for specific admission and academic requirements. Applicants are encouraged to apply and submit all documents well in advance of the admission deadline corresponding to the semester in which they plan to enroll.

Admission decisions to admit an applicant to any program is determined by the program admissions committee. The committee members comprise of faculty, community faculty, alumni and or students in the appropriate academic department(s). The CAS service collects the application and application materials, and the Admissions & Enrollment Office assigns the complete application with all required documentation to the appropriate Program Administrative Support Coordinator (PASC). The PASC then assigns the application to the committee members. Once the committee members review the application, the program director will then make a final decision and notify the admissions office. An electronic admission decision is sent to the applicant via email.

### Degree-Seeking Application Requirements

1. Application and Fees: Applicants must electronically submit a completed CAS Application and the appropriate non-refundable application fee. The CAS Applications are online and available on the Education website at <https://www.evms.edu/education/admissions/>. The application fee information about each CAS System is as follows:
  - ◆ AMCAS Fees and Waivers: AMCAS charges \$170 for the first program you apply to and \$39 for each additional program. For more information about application fees and fee waivers click here.
  - ◆ CASPA Fees and Waivers: CASPA charges \$179 for the first program you apply to and \$52 for each additional program. For more information about application fees and fee waivers click here.
  - ◆ GradCAS Fees and Waivers: GradCAS charges \$60 for EVMS programs. The Admissions & Enrollment Office may provide coupons that offset the application fees on a case-by-case basis. Fee

Waiver requests must be requested to the program before Admissions & Enrollment will send out a coupon code.

- ◆ PostbacCAS Fees and Waivers: PostBacCAS charges \$130 for the first program you apply to and \$45 for each additional program. For more information about application fees and fee waivers click here.
2. Supplemental Applications: Applicants must electronically submit the EVMS Supplemental Application. There is no additional fee except for the Doctor of Medicine Program requires a \$100 fee. The EVMS Supplemental Application is available online for all programs except for the Doctor of Medicine Program sends out email notifications with the link to complete the supplemental application.
  3. Official Transcripts: Applicants must submit all official transcripts for all institutions attended to the CAS systems. Degree awarding transcripts must indicate the date of the applicant's graduation, the degree received. Transcripts with in-progress grades must be resubmitted once the grades have finally posted.
  4. Grade Point Average: All Degree-seeking, certificate, and non-degree applicants must have a baccalaureate degree and or graduate degree from a regionally accredited college or university and meet the program minimum grade point average (GPA) on a 4.00 scale. Applicants who do not meet the minimum program GPA requirement may be considered on a case-by-case basis by the program director.
  5. Academic and Professional References: Degree-seeking applicants are required to provide two letters of recommendation except for the following programs which require three letters of recommendation – Biomedical Sciences, Ph.D., Doctor of Medicine, Reproductive Clinical Sciences, Ph.D., Pathologists' Assistant, and Physician Assistant. The letters of recommendation and or forms must be completed by faculty at colleges attended by the applicant who is familiar with the student's academic, research capabilities, and persons qualified to judge (e.g., supervisor) the applicant's potential to complete the graduate program successfully. References from close friends and family members are unacceptable. Premedical Advisory Committee letters and Interfolio letters are also accepted. The letters of recommendation are part of the electronic application and may vary by the CAS system the applicant is using. If a recommendation form is submitted in paper form, it must be received by the Admission & Enrollment Office in a sealed envelope with the recommender's signature written across the envelope flap. The Admissions & Enrollment Office may accept letters of recommendation for the School of Health Professions via email at [hpadmissions@evms.edu](mailto:hpadmissions@evms.edu). Graduate Certificate applicants are not required to submit letters of recommendation.
  6. Prerequisite Courses: Specific programs require prerequisite courses requirements completed prior

to enrolling in the program. The prerequisite course requirements vary by program and applicants are encouraged to look at the admissions website or the program home page in the application system for the prerequisite course requirements.

7. Personal Statement: Applicants are required to submit a personal statement about their program interest and future goals. Applicants are encouraged to look at the program personal statement requirements before applying.
8. Resume: Applicants are required to submit a copy of their resume or curriculum vitae.

## Other Application Supporting Documents

Specific programs require additional application documents to be submitted. Below are some additional supporting documents:

- Writing Sample – Art Therapy & Counseling
- Advisor Meeting & Program Form – Early Assurance Physician Assistant
- Reproductive Clinical Sciences MS Program Skills Report Form – Reproductive Clinical Sciences, MS
- NCCPA certification – Physician Assistant Fellowship programs
- Surgical Assisting Certification – Surgical Assisting Bridge program
- RDMS certification – Doctor of Medical & Health Professions Education – Ultrasound and Imaging
- Laparoscopic Case Experience Form – Surgical Assisting Bridge program
- Current Surgical Assisting Certification – Surgical Assisting Bridge program

## Graduate Entrance Exams

Specific programs require entrance exams. These exams are used as one of several indicators of the applicant's ability to succeed in a graduate program. Below are some of the entrance exams accepted:

- CASPer Test – Required by the Physician Assistant Program
- Dental Admissions Test (DAT) – May be accepted in the Contemporary Human Anatomy and Medical Master's Programs
- Graduate Record Examination (GRE) – Required by the Contemporary Human Anatomy, Pathologists' Assistant and Reproductive Clinical Sciences, PhD
- International English Language Testing System (IELTS) – Can be used in lieu of the TOEFL test for some programs
- Medical College Admission Test (MCAT) – Required by the Doctor of Medicine and Medical Master's programs. Please note the Contemporary Human Anatomy and Pathologists' Assistant programs accept the MCAT in lieu of the GRE.
- Test of English as a Foreign Language (TOEFL) – International Students are required to take the TOEFL

## Deferred Applications

Applicants who were accepted in a program, but did not enroll and requested a deferred action do not need to reapply again. Deferred status can only be for one application cycle. Students who do not enroll after the initial deferment will be required to reapply as a new applicant.

## Reapplication

Applicants who were not accepted can reapply in any cycle can reapply. Applicants are encouraged to meet with the program director or coordinators on how to strengthen their applications. In the CAS systems, a repeat applicant can transfer previous application details and materials to the new cycle and make additional updates. Transcripts do not need to be resent.

## Readmission

Students who withdraw or are withdrawn from EVMS and wish to reapply as a student in the School of Health Professions or School of Medicine must apply through the Admissions process as a new student.

## Transfer Applicants

All transfers applicants must meet the admissions requirements for the program of interest. Applicants are encouraged to contact the program of interest for guidance before applying as a transfer student. For the Doctor of Medicine program, applicants can be considered for transfer into the second or third year of our curriculum only to fill vacancies that may arise with the withdrawal of previously enrolled students.

## Admission Status: Degree-seeking Status

Applicants accepted to the School of Health Professions, or the School of Medicine will be admitted as degree-seeking students. Certificate students must follow the same process as degree-seeking students. Degree-seeking students qualify for financial aid and must consult the Financial Aid Office. Not all certificate students qualify for financial aid and must inquire with the program before applying.

## Pre-matriculation Requirements for Degree-seeking Status

- Electronically pay a non-refundable deposit fee of \$300 except for the following:
  - ◆ School of Medicine requires a \$100 deposit fee (This is refundable up until April 30 per AMCAS guidelines)
  - ◆ Physician Assistant Program requires a non-refundable \$500 deposit fee
  - ◆ Certificate students do not require a deposit fee
- Electronically acknowledge the Program Conditions of Acceptance (Certificate Students are not required to complete this requirement)
- Electronically acknowledge the Program Technical Standards (Certificate Students are not required to complete this requirement)
- Electronically complete the Criminal Background Check - All students residing in the United States and



Canada must submit a criminal background check as part of your Conditions of Acceptance within 10 days of accepting your offer. Please click on this link of <http://preemploy.force.com/eap> and use the Unique Package code 052897 to complete this process. Use only Internet Explorer to complete this requirement.

- ♦ Accepted students in the Doctor of Medicine will receive directions from AMCAS on how to complete their criminal background check in January.
- Electronically complete the Immunization Requirements: EVMS adheres to the Centers for Disease Control and Prevention recommendations for immunizations and tuberculosis surveillance and the immunization requirements of Virginia law as described under EVMS Student Health Requirements for Incoming Students. Applicants accepted will have 3 weeks from the date of confirming acceptance to complete all health requirements. To complete your student healthcare requirement, please use your EVMS credentials to access the Occupational Health Portal. For additional information about the immunization requirements, please visit the Occupational website. Questions related to these requirements should be directed to Occupational Health via e-mail or telephone at 757-446-7105.
  - ♦ Distance learning students are not required to complete the immunization requirement except for the Reproductive Clinical Sciences, MS program.
- Submit Final Transcripts: Accepted students are required to resubmit final transcripts missing grades and or degree conferral date. The Doctor of Medicine, the Medical Master's Program and the Physician Assistant Program require all official transcripts sent through the CAS systems resent to Admissions & Enrollment Office. Official Electronic Transcripts must be sent directly from the institution via email to [hpadmissions@evms.edu](mailto:hpadmissions@evms.edu) to any program in the School of Health Professions or [evm\\_admissions@evms.edu](mailto:evm_admissions@evms.edu) for Doctor of Medicine. If your institution does not offer electronic transcripts, then the official transcript MUST BE IN A SEALED ENVELOPE and sent directly from the institution you attended to us at the address below:

#### **School of Health Professions Mailing Address**

Eastern Virginia Medical School  
Office of Admissions and Enrollment  
Attn: School of Health Professions  
Eastern Virginia Medical School  
700 W. Olney Road, Suite 1156  
Norfolk, VA 23507

#### **School of Medicine Mailing Address**

Eastern Virginia Medical School  
Office Of Md Admissions  
700 W. Olney Road, Ste: 1166  
Norfolk, Virginia 23507-1607

- Complete Mandatory Compliance Requirements in Blackboard:
  - ♦ Bloodborne Pathogen (Distance Learning are not required to complete this requirement)
  - ♦ Compliance
  - ♦ Foundational Science (only Doctor of Medicine and Medical Master's Programs)
  - ♦ HIPAA
  - ♦ Title IX
- Complete Online Orientation
- Complete Online Course Registration

#### **Non-Degree-Seeking Application Requirements**

Applicants who are not seeking a degree may, on a space-available basis, take courses offered by the program. Non-degree seeking applicants must contact the program director and get approval before applying for non-degree status. Applicants who do not meet program admissions requirements may be asked to apply for non-degree status. Credit received as a non-degree student may be applied to a graduate degree if and when the student becomes a degree-seeking graduate student. A maximum of 9 - 12 credits may be earned while in non-degree status depending on the program. Students in non-degree status do not qualify for financial aid.

1. Application and Fees: Applicants must electronically submit a completed GradCAS Application and the appropriate non-refundable application fee. Application information is available online on the Education website at <https://www.evms.edu/education/admissions/> and the application homepage. The application fee information is as follows:
  - ♦ GradCAS Fees and Waivers: GradCAS charges \$60 for EVMS programs. The Admissions & Enrollment Office may provide coupons that offset the application fees on a case-by-case basis. Fee Waiver requests must be submitted to the program before Admissions & Enrollment will send out a coupon code.
2. Supplemental Applications: Applicants must electronically submit the EVMS Supplemental Application. The EVMS Supplemental Application is available online for all non-degree programs.
3. Official Transcripts: Applicants must submit all official transcripts for all institutions attended to the CAS systems. Degree awarding transcripts must indicate the date of the applicant's graduation, and the degree received. Transcripts with in-progress grades will need to be resubmitted once the grades have finally posted.
4. Grade Point Average: All non-degree applicants must have a baccalaureate degree and or graduate degree from a regionally accredited college or university and meet the program minimum grade point average (GPA) on a 4.00 scale. Applicants who do not meet the minimum program GPA requirement may be considered on a case-by-case basis by the program director.

5. Resume: Applicants are required to submit a copy of their resume or curriculum vitae.

## Admission Status: Non-Degree-seeking Status

Applicants accepted to the School of Health Professions, or the School of Medicine will be admitted as degree-seeking students

### Pre-matriculation Requirements for Non-Degree-seeking Status

- Non-Degree students do not require a deposit fee:
- Electronically complete the Criminal Background Check - All students residing in the United States and Canada must submit a criminal background check as part of your Conditions of Acceptance within 10 days of accepting your offer. Please click on this link of <http://preemploy.force.com/eap> and use the Unique Package code 052897 to complete this process. Use only Internet Explorer to complete this requirement.
- Submit Final Transcripts: Accepted students are required to submit proof of baccalaureate degree with the degree conferral date posted on the transcript.
- Complete Mandatory Compliance Requirements in Blackboard (Not required for Art Therapy and Counseling non-degree students):
  - ◆ Bloodborne Pathogen (Distance Learning are not required to complete this requirement)
  - ◆ Compliance
  - ◆ HIPAA
  - ◆ Title IX
- Complete Online Orientation (Art Therapy and Counseling non-degree students are not required to complete this requirement)
- Complete Online Course Registration

### Changing from Non-degree to Degree-seeking Status

Applicants changing from Non-degree to Degree-seeking are required to complete the program degree-seeking application and must submit the required application materials for the degree-seeking program. In addition, the non-degree student must submit their EVMS transcript. Credit received as a non-degree student may be transferred towards a graduate degree. The Program Director will determine and approve total credits to be transferred prior to a student changing to degree-seeking status.

## Application Deadlines

Some applications deadlines are dedicated by when the last day the CAS system will stop processing applications. The application, the application fee, and all supporting documents must be received by Graduate Admission by the following deadlines:

### Fall Semester\* Deadline

- \*Art Therapy & Counseling – December 1 (Early Admissions Decision)
- Doctor of Medicine – November 15

- Physician Assistant Fellowship in Emergency Medicine – December 1
- \*Reproductive Clinical Sciences, MS – November 15 (Early Admissions Decision)

### Spring Semester\* Deadline

- Art Therapy & Counseling – February 15
- Biomedical Sciences, PhD – January 15
- \*Biomedical Sciences Research Master's – March 1 (For early Admissions Decision)
- Early Assurance Programs – February 15
  - ◆ Early Assurance Art Therapy & Counseling
  - ◆ Early Assurance Biomedical Sciences Research Masters
  - ◆ Early Assurance Biotechnology
  - ◆ Early Assurance Contemporary Human Anatomy
  - ◆ Early Assurance Laboratory Animal Science
  - ◆ Early Assurance Pathologist Assistant
  - ◆ Early Assurance Public Health
  - ◆ Early Assurance Surgical Assistant Program
- Physician Assistant – March 1
- Reproductive Clinical Sciences, MS – February 1
- Summer Terms Deadline
- Biomedical Sciences Research Master's – March 1
- Biotechnology – June 1
- Early Assurance Physician Assistant – June 15
- Physician Assistant Fellowship in Pediatric Urgent Care – May 30

## International Students

Admission of international students is program based. Applicants from other countries are encouraged to apply to any program that accepts international students. The applicants must meet the program admissions requirements and take the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). Official transcripts must be translated and evaluated by a credentialing agency. EVMS does not provide financial aid to international students.

## Application Requirements for International Students

International students can only apply as degree-seeking by submitting the specific documents required by the program of choice. An international student applicant must complete the following:

1. Application and Fees: Applicants must electronically submit a completed GradCAS Application and the appropriate non-refundable application fee. The CAS Applications are online and available on the Education website at <https://www.evms.edu/education/admissions/>. The application fee information for GradCAS is as follows:
  - ◆ GradCAS Fees and Waivers: GradCAS charges \$60 for EVMS programs. The Admissions & Enrollment Office may provide coupons that offset the

application fees on a case-by-case basis. Fee Waiver requests must be submitted to the program before Admissions & Enrollment will send out a coupon code.

2. Supplemental Applications: Applicants must electronically submit the EVMS Supplemental Application. There is no additional fee. The EVMS Supplemental Application is available online for all programs.
3. Official Transcripts: Applicants must submit all official translation of transcripts for all institutions attended to the CAS systems. Below are translation and transcript evaluation instructions:
  - ♦ Translation: If the academic institution that you attended does not issue documents in English, the credentialing agency will require that you submit a word-for-word translation of your transcripts. You can contact University Language Services (ULS) to submit your transcript for translation and instruct them to send the translated transcript to the credentialing agency you choose.
  - ♦ Transcript Evaluation: International students whose native language is not English may contact one of the following credentialing agencies to submit transcripts for official evaluation: [www.wes.org](http://www.wes.org) or [www.ece.org](http://www.ece.org). Instruct the credentialing agency to send the official evaluation (and translation) directly to Admissions and Enrollment (address below). You must provide both a course-by-course evaluation report along with an overall GPA calculation.
4. Grade Point Average: All applicants must provide both a course-by-course evaluation report along with an overall GPA calculation on a 4.00 scale.
5. Academic and Professional References: Degree-seeking applicants are required to provide two letters of recommendation except for the following programs which require three letters of recommendation – Biomedical Sciences, PhD, Reproductive Clinical Sciences, PhD, and Pathologists' Assistant. The letters of recommendation and or forms must be completed by faculty at colleges attended by the applicant who is familiar with the student's academic, research capabilities, and persons qualified to judge (e.g., supervisor) the applicant's potential to complete the graduate program successfully. References from close friends and family members are unacceptable. The recommendation forms are part of the electronic application and vary by the CAS system the applicant is using.

If a letter of recommendation and or form has to be submitted ,via mail it must be received by the Admission & Enrollment Office in a sealed envelope with the recommender's signature written across the envelope flap. The Admissions & Enrollment Office may accept letters of recommendation for the School of Health Professions via email at [hpadmissions@evms.edu](mailto:hpadmissions@evms.edu).
6. Prerequisite Courses: Some programs require prerequisite courses to be completed prior to

matriculating in the program. The prerequisite course requirements vary by program and applicants are encouraged to look at the admissions website or the program home page in the application system for the prerequisite course requirements.

7. Personal Statement: Applicants are required to submit a personal statement about their program interest and future goals. Applicants are encouraged to look at the program personal statement requirement.
8. Resume: Applicants are required to submit a copy of their resume or curriculum vitae.
9. Other Application Supporting Documents

Some programs require additional application documents to be submitted. Below are some additional supporting documents:

  - ♦ Writing Sample – Art Therapy & Counseling
  - ♦ Reproductive Clinical Sciences MS Program Skills Report Form – Reproductive Clinical Sciences, MS
10. Graduate Entrance Exams: Entrance exams are required by some programs and vary. These test scores are used as one of several indicators of the applicant's ability to succeed in a graduate program. Below are some of the entrance exams accepted in some programs:
  - ♦ Dental Admissions Test (DAT) – Can be accepted in the Contemporary Human Anatomy
  - ♦ Graduate Record Examination (GRE) – Required by the Contemporary Human Anatomy, Pathologists' Assistant and Reproductive Clinical Sciences, PhD
  - ♦ International English Language Testing System (IELTS) – Can be used in lieu of the TOEFL test for some programs
  - ♦ Medical College Admission Test (MCAT) – The Contemporary Human Anatomy and Pathologists' Assistant programs accept the MCAT in lieu of the GRE.
  - ♦ Test of English as a Foreign Language (TOEFL) – International Students are required to take the TOEFL

## Deferred Applications

Students who were accepted as degree-seeking, but did not enroll and requested a deferred action will not need to reapply again. Deferred status can only be for one application cycle. Students who do not matriculate after initial deferment will be required to apply again as a new applicant.

## Reapplication

Students who were not accepted can apply again. In the CAS systems, a repeat applicant will be able to forward previous application details and materials to the new cycle and make additional updates.

## Readmission

International students who withdraw or are withdrawn from EVMS and wish to reapply must apply as a new student.

## Admission Status

### Degree-Seeking Status

International Applicants accepted to the School of Health Professions will be admitted as degree-seeking students. Certificate students must follow the same process as degree-seeking students. Students planning to use financial aid must be admitted in a degree-seeking status. Not all certificate students qualify for financial aid and must inquire with the program before applying.

### Visa Application Requirements

1. Applicants must complete the Student Visa Form and submit it to Matthew Schenk.
2. Applicants with or applying for an F-1 Visa are required to submit current financial information that demonstrates the applicant has readily available funds to pay all tuition, fees, and living expenses for the first year of study, and documentation that adequate funds will be available for each subsequent year of study. (Note: M-1 Visa holders/applicants must demonstrate readily available funds for the entire period of study.)
3. Current financial information is defined as documentation no more than 60 days old from a financial institution. If the account is in the name of someone other than the student, a signed affidavit from the account holder expressing intent and ability to support the student's educational expenses will be required to be submitted with the financial information. Financial information that is not in U.S. dollars is required to be converted to U.S. dollars by a financial institution.
4. It is the responsibility of the student to submit the required financial information on an annual basis to Kim Botdorf, Associate Director of Financial Aid one month prior to the start of classes.
5. It is the responsibility of the student to keep his/her visa status in good standing and provide documentation of visa status annually to the Matthew Schenk, Director of Human Resources one month prior to the start of classes.
6. The student will be required to comply with all federal immigration regulations.
7. Once the funds have been paid for the academic period, per institutional policy, the funds will not be refunded if the student withdraws, is expelled, allows his/her visa to expire, or leaves for any other reason during that period.

This policy applies to all residential programs offered at Eastern Virginia Medical School. Please, direct payment questions to the attention of Kim Botdorf, Associate Director of Financial Aid and visa status questions to Matthew Schenk, Director of Human Resources.

### Pre-Matriculation Requirements for International Students

- Electronically pay a non-refundable deposit fee of \$300 except for the following:
- Electronically acknowledge the Program Conditions of

### Acceptance

- Electronically acknowledge the Program Technical Standards
- Electronically complete the Criminal Background Check - All students residing in the United States and Canada must submit a criminal background check as part of your Conditions of Acceptance within 10 days of accepting your offer. Please click on this link of <http://preemploy.force.com/eap> and use the Unique Package code 052897 to complete this process. Use only Internet Explorer to complete this requirement.
- Electronically complete the Immunization Requirements: EVMS adheres to the Centers for Disease Control and Prevention recommendations for immunizations and tuberculosis surveillance and the immunization requirements of Virginia law as described under EVMS Student Health Requirements for Incoming Students. Applicants accepted will have 3 weeks from the date of confirming acceptance to complete all health requirements. To complete your student healthcare requirement, please use your EVMS credentials to access the Occupational Health Portal. For additional information about the immunization requirements, please visit the Occupational website. Questions related to these requirements should be directed to Occupational Health via e-mail or telephone at 757-446-7105.
- Distance learning students are not required to complete the immunization requirements except for the Reproductive Clinical Sciences, MS program.
- Submit Final Evaluated Transcripts: Accepted students are required to submit final evaluated transcripts with the degree conferral date. Official Electronic Evaluated Transcripts must be sent directly from the credential agency via email to [hpadmissions@evms.edu](mailto:hpadmissions@evms.edu).
- Complete Mandatory Compliance Requirements in Blackboard:
  - ◆ Bloodborne Pathogen (Distance Learning are not required to complete this requirement)
  - ◆ Compliance
  - ◆ HIPAA
  - ◆ Title IX
- Complete Online Orientation
- Complete Online Course Registration

### Contact Information

Admissions and Enrollment  
Eastern Virginia Medical School  
P.O. Box 1980, Norfolk, VA 23501-1980  
TEL: 757-446-7437  
EMAIL: [hpadmissions@evms.edu](mailto:hpadmissions@evms.edu)



## Application Process

The financial aid application process is straightforward once you understand the steps and the timeline required to produce your aid funds at the time you need them each term.

- Who is eligible to apply?
- What are the steps to apply?
- What is the timeline to apply for financial aid?
- How do I renew aid for the next academic year?

## Eligibility

To qualify and maintain eligibility for federal student aid programs, an applicant must:

- be accepted for admission to Eastern Virginia Medical School,
- be enrolled in good standing at least half-time,
- be a U.S. citizen or permanent resident,
- be registered with the Selective Service if a male, at least 18 years old, under 26 years old and not currently a member of the Armed Forces,
- not be in default on a previous student loan or owe a refund on any Title IV funds received at another educational institution,
- maintain satisfactory academic progress and
- be creditworthy (for credit-based loans).

To qualify and maintain eligibility for EVMS institutional aid programs, in addition to the above requirements, an applicant must meet requirements for institutional aid programs as specified by the donor(s) and/or aid program(s).

## Steps to Apply

Basic steps to apply for aid are the same each year:

1. Complete the Free Application for Federal Student Aid (FAFSA) for the upcoming academic year.
2. Complete the online EVMS financial aid application.
3. Review the budget increase guidelines (for unusual expenses).
4. Confirm you are credit ready.
5. If needed later in academic year, students enrolled in per-credit-hour programs may need to file a revised education plan to update enrollment plans.

## Wait Listed

Do not wait to file your Free Application for Federal Student Aid (FAFSA) until you hear you are off the waiting list. Although your file will not be reviewed until you are accepted, timing is crucial to speed your award. File your FAFSA listing at EVMS (Title IV code 010338) and complete your online application by the stated deadline or within 10 business days (Monday through Friday) of being advised of your accepted status, whichever is later. In order to complete your online financial aid application, you must first receive your network credentials. If you have not received those within 10 business days, please advise EVMS Financial Aid.

## Timeline

File on time:

- March 20, 2018 for all returning students
- March 1, 2018 for Reproductive Clinical Science students
- May 1, 2018 for all other incoming students for Fall 2018
- October 1, 2018 for Physician Assistant students entering January 2019

Note: There will be no exceptions for late admits.

Review a complete application process timeline.

## How to Renew

After January 1 each year, in order to apply for financial aid for the upcoming academic year, you need to:

1. Complete the application process for the upcoming academic year.
2. Update your address and email questions on your FAFSA so the most accurate information is listed.
3. Continue to monitor your credit standing.
4. Maintain satisfactory academic progress.
5. Comply with all requests for any additional documents.
6. After receipt of your award notice, complete the loan process for needed funding for the coming year.

Please contact Financial Aid with any additional questions by phone at 757.446.5804 or by email at [finaid@evms.edu](mailto:finaid@evms.edu).





## Awards Process

You have filed the FAFSA and Online EVMS Financial Aid Application, but what happens now? Based on your program and cohort, we review the financial aid application materials, checking for completeness and accuracy. You will receive an email confirming receipt of any document received by EVMS Financial Aid. A more careful review follows, which might generate another email if there is anything missing or needing clarification.

If you receive an email from us, it is important that you respond as quickly as possible with the needed information.

### Financial Aid Award Notice

Approximately 30 days before the beginning of your program/cohort's academic year, an award notice will be posted to your EVMS Online Financial Aid System. Financial Aid will email you through your FAFSA and EVMS email advising you to go online to review and accept, reduce or decline each award. Please review your email and awards tab carefully, calculate how much funding you will need for the year and submit your response. Your award notice contains:

- the program/cohort cost of attendance on which your award was based,
- your expected family contribution as determined by your FAFSA,
- a breakdown of the types of available aid,
- an opportunity to accept, reduce or decline one or more of your loans,
- instructions of how to complete the loan process and
- dates by which to have the loan process completed.

Once you have submitted your response online, if you wish to make further changes, you must do so with a federal direct loan change form. You may visit your disbursements tab to see scheduled and actual disbursement dates (when funds are released). Contact EVMS Financial Aid with any questions by phone at 757.446.5804 or by email at [finaid@evms.edu](mailto:finaid@evms.edu).

### Calculating How Much You Need

Your award notice lists your financial aid up to your cost of attendance, including maximum education loans available. Can you reduce this amount? Of course. You should always reduce your loans as much as possible.

1. Review the direct costs for your program (those actually paid to EVMS).
  - a. Remember that mandatory fees are charged in the first term each year. Physician Assistant fees are always charged in January.
2. Add living expenses, including books and supplies. Create a monthly budget. How much can you trim? Consider what you will need versus what you want.
3. Deduct your other resources (not just financial aid): family support, savings, employer contribution. Include those here in your calculation.
4. Deduct financial aid, most favorable first. Remember all aid is disbursed equally by number of terms in the

academic year.

- a. Grants or scholarships, if offered
  - b. You are required by federal regulation to notify EVMS Financial Aid of all outside scholarships.
  - c. Institutional loans, if offered and accepted
  - d. Remember to allow for 1.073% origination fee for loans after October 1, 2014. If this covers your needs, stop and refer to step 6.
5. Divide the remainder by 0.95708 to inflate for the 4.292 percent origination fee on a . You can take any amount up to the total listed on your award notice.
  6. Before the beginning of the academic year, you must visit your EVMS Online Financial Aid System to accept, reduce or decline aid prior to the beginning of the term. After your initial online action, to change your loan you must use a loan decrease or increase form.

If your calculation is greater than the Grad PLUS listed, you need to revisit your budget and trim expenses. Your educational funds are to pay for:

- direct costs (tuition and fees)
- basic room and board expenses for student
- transportation expenses for student's educational purposes
- books and supplies

Education funds will not cover all your expenses (i.e., expenses for other members of your household, car loans, credit card payments, etc.) If you are still short of funds, explore guidelines for a budget increase or adjustment to your cost of attendance. You may qualify for an increase for authorized expense (i.e., computer purchase, dependent child care expenses while enrolled, etc.)

If you need assistance, try this worksheet or email [finaid@evms.edu](mailto:finaid@evms.edu) for assistance.

### Completing the Loan Process

Review your award notice online, plan your budget for the year, calculate how much funding you need and return to the EVMS Online Financial Aid System to accept, reduce or decline your loan(s). If accepting loans, you must complete the loan process.

Some steps you will do once for each type of loan, others must be repeated every year.

For federal Direct Unsubsidized or Direct Grad PLUS loans, go online using your FAFSA FSA ID. If you have not made the switch from FAFSA PIN to FSA ID, the system will take you through that process.

1. Complete entrance loan counseling\* for each type of loan.
2. Complete a Grad PLUS Loan Request (performs credit check) annually.
  - a. Be sure to request the maximum on the request and control actual disbursement by award acceptance process.
3. Complete the master promissory note\* for each type loan.

4. Review loan disclosures provided on each loan by federal processor.
5. Take advantage of financial awareness counseling at [studentloans.gov](http://studentloans.gov) or at AAMC FIRST.

\*These tasks only need to be completed once for each type of loan.

EVMS has moved to active acceptance because of recent changes in the way the cost of attendance budget is calculated and an increase in loan fees. If you have completed the loan process, federal direct loans will be released by EVMS Financial Aid on the first day of the term for origination and disbursement with the federal processor. Prior to disbursement, your enrollment status and satisfactory academic standing must be confirmed. Financial Services pulls the funds from the federal processor and disburses to your student account.

#### **For Private EVMS Loans and Federal Perkins Loans**

1. University Accounting Services (Sign My Loan) will notify you when your loan record has been prepared.
2. Complete entrance counseling for each loan.
3. Complete a master promissory note for each loan.
4. Complete a self-certification form for each private loan.
5. Review all loan disclosure forms.
6. Notify Financial Aid in writing if you wish to decline a private EVMS loan or federal Perkins loan after your initial online submission.

Private EVMS loans, Title VII (HRSA) and federal Perkins loans must originate and be held for the right of rescission period (time in which you could cancel) prior to disbursement to your student account.

Learn more about completing the financial aid process through [studentloans.gov](http://studentloans.gov) or through University Accounting Service (Sign My Loan).

#### **Disbursement Process and Dates**

EVMS Financial Aid releases funds to Financial Services on or after the first day of each term. Dates vary by program delivery mode.

For programs delivered entirely via classroom, funds are released beginning on the first class day of each term. Funds are released based on students' completing initial matriculation requirements and continuing eligibility for aid, including enrollment level and satisfactory academic progress. Some funds may not release as of the first day.

For programs which may be delivered entirely via distance or a hybrid of distance and classroom, aid will be released on the eighth day of the term (or on the next business day). Funds are released based on students' completing initial matriculation requirements and continuing eligibility for aid, including enrollment level and satisfactory academic progress. Some funds may not release on the same day.

All aid is released initially in as close to equal amounts as possible over the academic year to your student tuition account.

All students may review their financial aid disbursement schedule and actual status on the disbursements tab of their EVMS Online Financial Aid System.

Once Financial Services applies any payments or financial aid funds to a student's account, a refund process is run within 24 to 48 hours. If the student has signed up for direct deposit with Financial Services, any excess funds will usually be in his or her personal bank account within 48 to 72 hours of that process. Note that the insurance waiver process is completed at the end of the waiver period. If the student waives health insurance, that charge will not be removed by Financial Services until that date. A subsequent refund may occur to the student after that date.

See the full list of 2018-2019 disbursement dates.

#### **Your Right to Cancel**

You have the right to cancel your loans in whole or in part. EVMS requires active acceptance of your loans via the EVMS Online Financial Aid System. You may accept, reduce or decline your loans there. Once you have initially submitted your response to your awards notice, you must take other steps to reduce or cancel your aid.

William D. Ford Federal Direct Loan Programs include both Direct Unsubsidized and Direct Graduate PLUS Loans.

#### **Canceling Your Direct Unsubsidized Loan**

Before your loan money is disbursed, you may cancel all or part of your loan at any time by notifying EVMS Financial Aid in writing using a loan reduction form.

After your loan money is disbursed, there are two ways to cancel all or part of your loan:

1. If your school obtains your written confirmation of the types and amounts of Title IV loans that you want to receive for an award year before crediting loan money to your account at the school, you may tell the school that you want to cancel all or part of that loan within 14 days after the date the school notifies you of your right to cancel all or part of the loan, or by the first day of your school's payment period, whichever is later (your school can tell you the first day of the payment period). If the school does not obtain your written confirmation of the types and amounts of loans you want to receive before crediting the loan money to your account, you may cancel all or part of that loan by informing the school within 30 days of the date the school notifies you of your right to cancel all or part of the loan. In either case, your school will return the cancelled loan amount to us. You do not have to pay interest or the loan fee on the part of your loan that you tell your school to cancel within these timeframes. If you received an up-front interest rebate on your loan, the rebate does not apply to the part of your loan that you tell your school to cancel. Your loan will be adjusted to eliminate any interest, loan fee, and rebate amount that applies to the amount of the loan that was cancelled. If you ask your school to cancel all or part of your loan outside the timeframes described above,

your school may process your cancellation request, but it is not required to do so.

2. Within 120 days of the date your school disbursed your loan money (by crediting the loan money to your account at the school, by paying it directly to you, or both), you may return all or part of your loan to us. Contact the Direct Loan Servicing Center for guidance on how and where to return your loan money. You do not have to pay interest or the loan fee on the part of your loan that you return within 120 days of the date that part of your loan is disbursed. If you received an up-front interest rebate on your loan, the rebate does not apply to the part of your loan that you return. Your loan will be adjusted to eliminate any interest, loan fee and rebate amount that applies to the amount of the loan that you return.

This information was obtained from the William D. Ford Direct Loan Program Direct Unsubsidized Loan Borrower's Rights and Responsibility Statement. For additional information regarding your Federal Student Loans please refer to your Borrower's Rights and Responsibility Statement and your Master Promissory Note.

### **Canceling Your Direct Graduate Plus Loan**

Before your loan money is disbursed, you may cancel all or part of your loan at any time by notifying EVMS Financial Aid in writing using a Loan Reduction Form.

After your loan money is disbursed, you may cancel all or part of your loan within certain timeframes. For details, refer to the Grad PLUS Borrower's Rights and Responsibilities Statement that accompanies your PLUS MPN.

#### **From the PLUS MPN: Loan cancellation**

I may pay back all or part of a disbursement within the timeframes set by the Act, as explained in the Borrower's Rights and Responsibilities Statement and in a disclosure statement that I will receive. If I return the full loan amount within those timeframes, I will not incur any loan fee or interest charges. If I return part of a disbursement within those timeframes, the loan fee and interest charges will be reduced in proportion to the amount returned.

### **EVMS Institutional Loans**

After your initial response, if you change your mind about accepting your federal Perkins or EVMS institutional loan(s), you must notify Financial Aid in writing via your EVMS email account of your wishes to reduce or decline. You may be contacted for additional information at that time. You will be directed to your EVMS Online Financial Aid System to review any changes once they have been completed.



## Grants & Loans

Financial aid at EVMS includes grants and scholarships as well as education loans.

Grants and scholarships are gift aid, which do not usually require repayment, but may have other requirements (i.e., course of study, service, need, merit) in order to receive funding. Education loans require repayment, which begins after a grace period. The grace period starts when a student drops below half-time enrollment (ideally because of graduation).

Available loans at EVMS include the federal Direct Unsubsidized and Direct Grad PLUS loans. The Health Resources Services Administration (HRSA) also provides funding for primary care loans, loans for disadvantaged students and loans for students in the Doctor of Medicine program. There are also a limited number of EVMS institutional loans based on extreme need.

Regardless of your level of satisfaction with your education, student loans must be repaid. Under certain circumstances, borrowers may qualify for some forms of loan forgiveness (i.e., public service loan forgiveness, etc.) during loan repayment.

### Education Loans

Loans are funds that require repayment. EVMS participates in the Direct Unsubsidized and Direct Grad PLUS Loans Program and the HRSA Title VII loans for Doctor of Medicine students. Doctor of Medicine students interested in practicing primary care, or qualifying as coming from a disadvantaged

background, may apply for loans offered by the Department of Health and Human Services under Title VII. Students who indicate their desire to be considered for need-based institutional loans may be eligible for school-administered loans. Private or alternative loans may also be available, but EVMS Financial Aid urges extreme caution in using those loans.

### Federal Loans

Students enrolled at least half-time in a degree or approved graduate certificate program at EVMS are eligible to apply for federal student loans. Learn more about the application process and eligibility requirements. Students will receive an award notice detailing loans for which they are eligible to complete the loan process.

Federal loans would include Title IV loans such as the Direct Unsubsidized Loan and the Direct Grad PLUS Loan. MD students may be eligible for federal Title VII loans from the Health Resources and Services Administration (HRSA).

All federal loans carry a right of rescission or right to cancel.

Students should carefully read all rights and responsibilities associated with each loan as provided in the promissory note for each.

Note: Interest rates for each academic year are available online from the federal government. Historical rates are also available.

### Interest Rates for Direct Loans First Disbursed On or After July 1, 2018\*

Loan Type	Borrower Type	Loans first disbursed on or after July 1, 2017 and before July 1, 2018	Loans first disbursed on or after July 1, 2018 and before July 1, 2019
Direct subsidized loans	Undergraduate	4.45%	5.04%
Direct unsubsidized loans	Undergraduate	4.45%	5.04%
Direct unsubsidized loans	Graduate or Professional	6.00%	6.60%
Direct PLUS loans	Parents and graduate or professional students	7.00%	7.60%

All interest rates shown in the chart above are fixed rates for the life of the loan.

### Direct Unsubsidized Loan

Graduate students are only eligible to receive the Direct Unsubsidized Loan. Unsubsidized means the loan accrues interest in the student's name during periods of enrollment, grace, deferment or forbearance, as well as repayment.

- Interest rate is 6.60%
- 1.062% origination/default fee held by federal processor from each disbursement (effective October 1, 2018 and before October 1, 2019)
- 6-month grace period between enrollment and repayment
- Annual limit:
- School of Health Professions programs: \$20,500
- Doctor of Medicine program: \$40,500 (higher during M3 and M4 years)

- Aggregate for undergraduate and graduate:
- School of Health Professions programs: \$138,000
- Doctor of Medicine program: \$224,000

Standard repayment is over 10 years. Higher levels of borrowing may entitle the borrower up to 25 years to repay under certain repayment options. Learn more about the Direct Unsubsidized Loan.

### Direct Grad PLUS Loan

Graduate students who complete the FAFSA are eligible to apply for a Direct Grad PLUS Loan for the difference between their cost of attendance budget less any other financial aid they are utilizing. The Grad PLUS Loan is an unsubsidized loan. Unsubsidized means the loan accrues interest in the student's name during periods of enrollment, grace, deferment or



forbearance, as well as repayment.

- Interest rate is 7.60%
- 4.248% origination fee withheld by federal processor from each disbursement (effective October 1, 2018 and before October 1, 2019)
- 6-month grace period between enrollment and repayment
- Credit based (may require a credit worthy cosigner)

Standard repayment is over 10 years. Higher levels of borrowing may entitle the borrower up to 25 years to repay under certain repayment options. Learn more about the Direct Grad PLUS Loan.

## HRSA Title VII Loans (MD students only)

Loans for Disadvantaged Students or Primary Care Loans from Title VII funding from the HRSA may also be awarded to qualified students subject to availability of funding. Learn more about the requirements for these loans:

- Primary Care Loans
- Loans for Disadvantaged Students

To apply for these loans, complete the steps detailed under application process that pertain to Title VII aid.

## Institutional Loans

Because of the generosity of the community and alumni, students may receive one of the EVMS institutional loan funds. Awarded based on need and availability of funds, these loans are subsidized. Subsidized means that interest is waived during periods of enrollment, grace or deferment.

- Interest rate 5%
- 12-month grace period between enrollment and repayment
- 10-year standard repayment
- No origination/default fee

University Accounting Services acts as originator and servicer for these loans as third party servicer for EVMS. Students will be required to complete online entrance counseling and a promissory note, as well as review required disclosures.

## Private or Alternative Loans

Private or alternative loans are loans not from federal or institutional sources. These loans may be available based on good credit or with a credit worthy cosigner. EVMS Financial Aid urges extreme caution with this type of loan. Be sure you exhaust all federal and institutional sources first and carefully examine the terms and conditions, including repayment options, before committing to a private or alternative loan.

### Private Educational Loans:

- will reduce your eligibility for other loans
- may have interest rates which adjust monthly
- cannot be consolidated later with other Title VI federal loans via federal direct consolidation
- may or may not have forbearance options during residency

- cannot be consolidated in a federal consolidation loan in order to take advantage of income-based repayment or possible federal loan forgiveness programs

Note that medical residency and relocation loans are not included in the definition of private or alternative loans as they are not for educational purposes. However, MedCAP loans would be included in calculations for other aid.

International students enrolled in health professions programs may be eligible to apply for some private loans. However, they are usually required to have a credit worthy U.S. citizen or permanent resident as a cosigner.

EVMS does not have preferred lenders for private or alternative student loans and does not track current rights and responsibilities of various private lenders. We urge students to be very cautious with these loans and carefully read all disclosures provided. Over the past 3 years, a few students enrolled at EVMS have used the following private lenders. This list is limited to those lenders which are still offering private student loans to all credit worthy students:

- Discover
- Sallie Mae
- Wells Fargo
- SunTrust

This historical list is not presented in any order nor does it represent a complete list of those companies offering private student loans. Please use caution in applying for or accepting private education loans.

## Emergency Loans

Students enrolling at EVMS should plan their finances to have funds to support them for the first month of each term in order to allow time for releasing of aid, disbursement to student account and processing of credit balance refunds. Unexpected emergencies happen. A small emergency loan may be available to help cover those emergency expenses until financial aid is released.

An emergency loan carries no fee or interest if paid within 30 days. The amount of the loan is applied to the student's tuition account as a charge. The most common method of repayment is from disbursement of financial aid for the next term.

Students must meet with Financial Aid to complete an emergency loan application and discuss the amount needed. Applications for \$500 or less may be approved by a Financial Aid coordinator. Larger amounts may require additional signatures from the director, associate director and/or assistance dean. Once approved, the application is delivered to Financial Services for processing. The check, authorization for use of Title IV aid and promissory note will be available at Financial Services no sooner than 24 hours (one business day). Students will be notified by a student loan officer in Financial Services when the paperwork is ready to be completed. Students must go to Financial Services to sign the promissory note and take delivery of the check.

Caution: This loan is an advance on your funding for the term, not additional funding. Using funds early may result



in a shortage of funds before the end of the term. Carefully review your program calendar for start dates. Your scheduled disbursement dates are reflected on the disbursements tab of your EVMS Online Financial Aid System under each academic year to assist you with your financial planning. Typically, when all requirements have been met for classroom programs, your aid will be processed on the first day of each term. For distance or hybrid programs, your aid will be released on the eighth day of the term (or the next business day). All aid is released initially in as close to equal amounts as possible over the academic year to your student tuition account.

### Financial Aid: Satisfactory Academic Progress

In order to continue to receive federal, state and institutional financial aid, you must maintain satisfactory academic progress according to your program's guidelines; you must also meet the pace requirements of federal regulations. As a student at Eastern Virginia Medical School, you are required to be familiar with these requirements as well as your program requirements. Please download and read the full satisfactory academic progress policy and review as needed. Should you have any questions about the policy, please contact Financial Aid by phone at 757.446.5804 or by email at [finaid@evms.edu](mailto:finaid@evms.edu).

The required satisfactory academic progress appeal form is also available should you need to appeal a financial aid suspension.

If you meet all progress requirements stated in the EVMS and your program's student handbooks, you will meet satisfactory academic progress requirements for financial aid. If not, there is a timeline for when you will lose aid eligibility.

#### Example:

After Term	Academic Standing	Financial Aid Academic Standing
1	Good	Good
2	Warning	Warning
3	Probation	Loss of aid/subject to appeal
4	Probation, continued	Appeal must be refiled/updated
5	Standing regained	Eligible for Aid

### 150% rule

Financial aid cannot be offered for terms beyond 150 percent of the normal program length. Although terms do not have to be consecutive for aid purposes, at any point it is not feasible for the student to complete the program within 150 percent of the normal length, financial aid eligibility ceases.

#### Example (based on full-time attendance):

Program	# of terms (normal progress)	# of terms (150% rule)
Doctor of Medicine	8	12
Physician Assistant	7	10.5
Surgical Assistant	5	7.5
Master of Public Health	6	9
Medical Master's	2	3
Art Therapy & Counseling	4	6
Biomedical Sciences Research, MS	4	6
Reproductive Clinical Science	4	6
Biomedical Sciences, PhD	6	9



## Scholarships: School of Health Professions

The scholarship links are for various health professions programs at Eastern Virginia Medical School. The application is due as listed on that form. Be sure to list your full name on each page of documentation. Carefully examine your application for completeness, spelling and grammar.

Don't forget to explore outside resources for other scholarship or grant opportunities, such as the H-1B workforce grant.

### EVMS Administrative Resource Council Scholarship

#### History

The fund was established in 1990 by various donors comprised of EVMS administrative staff. The Administrative Resource Council has held many fundraisers on campus over the years and directs the proceeds to this scholarship.

#### Criteria

The scholarship will be awarded annually to a student enrolled in one of the health professions programs on a rotating basis.

### H. MacDonald Rimple Scholarship

#### History

Established in 2001, this scholarship was created in honor of Dr. H. MacDonald "Mac" Rimple, a distinguished physician, an Assistant Surgeon General in the U.S. Public Health Service and the former Eastern Regional Director of the Virginia Department of Health.

#### Criteria

The scholarship will be awarded annually to a first-year student enrolled in the Master of Public Health program at EVMS, based on financial need.

### James Consoli Scholarship

This scholarship is awarded by the EVMS Art Therapy & Counseling program to one rising second-year student who demonstrates financial need and excellence academically and in self-expression of his/her artist-therapist identity in artwork and written commentary. The monetary value of the scholarship varies yearly and is dependent upon the growth of the funding source. The scholarship is awarded as tuition remission.

#### History and Biography

This scholarship was created in 1997 in memory of art therapist James J. Consoli, ATR-BC, LPC (1956-1997), and additional funds were given in 2014 in memory of Meghan Kirkpatrick (1987-2014).

Jim Consoli earned a Master of Arts in Art Therapy from George Washington University. He was a registered and Board-certified art therapist, a National Certified Counselor, a Licensed Professional Counselor in Tennessee and Virginia and an AAMFT approved supervisor. He held a faculty position at EVMS from 1990-1997. At the time of his early passing, Jim was the Assistant Director of the EVMS Art Therapy &

Counseling program and an Associate Professor of Psychiatry and Behavioral Sciences. He served a term as president of the Virginia Art Therapy Association. He presented locally, nationally and internationally and was an instructor on the American Art Therapy Association (AATA) Family Art Therapy Regional symposium team. James Consoli is best remembered for his strong artist-therapist identity, playful sense of humor and interests in family therapy, hypnosis and visualization and the creation of educational videos. He was instrumental in his contributions to a major curriculum revision of the Art Therapy & Counseling program in 1990, which included a new studio course in Processes and Materials of Art Psychotherapy, the development of the family therapy specialization track and the alignment of coursework with the potential for licensure of graduates as professional counselors. In his 1991 film, *Psychimagery*, he used a technique he called "ushered imagery" to allow patients to serve as their own guide in order to create personal solutions through their own empowerment. Jim served as the first video reviewer for Art Therapy: Journal of the American Art Therapy Association. He is now remembered through the Jim Consoli Video/Film Award, given by the AATA in recognition of a video or film of high quality that adds to the existing fund of knowledge about the field of art therapy.

From a very early age, Meghan Kirkpatrick discovered her joy and talent were connected to art. That led her to obtain a Bachelor of Arts degree at a small liberal arts college. Upon graduation, unsure of how to best utilize her education, she worked almost 2 years at a graphic design company. During her time there, she came to realize that this was not going to be her career. In the fall of 2011, after plenty of soul searching and an equal amount of trepidation, she entered the EVMS Art Therapy & Counseling program. The classes, fellow students and faculty all led her to understand that becoming an art therapist was exactly what she wanted to be doing with her life. Always a compassionate person, she looked forward to the opportunity to affect others' lives through art therapy. Unfortunately, the cancer that Meghan was initially diagnosed with at age 12 returned after the completion of her first year at EVMS and ended her hopes of returning to complete her degree and sadly, her life. It is hoped this award will help another student with the same aspirations as Meghan to complete their studies and allow them to pursue this worthy career.

#### Criteria and Application

This scholarship is awarded to a student progressing into the second year of the EVMS Art Therapy & Counseling program.

The scholarship will be awarded based on the following:

- Student must have a GPA of at least 3.5
- Student needs to demonstrate financial need, as determined by EVMS Financial Aid, based on the evaluation of submission of the following:
  - EVMS Online Financial Aid Application
  - FASFA form
  - All applicable forms are available on the student portal or the Financial Aid website. Please note deadlines posted on the Financial Aid website.

- Submission of the completed James Consoli Scholarship application.
- Submission of a qualifying art piece and accompanying written statement.
- The artwork (in any media/style) should conceptualize the development of your artist-therapist identity. The accompanying written statement (i.e. prose, poetry, dialogue) should describe what you sense, feel, think and know from the artwork.

The artwork, application form and commentary must be delivered to the program by the last day of the spring semester of the first year of program.

### Evaluation and Award Process

The James J. Consoli Scholarship Committee, comprised of the EVMS Art Therapy & Counseling program Director and core faculty, will select the winner based on completeness of the application and the evaluation of the following:

1. The artwork's ability to stand on its own merit as a work of art.
2. The congruency between the written statement and the artwork.
3. Conceptualization of the theme: Development of your artist/therapist identity.

EVMS faculty will determine the winner and EVMS Financial Aid will notify the award winner during the summer. The winner of the scholarship will receive a certificate, a financial tuition remission and will have their artwork and written statement prominently displayed on campus for one year.

## Eugene Smith Scholarship

### History

As a founding partner of Valleywide Surgical Services located in Phoenix, Arizona, and the past president of the National Surgical Assistant Association (NSAA), Eugene O. Smith advocated firmly for the advanced education of surgical assistants. Mr. Smith worked tirelessly to develop high educational standards for the NSAA and served for many years as its president. The Eugene Smith Scholarship was established in 2011 in his memory as the first scholarship fund at EVMS specifically designated for a surgical assistant. The Eugene O. Smith Scholarship recipient reflects the vision of Eugene Smith, by demonstrating the following qualities: a commitment to excellence in the classroom, promise as a leader among their peers, a spirit of professional stewardship and a dedication to ever expanding their command of the science and art of surgical assisting.

### Criteria

The scholarship will be awarded annually to a second-year Surgical Assisting student enrolled at EVMS who demonstrates the following:

- a commitment to excellence in the classroom
- promise as a leader among their peers
- a spirit of professional stewardship

- dedication to ever expanding his or her command of the science and art of surgical assisting

Final selection made by Financial Aid in conjunction with the program.

## EVMS Physician Assistant Scholarship

### History

Established in January 2011 in tandem with the Inaugural EVMS Scholarship Reception, this fund was endowed by the close of the fiscal year ending on June 30, 2011. It was awarded for the first time in 2011.

### Criteria

The scholarship will be awarded annually to a student enrolled in the Master of Physician Assistant program at EVMS.

## EVMS School of Health Professions Scholarship

### History

Established in January 2011 in tandem with the Inaugural EVMS Scholarship Reception, this fund was endowed by the close of the fiscal year ending on June 30, 2011. The first award was made to a student in 2011.

### Criteria

The scholarship will be awarded annually on a rotating basis to a student enrolled in one of the following programs at EVMS: Master of Physician Assistant, Master of Public Health, Master of Science in Art Therapy & Counseling and Master of Science in Biomedical Sciences Research.

## Employee Endowed Scholarship

### History

Established in 1998 by EVMS, the Employee Endowed Scholarship is awarded to children of full-time faculty and other employees of EVMS. Scholarships are limited in number based on available funding each academic year.

### Criteria

**The recipient of the Employee Endowed Scholarship Fund must meet the following Criteria:**

- The student must be enrolled in an EVMS degree-granting program of study and in good academic standing.
- The student must be the child of either a full-time faculty member or other employee of EVMS who has a minimum of one year of service.
- If the employee is no longer employed by EVMS, the scholarship is not renewable.
- The student must indicate eligibility on the EVMS Online Financial Aid Application by requesting the scholarship.
- The student must provide documentation as to the name of and relationship to the qualifying employee.

## Scholarships: School of Medicine

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Please take time to read the requirements of each scholarship carefully. Be sure to list them as requested in the EVMS Financial Aid and Scholarship Application, including additional information as required by each scholarship.

It is important that you:

- Review and list scholarships by name for which you think you would be eligible for consideration.
- Use correct grammar and check your spelling.
- Briefly explain why you are an eligible candidate. Do not just attach your curricula vitae.
- Do not miss your application deadline. See the EVMS Financial Aid and Scholarship Application for deadlines.

## Need-based scholarships

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### How to qualify

To be considered for a need-based scholarship, a student's needs analysis results must fall within the neediest 25th percentile of the student body. The needs analysis is based on the results of the FAFSA and additional asset information gathered in the application process. Scholarship availability may fluctuate annually based on the number of eligible candidates, endowment earnings and available funds.

### John B. Baines Scholarship

#### History

H.C. Hofheimer, II, established this scholarship in 1994 in gratitude for the advice and assistance that Mr. Baines rendered to the H.C. Hofheimer, II, Foundation. Mr. Baines' son, Dr. Bryan N. Baines, is a graduate of EVMS.

#### Criteria

The scholarship is awarded annually to a student of the School of Medicine based on financial need.

### Ernestine Boyce Scholarship

#### History

Ernestine Boyce established this scholarship for a deserving medical student who otherwise would not be able to attend medical school.

#### Criteria

The scholarship is awarded annually to a student with financial need.

### Barton A. Cohen Scholarship

#### History

Dr. Barton A. Cohen died at the age of 29 while a resident at Medical College of Virginia. Dr. Cohen's colleagues at the Medical College of Virginia established this scholarship in 1971.

#### Criteria

The scholarship is awarded annually based on demonstrated financial need and good academic standing.

### Community Faculty Student Scholarship

#### History

This scholarship was established by the community faculty of EVMS to help ease the financial burden of the cost of medical school.

#### Criteria

The scholarship is awarded annually based on enrollment in the medical program at EVMS, financial need and good academic standing.

### Ann Scott Daughtry Medical Education Scholarship

#### History

Ann Scott Daughtry established this scholarship for a deserving medical student.

#### Criteria

The scholarship is awarded annually to a student with demonstrated financial need.

### French-Wallace-Anderson Scholarship

#### History

The Norfolk Academy of Medicine Auxiliary established this scholarship June 4, 1991, in honor of Dr. William H. French and Dr. Kenneth Wallace.

Dr. French was a Virginian only by marriage to the cousin of Frances Newman Wallace. He was a pediatrician much decorated by foreign countries for his work, particularly with asthmatic children. He was one of only five Americans ever to receive the Austrian Gold Cross. The framed collage of his medals shall remain on display in EVMS' Edward E. Brickell Medical Sciences Library.

Dr. Wallace, an esteemed radiologist in Norfolk, has served as President of the Norfolk Academy of Medicine and the Medical Society of Virginia.

#### Criteria

The scholarship is awarded annually based on enrollment in the medical program at EVMS, demonstrated academic excellence and demonstrated financial need.

### Robert B. and Ruth M. Glisson Memorial Scholarship

#### History

Graduating from his Georgia high school at 16, Robert Glisson met his future wife while visiting his uncle, who was married to Ruth's aunt. Originally from Deland, Florida, Ruth Glisson attended High Point College with Robert. After graduation,

Robert joined the naval reserves around the time of the Korean War.

The Glissons relocated to Norfolk, where they stayed and raised their two children, Britton and Amy. They celebrated their 52nd wedding anniversary on May 15, 2004, shortly before Ruth passed away on August 27 the same year. Robert Glisson established this scholarship in memory of his wife, Ruth.

#### **Criteria**

Awarded annually to a student in the MD program at EVMS based on academic merit and financial need.

### **Samuel Goldback Scholarship**

#### **History**

J. Samuel Goldback, a lifelong resident of Norfolk, established this scholarship through a gift from his estate. Unable to continue his education due to the financial struggles of his time, Mr. Goldback left this bequest to help assure that others could obtain their educational goals.

#### **Criteria**

This is an annual scholarship for students selected by the Scholarship Committee based on ability and financial need. This scholarship may be in addition to another scholarship if the student is deemed worthy. The annual amount and number of awards is determined annually.

### **Helen O. Hill Memorial Scholarship**

#### **History**

A longtime resident of Suffolk, Helen O. Hill bequeathed a generous portion of her estate to be used for scholarships for EVMS students. This fund helps students as they strive for academic excellence and the ultimate goal of becoming caring, compassionate physicians.

#### **Criteria**

The scholarship is awarded annually to a student based on financial need and academic excellence.

### **Sentara Endowed Scholarship**

#### **History**

Sentara established this scholarship to help ease the burden of medical school tuition for a student, preferably from the Tidewater Region.

#### **Criteria**

The scholarship is awarded annually to a medical student who demonstrates financial need and is a resident of the Tidewater region of Virginia.

### **Mary Lewis and Charles Weddle Scholarship**

#### **History**

Mary Lewis Weddle established this scholarship in 2007.

#### **Criteria**

The scholarship is awarded annually based on enrollment in the medical program at EVMS, demonstrated academic excellence and demonstrated financial need.

### **Annette Kagan Memorial Scholarship**

#### **History**

From Santa Cruz, California, and a graduate of the University of Southern California, Annette Kagan passed away during her second year as a medical student at EVMS. She was a member of the pediatrics club at EVMS with a special interest in holistic medicine. Dr. Anas M. El-Mahdi led the efforts of her friends to create this scholarship in 1990 in her memory.

#### **Criteria**

The scholarship is awarded annually to a student based on financial need.

### **David Scott Memorial Scholarship**

#### **History**

This scholarship was established in memory of Dr. Scott, a faculty member at EVMS.

#### **Criteria**

The scholarship is awarded annually to a first-year medical student at EVMS who has successfully completed the EVMS Medical Master's program and demonstrates financial need.

### **Alice and Harry Pariser Endowed Scholarship**

#### **History**

Established in 2000 by Dr. and Mrs. Harry Pariser, the Alice and Harry Pariser Endowed Scholarship makes it possible for a promising student with significant financial need to earn a medical degree from EVMS.

#### **Criteria**

The scholarship is awarded annually to one student, enrolled in the medical program at EVMS, who demonstrates financial need. This scholarship is renewable throughout attendance (up to four years). Upon graduation, a new recipient is selected.

### **M. W. Talbot Scholarship**

#### **History**

Ms. Caroline Talbot established this scholarship in memory of M. W. Talbot.

#### **Criteria**

The scholarship is awarded annually to a student enrolled in the school of medicine based on financial need.

### **EVMS School of Medicine Scholarship**

#### **History**

Eastern Virginia Medical School established this scholarship to



help ease the burden of tuition for a student enrolled in the medical program.

#### Criteria

The scholarship is awarded annually to a student enrolled in the medical program at EVMS based on financial need.

### Sidney S. and Odie B. Kellam Scholarship

#### History

Established in 1992 by Virginia Beach Federal Savings Bank, the Sidney S. and Odie B. Kellam Scholarship award recognizes Sidney Kellam's distinguished service as a member of the original Board of Commissioners of EVMS and the first Chairman of the Board of Humana Hospital Bayside, as well as his lifelong interest in the areas of healthcare and education.

#### Criteria

The scholarship is awarded annually to a student based on financial need and academic excellence.

### Dorothy Middleton Memorial Scholarship

#### History

This scholarship for a Virginia resident was funded by an endowment bequeathed by the late Dorothy M. Middleton of Norfolk. The first award occurred in 2011. This scholarship helps promising students overcome the financial burden that weighs heavily on many aspiring doctors. It is awarded to an incoming student each year. This scholarship will be renewable for an additional three years (four years of tuition total), subject to satisfactory academic progress.

#### Criteria

The scholarship for full, in-state tuition is awarded annually based on the following:

- Virginia residency
- Academic excellence based on entering grades and scores
- Financial need based on FAFSA and needs analysis.
- Final candidates of this scholarship may be required to interview with the selection committee.

In addition to completing the EVMS Financial Aid and Scholarship Application, please write 350 to 500 words on what it would mean to you to receive this scholarship for medical school.

This scholarship is renewable for up to four years total based on continued academic excellence. Only incoming students are considered annually for this award.

### The Manser Scholarship

#### History

A family who wished to pay special tribute to the skilled and compassionate care their father received under the care of Dr. Thomas J. Manser, Associate Professor of Internal Medicine at EVMS, made a special donation to EVMS in April 2002. The

donors directed that Dr. Manser be given the honor of directing all the expenditures from this fund. Dr. Manser decided that the funds should be used to enhance and promote EVMS educational programs for medical students and Internal Medicine residents. The outcome includes this scholarship to support education and living expenses of a student. Dr. Manser hopes that recipients of this scholarship consider making a similar scholarship gift once they are established in their careers.

#### Criteria

The scholarship is awarded annually to a student based on financial need.

## Merit-based Scholarships

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#### How to qualify

Merit-based scholarships will be awarded based on past grade point average, a current transcript and possibly test scores. In some cases, the EVMS Registrar may provide student progress information.

### Verizon Scholarship

#### History

Bell Atlantic (now Verizon) established this scholarship in 1990.

#### Criteria

This scholarship is awarded to a medical student based on academic excellence and renewed based on continued academic excellence.

### EVMS Alumni Scholarship

#### History

This scholarship was originally established in 1989 with support from the EVMS Alumni Association and other Doctor of Medicine Alumni.

#### Criteria

This is a merit-based scholarship for a fourth-year medical school student with a proven record of community service and leadership at Eastern Virginia Medical School.

## Fields of Interest Scholarships

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As students begin their medical school education, some already have an idea of the field of medicine in which they are interested. Others may still be determining their final path. These scholarships are designed for students later in their medical school education who have determined what path their interest will take. Students must have a clear intent within the field in order to be considered for the scholarship. Carefully read and follow instructions for any scholarship of interest.

## **Dr. C. J. Andrews Scholarship**

### **History**

The Dr. C. J. Andrews Scholarship was established in 1983 by OB/GYN Association of Tidewater, Inc., in honor of Dr. William C. Andrews.

### **Criteria**

The recipient of the Dr. C. J. Andrews Scholarship will be a rising fourth-year medical student at EVMS who demonstrates a particular interest in OB/GYN.

## **Max Comess Scholarship**

### **History**

This scholarship was established in memory of Max Comess by his wife and children.

### **Criteria**

Each year, the scholarship is awarded to a student or resident of EVMS pursuing research in renal medicine.

## **Nancy Upton Thiemeyer Scholarship Fund**

### **History**

Nancy Upton Thiemeyer was the daughter of Nannie and Luther Upton. The scholarship was established in memory of Nancy by her husband, Dr. Thiemeyer, and Upton Farms.

### **Criteria**

The scholarship is awarded annually to a rising fourth-year student in the medical program at EVMS who intends to go into post-graduate training in orthopedic surgery.

## **Theresa Thomas Foundation Scholarship**

### **History**

This scholarship was established in 1993 by the Theresa A. Thomas Foundation.

### **Criteria**

Each year, the scholarship is awarded to a student who elects to specialize in primary care. The scholarship will be converted to a loan if the student recipient does not meet the requirements of entering into primary care residency.

## **Nannie and Luther Upton Scholarship**

### **History**

Established in 1976, the Nannie and Luther Upton Scholarship was established by their children. Upton Farms, of Suffolk, Virginia, has been a strong supporter of this fund as well.

### **Criteria**

The scholarship is awarded annually to a student who plans to go into post-graduate training in orthopedic surgery.

## **James E. Ethridge, JR., MD, and Ahmad A. Shoaibi, MD/St. Mary's Home Scholarship**

### **Criteria**

The scholarship is given to a fourth-year medical student who is a Virginia resident and has expressed interest in pediatrics. The recipient is encouraged to practice pediatrics in Eastern Virginia.

## **Captain David Brown Aerospace and Medical Research Endowment**

The Captain David Brown Aerospace and Medical Research Endowment was established to honor the memory of David M. Brown, one of the seven astronauts who died in the space shuttle Columbia accident on February 1, 2003.

David Brown was a true renaissance man – gymnast, circus performer, pilot, medical doctor, Navy flight surgeon, Navy jet pilot, astronaut and videographer. He graduated from Eastern Virginia Medical School in 1982. All of Dave's friends agree that he was the most modest overachiever they had ever met.

The scholarship was established through a permanent endowment by family and friends to provide financial assistance to medical students at EVMS. The recipients demonstrate academic excellence and a spirit of exploration and service. The hope is that David Brown's life and achievements will be an inspiration to all future EVMS students.

David McDowell Brown was born April 16, 1956, to Dorothy and Paul Brown of Arlington, Virginia. Educated in Virginia from elementary school through medical school, Dave became interested in science, football and gymnastics in high school. He continued as a gymnast while majoring in biology at the College of William & Mary. He even worked a summer with Circus Kingdom as an acrobat, unicyclist and stilt walker.

Those summer and part-time jobs paid for Dave's flying lessons. Dave soloed for the first time on July 8, 1978. Flying was such a passion of his that later, while in the Navy, he eventually owned a home located on a small airport. Dave joked, "I bought a hangar and a house came with it." He needed that hangar for his own two light aircraft.

Dave graduated from EVMS in 1982 with a class full of friends, especially Gordon Liams, his roommate and lifelong friend. Dave had planned to become a family practice doctor but wanted to do something more exciting first. After completing his internship, Dave joined the Navy, serving on two aircraft carriers as a flight surgeon. His skills as a videographer came to the forefront when he created a training film for flight surgeons on preparations for cold weather flight operations and earned him recognition as Navy Flight Surgeon of the Year.

Originally assigned to the STS-107 mission on July 25, 2000, it would be nearly three years before David and his fellow crewmates would leave Earth's atmosphere onboard the Columbia space shuttle on January 16, 2003. Dave was responsible for many experiments that were completed, and he participated in others.

As David's family and friends shared, David trained for two years for the STS-107 space mission. During Columbia's

two weeks in space, David and his crewmates oversaw 85 experiments, some of which amazingly survived the accident. We watched David float in space and work on his experiments and listened to him tell us about his wonderful experiences. David always knew that there were risks, and he accepted them. It was an incredible mission only marred by a final bad act.

After an extremely productive 16 days in space, Dave and his crewmates prepared the space shuttle Columbia for its journey home. Tragically, on February 1, 2003, a damaged wing resulted in the Columbia breaking apart on reentry into Earth's atmosphere over Texas.

The day before Columbia's reentry, David shared much of his feelings about the trip with friends and family. He closed by writing, "If I'd been born in space, I know I would desire to visit the beautiful Earth more than I've ever yearned to visit to space. It's a wonderful planet."

Visit the Captain David Brown collection on display in the Brickell Atrium at EVMS.

### Criteria

The recipient of the Captain David Brown Aerospace and Medical Research Endowment will be:

- A first-year medical student enrolled at EVMS who has an interest in aerospace medicine or explorative medical research.
- Recipients of this scholarship will continue to be awarded the fund in the subsequent three years, as long as he or she maintains good academic standing and enrollment at EVMS.
- Along with the EVMS Financial Aid and Scholarship Application, please complete the Capt. David Brown Aerospace and Medical Research Endowment application form and required narrative.

## Location Scholarships

Scholarships based on location typically refer to residency, either state or locality. Sometimes they refer to undergraduate alma maters or perhaps employee status.

### Kent Adams Memorial Scholarship

#### History

Kent Adams graduated from West Springfield High School in 1971 and received a Bachelor of Science Degree from the College of William & Mary in 1975. For a time, he pursued a medical tech career at University of Virginia before transferring to George Washington University (GW) in Washington, D.C., to be closer to home. There, Kent worked on cardiovascular projects and in the heart catheterization laboratory at George Washington University Hospital. He received his Master of Science from Georgetown University in Physiology in 1982. While at GW, Kent was mentored by a physician who encouraged him to pursue a career in medicine. Kent took his advice, completed his prerequisites at GW, applied to EVMS and was accepted into the medical program.

On the day of his final exam at GW, he was tragically killed in an auto accident. Kent's parents established the Kent Adams Memorial Scholarship to perpetuate his memory.

#### Criteria

The recipient of this scholarship must be a rising third- or fourth-year student enrolled in the EVMS medical program and Virginia resident. The student must also have a declared intent in the specialty of cardiology and have demonstrated financial need.

### T. Ray Hassell Memorial Scholarship

#### History

Judge Richard S. Bray and Molly Hassell established the T. Ray Hassell Memorial Scholarship in 1998. This award honors and memorializes Mr. Hassell's legacy of dedicated service to the citizens of Chesapeake and the Commonwealth of Virginia for generations to come.

#### Criteria

The scholarship is awarded annually for a four-year period to a student from Chesapeake, Virginia, who has demonstrated both financial need and academic excellence.

### M. Kirwan King, MD, Memorial Scholarship

#### History

The M. Kirwan King, MD, Memorial Scholarship was established by his widow, Mrs. Cherry Martin King, and family to provide scholarships for students pursuing a medical degree at Eastern Virginia Medical School. A native of Haynesville, Virginia, Dr. King retired in 1980 from private practice as a surgeon. He was a former chief of surgery at the U.S. Marine Hospital in Norfolk and a former chief of staff of Norfolk General Hospital and Leigh Memorial Hospital.

Dr. King graduated in 1930 from the Medical College of Virginia and was commissioned in the U.S. Public Health Service. During World War II, he served for two years as chief of surgery at the U.S. Public Health Service. He was a fellow of the American College of Surgeons, a diplomat of the American Board of Surgery and the International Board of Surgery and an honorary member of the Spanish College of Surgeons.

Mrs. King and her family established this fund for a needy student because Dr. King was the recipient of a loan by a generous benefactor that allowed him to attend medical school. At the time of his graduation from medical school, the benefactor told Dr. King that his loan would be forgiven and that at some point in the future he should "pay it forward."

#### Criteria

This scholarship is based on need and is for students enrolled in the MD program who are from a rural area.

Each year, the following tiered approach would be used to identify the candidate:

- Medical student with ties\* to the Northern Neck of Virginia (which includes Westmoreland, Richmond,

Northumberland and Lancaster counties of Virginia), or

- Medical student with ties\* to the Eastern Shore, or
- Medical student with ties\* to an alternate rural area of Virginia
- Isserman rural definition: A rural county is one in which the county's population density is less than 500 people per square mile, and 90 percent of the county population is in a rural area or the county has no urban area with a population of 10,000 or more.

\*Ties: Defined as a student who was a resident or graduated high school in the area.

## C. E. Thurston Scholarship

### History

Mr. C. E. Thurston, Jr., of Norfolk, Virginia, established this scholarship fund in 1981. The first award was made in 1986.

### Criteria

The scholarship is awarded annually to a graduate of Virginia Military Institute (VMI) who is a medical student at EVMS and demonstrates academic merit as well as a mature interest in, and dedication to, the American Enterprise System.

Should the pool of students not meet the Criteria outlined above, the scholarship may be awarded to another student for a one-year time period.

## Dr. Jock R. Wheeler Endowed Scholarship

### History

This scholarship was established in 2002 in honor of Dr. Jock R. Wheeler.

### Criteria

The scholarship is awarded annually to a student who is a Virginia resident and demonstrates academic excellence as this is a merit based scholarship.

## Dr. John W. Baker Jr. Memorial Scholarship

### History

The Dr. John W. Baker Jr. Memorial Scholarship was established in memory of Dr. John Baker, who passed away in his late 50s. Dr. Baker was a general and thoracic surgeon with Norfolk Surgical Group, as well as a professor at EVMS.

### Criteria

The scholarship is awarded annually to a student from Hampton Roads, Virginia.

## Employee Endowed Scholarship

### History

Established in 1998 by EVMS, the Employee Endowed Scholarship is awarded to children of full-time faculty and other employees of EVMS. Scholarships are limited in number based on available funding each academic year.

### Criteria

The recipient of the Employee Endowed Scholarship Fund must meet the following Criteria:

- The student must be enrolled in an EVMS degree-granting program of study.
- The student must be in good academic standing.
- The student must be the child of either a full-time faculty member or other employee of EVMS who has a minimum of one year of service.
- If the employee is no longer employed by EVMS, the scholarship is not renewable.
- The student must indicate eligibility on the EVMS Online Financial Aid Application by requesting the scholarship.
- The student must provide documentation as to the name of and relationship to the qualifying employee.

## The Challen Endowment Scholarship

### History

The Challen Endowment Scholarship was established in 1991 by the Challen Family Revocable Trust, with the wishes of Bruce W. and Theresa O. Challen.

### Criteria

The recipient of the Challen Endowment Scholarship must be a native of the Virginia (to have been born in the state and lived therein for the majority of his or her life) intending to remain in the state during his or her professional service who has demonstrated financial need and is enrolled in the medical program at EVMS.

## Diversity Scholarships

### How to qualify

Scholarships awarded based on diversity rely on the student's answers on the EVMS Financial Aid and Scholarship Application. Failure to disclose during the admissions or financial aid process will restrict eligibility for this type of scholarship.

## L. D. Britt, MD, MPH Scholarship

### History

The L.D. Britt, MD, MPH Endowed Scholarship was established in 1995 in recognition of Dr. Britt's dedication to medicine and philanthropy. A native of Suffolk and graduate of Harvard Medical School and Harvard School of Public Health, Dr. Britt has had extensive surgical and critical care training. He is Professor and Chairman of EVMS Surgery and holds the Brickhouse Chair in Surgery.

The first African-American in the country to have an endowed chair in surgery, Dr. Britt is the first African-American in the History of the Commonwealth of Virginia to be appointed Professor of Surgery. The recipient of numerous awards and honors acknowledging his accomplishments in surgery and



excellence in teaching, Dr. Britt is the recipient of the nation's highest teaching award in medicine: the Robert J. Glaser Distinguished Teaching Award, given by the Association of American Medical Colleges.

A distinguished member of several state, national and international organizations, Dr. Britt is actively involved in numerous church and community activities. He has authored numerous scientific publications and has been a reviewer and served on the editorial boards of several noted surgery journals. Former President George W. Bush recognized Dr. Britt's leadership role in medicine and nominated him to the Board of Regents of the Uniformed Services University of the Health Sciences. The United States Senate confirmed this nomination in August 2002. Community leaders have established both a medical school scholarship and community service award in his name.

Dr. Britt served as the 91st President of the American College of Surgeons in 2010-11.

### Criteria

The following Criteria is used in selecting a recipient:

- A member of an underrepresented student population at EVMS
- Applicant with acceptance to EVMS medical program
- A minimum science GPA of 3.2 and competitive MCAT scores
- Evidence of participation in collegiate organizations/activities
- Demonstrated leadership, community service and exposure to medicine
- Demonstrated financial need

## Dozoretz Endowed Scholarship

### History

Dr. and Mrs. Ron Dozoretz and family established this scholarship in 2006. Dr. Dozoretz has served as a community faculty member at EVMS, and he is a champion for education and healthcare.

### Criteria

The recipient of this scholarship must be an entering medical student to EVMS, who graduated from Norfolk State and is a member of an underrepresented student population at EVMS.

## Lillie P. Walker Scholarship

### History

Caroline B. Talbot established this scholarship in memory of Lillie P. Walker, RN.

### Criteria

The scholarship is awarded annually to a female student enrolled in the medical program at EVMS who has demonstrated financial need and academic excellence.

## American Association of Physicians of Indian Origin - Hampton Roads Scholarship Fund

### History

The American Association of Physicians of Indian Origin – Hampton Roads (AAPI-HR) established this fund in 2011. One scholarship award is made each fiscal year in the amount of \$5,000 for one student. Applications for the AAPI-HR scholarship awards shall be accepted and reviewed by EVMS in accordance with the EVMS Scholarship Committee guidelines in effect at the time the award is made.

### Criteria

Each year, the following tiered approach is used to identify a candidate:

- Scholarship awardees shall be first-year medical students of Indian origin.
- Students with ties to Hampton Roads area will receive first consideration.
- In addition, scholarship awardees shall:
- Demonstrate merit as evidenced by documentation filed with EVMS Financial Aid and any other such documentation or information as the EVMS Scholarship Committee may require
- Obtain endorsement from an American Association of Physicians of Indian Origin – Hampton Roads Executive Committee member
- Write a 250 to 500 word essay and submit with their EVMS Financial Aid and Scholarship Application. AAPI-HR is an organization of Physicians of Indian Origin committed to giving back to the community of Hampton Roads, Virginia. Our motto is service, charity and education. Please describe briefly how you would incorporate our organizational values as a student at EVMS and in future as a practicing/academic physician.

## Edward L. Hamm Jr. Scholarship

### History

Established in 2000 by Edward L. Hamm, Jr., this scholarship honored then-EVMS President Sumner Bell, whom Hamm greatly admired. A graduate of Hampton University, Mr. Hamm has a diverse business career which spans over 40 years. Hamm is President and CEO of E.L. Hamm & Associates, Inc. A longtime champion of education, he has served in volunteer leadership positions at Hampton University, Old Dominion University, Norfolk State University and Eastern Virginia Medical School. At EVMS, he has served on the Board of Visitors and the Board of Trustees.

### Criteria

The selection of each candidate will be based on the following Criteria:

- A member of an underrepresented student population at EVMS
- Enrolled in the medical degree program at EVMS
- A graduate of Hampton University





## Registrar

The Registrar's Office is responsible for:

- Maintenance, security, and accuracy of all student academic records of the institution
- Coordination of registration and enrollment activities
- Certification of beneficiaries of Veterans Affairs education benefits
- Preparation and maintenance of enrollment reports and statistics
- Graduation verification and diploma distribution
- Transcripts and enrollment verification

**Contact Us: 747-446-5805 (phone)**

**757-446-8946 (fax)**

**registrar@evms.edu (email)**

**On Campus: Lewis Hall, Suite 1148**

**Office Hours: Monday - Friday, 8:30am - 4:30pm**

**Mailing Address: 700 W. Olney Road, Room 1147**

**Norfolk, VA 23507**

## Services

Our office can assist students with the following:

- Letters of good standing or proof of enrollment
- Certified diploma copies
- Name changes
- NBME Certification of Identification and Authorization Form
- In-school Deferment Request Form
- Virginia Tidewater Consortium for Higher Education (VTC) Student Cross-Registration Form

## Transcripts

### Official transcripts:

There is a \$10 fee for each official transcript requested to be paid on the clearinghouse secure site. The National Student Clearinghouse transcript ordering service provides simple, step-by-step instructions, automatic updates on the status of your order, and a 24-hour support network if you encounter any difficulties during your transaction. Official transcripts are issued by the Registrar's Office and bear the school seal and Registrar's signature. Official transcripts are not processed if the student has an outstanding obligation, financial or otherwise.

Official Transcript Request link: <https://secure.studentclearinghouse.org/tsorder/faces/TranscriptOrder#secondload>

### Unofficial transcripts:

Currently enrolled students may view their unofficial transcript by visiting the student portal at <http://myevms.evms.edu>

For a copy on EVMS letterhead, complete the Unofficial Transcript Request Form and return to the Registrar's Office in person or via email.

## Student Status

Eastern Virginia Medical School is required to report monthly the status of all students enrolled in degree and certificate programs. Those reports are sent to the National Student Clearinghouse, an organization empowered by the U.S. Department of Education to collect and monitor selected data including student status. The majority of EVMS students are full-time, which is typically defined as being enrolled in 9 credit hours or more. The Doctor of Medicine program does not use credit hours, but with comparatively rare exceptions (e.g., completing the M2 curriculum but not passing Step 1 of the USMLE) EVMS medical students are full-time. Other status categories include half-time, less than half-time, leave of absence, withdrawn or graduated.

## Veterans

This institution is approved to offer GI Bill® educational benefits by the Virginia State Approving Agency.

### Veterans Educational Benefits:

Certification for educational benefits is a service provided by the Registrar's Office. Both the Registrar and Assistant Registrar serve as School Certifying Officials. Using benefits for the first time: Submit your Certificate of Eligibility, which you receive from the VA, to the Registrar. Continuing to use benefits: Prior to the upcoming term's registration, students will receive an email from the Registrar with instructions on continuing the process. Reply to that email from your EVMS email account each term to confirm continuing enrollment in the benefits process. Students may also elect NOT to receive benefits for any given term. A non-response is taken as the student's election not to receive benefits for the term in question.

Veterans Access, Choice, and Accountability Act of 2014, U.S. Code, 38 U.S.C.367(c)

The following individuals shall be charged a rate of tuition not to exceed the in-state rate for tuition and fees purposes:

- A Veteran using educational assistance under either chapter 30 (Montgomery G.I. Bill – Active Duty Program) or chapter 33 (Post-9/11 G.I. Bill), of title 38, United States Code, who lives in Virginia while attending a school located in Virginia (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge or release from a period of active duty service of 90 days or more.
- Anyone using transferred Post-9/11 GI Bill benefits (38 U.S.C. § 3319) who lives in Virginia while attending a school located in Virginia (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge or release from a period of active duty service of 90 days or more.
- Anyone described above while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school. The person so described must have enrolled in the school prior to the expiration of the three year period following discharge or release as described above and must be using educational

benefits under either chapter 30 or chapter 33 of title 38, United States Code.

- Anyone using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in Virginia while attending a school located in Virginia (regardless of his/her formal State of residence).
- Anyone using transferred Post-9/11 G.I. Bill benefits (38 U.S.C. § 3319) who lives in Virginia while attending a school located in Virginia (regardless of his/her formal state of residence) and the transferor is a member of the uniformed service who is serving on active duty.

The policy shall be read to be amended as necessary to be compliant with the requirements of 38 U.S.C. 3679 as amended.

Note: For all active duty service members or veterans who were honorably discharged more than 3 years before their enrollment at the institution may contact the Registrar's Office for questions on in-state eligibility.

Veterans Benefits and Transition Act of 2018, U.S. Code, 38 U.S.C. 3679(e)

A covered individual is defined as any individual who is entitled to educational assistance under Chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill benefits.

EVMS Veterans policy permits any covered individual to attend or participate in the course of education during the period beginning on the date on which the individual provides to our Registrar's Office a copy of their certificate of eligibility for entitlement to educational assistance under chapter 31 or 33 (a "Certificate of Eligibility" can also include a "Statement of Benefits" obtained from the Department of Veterans Affairs' (VA) website also known as "eBenefits", or a VAF 28-1905 form for chapter 31 authorization of educational assistance) and ending on the earlier of the following dates:

1. The date on which payment from the VA is made to the institution.
2. 90 days after the date the institution certified tuition and fees following the receipt of the certificate of eligibility.

In accordance with EVMS Accounts Receivable and Student Billing Policy, EVMS Veterans Policy is in agreement with VA Delayed Payment Compliance as of August 1, 2019, which ensures that our educational institution will not:

- Impose any penalty, including the assessment of late fees
- Deny access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement of funding or payment from the VA under chapter 31 or 33.

Note: Per EVMS Accounts Receivable and Student Billing Policy, because tuition is due in full on the first day of class, EVMS may require additional payment or impose a fee for the amount

that is the difference between the amount of the student's financial obligation and the amount of the VA education benefit disbursement if the amount of the VA education benefit disbursement does not cover the full tuition amount that is due.

### Virginia State Approving Agency (SAA)

The Virginia State Approving Agency (SAA), is the approving authority of education and training programs for Virginia. Their office investigates complaints of GI Bill beneficiaries. While most complaints should initially follow the EVMS School Grievance Policy, if the situation cannot be resolved at or by EVMS, the beneficiary should contact the SAA via email at: [saa@dvs.virginia.gov](mailto:saa@dvs.virginia.gov)

### Dual Objectives

A request for approval of dual objectives is required for students receiving VA benefits.

A program of education may lead to more than one educational, professional, or vocational objective if all objectives pursued are generally recognized as being reasonably related to a single career field. The objectives do not necessarily have to be on the same professional or technical level. For example, a student may want to concurrently pursue two different degrees or pursue a degree and a certificate.

A combination of two approved degree programs at the same school does not need additional approval; additional approval will be necessary in any other circumstance.

- For approval of a dual objective, please make this request through the Registrar's Office and also send the request by email to: [registrar@evms.edu](mailto:registrar@evms.edu).
- For graduate students, the school must submit its dual objective request during the second term (semester/quarter) of the student's enrollment in graduate school.
- The school registrar must certify the total hours for the first degree and the total additional credit hours needed to achieve and complete the dual objective.
- All requests for approval of dual objectives must be signed and recommended by the Department Chair or Dean of the department, school or college involved in granting the dual objective.
- The application for dual objective requests will be sent from the Registrar's Office to the Virginia State Approving Agency (SAA). All approvals for dual objective requests are to be determined by the SAA.

### Graduation

Graduation is the completion of all degree requirements as recorded on the official transcript. Commencement is the ceremony that celebrates the completion of a degree. Our office is responsible for the academic side of graduation. Along with our colleagues in each academic program, we ensure that all degree requirements have been met and grades are posted to student transcripts. We ensure diplomas and certificates are prepared for the May commencement ceremony, as well as for our summer and winter graduates.

For information regarding commencement, visit: <https://www.evms.edu/education/commencement/>

## Reporting Student Status Changes

It is essential that the Registrar and Financial Aid be notified promptly when a status change occurs or when events suggest that a status change is likely. As such, key officials such as Program Directors, Course Directors, the Associate Dean for Education, the Associate Dean of Student Affairs, and selected others should notify the Registrar and the Office of Financial Aid if a student:

1. Does not attend the first day of a required class/ clerkship/elective or related activity mandated by the program, either with or without having contacted a program official about being unable to attend;
2. Does not sit as scheduled for boards; or
3. Expresses an interest or intent to withdraw, request a leave of absence, or drop one or more classes.

Program officials should always err on the side of caution and report immediately any action that they feel could result in a status change.

## Domicile Guidelines

### In-State Tuition Eligibility

Eligibility for Virginia in-state tuition privileges at Eastern Virginia Medical School (EVMS) is guided by §23.74 of the Code of Virginia, which is further defined and discussed in the Domicile Guidelines issued by the State Council of Higher Education for Virginia (SCHEV). To be eligible for in-state status, an individual must demonstrate residence in Virginia and intent to remain in Virginia indefinitely. Unless otherwise set forth in the Domicile Guidelines, after meeting the requirements to establish domicile, prospective students must continue to be domiciled in Virginia for at least 12 months preceding the first day of classes in their respective program to be considered a resident. The primary purpose in moving to Virginia must have been to establish residency; residence or physical presence in Virginia primarily to attend EVMS does not entitle you to in-state tuition rates. All applicants to EVMS who believe they are qualified for Virginia in-state tuition rates must complete an Application for Virginia In-State Tuition Rates. It is the responsibility of the applicant to provide clear and convincing evidence that supports and justifies the claims for in-state tuition eligibility. Evidence may include, but is not limited to, continuous residence for at least one year prior to the date of alleged entitlement; payment or filing of Virginia resident income taxes; a Virginia driver's license and motor vehicle registration; employment; ownership of real property; voter registration and actual voting in Virginia; military records; sources of financial support; a written offer and acceptance of employment following graduation; and other social or economic ties in Virginia.

## Determination and Appeals Process

### Initial Determination.

1. New Students: Determination of in-state tuition

eligibility for prospective new EVMS students is made at the time of application based on information provided by the prospective student on the Application for Virginia In-State Tuition Rates, which is submitted simultaneously with the Application for Admission. Applicants will receive an initial determination letter no later than fifteen (15) business days after EVMS receives the Application for Virginia In-State Tuition Rates and all supporting documentation.

2. Returning Students: Students admitted and matriculating as out-of-state remain out-of-state for the duration of the program. However, students who have been previously classified as "out-of-state" that have abandoned any previous domicile, have established Virginia Domicile in accordance with SCHEV guidelines, and are able to present clear and convincing evidence to rebut the presumption that they are residing in the State primarily to attend school, may also apply for in-state student status by completing an Supplemental Application for Virginia Domicile. Students will receive an initial determination letter no later than fifteen (15) business days after EVMS receives the Supplemental Application and all supporting documentation. Changes in domiciliary status shall only be granted prospectively from the date such application is received.

### Intermediate Decision.

If a prospective or returning student's application for in-state tuition or change of domicile is denied, such student has the right to appeal the decision. The appeal of the initial determination must be received by EVMS no later than fifteen (15) business days from the date of the initial denial letter and must be accompanied by a Supplemental Application for Virginia Domicile and all supporting documentation. The Supplemental Application will be reviewed by the EVMS In-State Tuition Committee that consists of the following three members: 1) EVMS General Counsel or his/her designee; 2) the Associate Dean for Medical Admissions and Students or his/her designee; and 3) the Vice Provost for Planning and Health Professions or his/her designee. The Committee will review all information and notify the student of the decision, in writing, within fifteen (15) business days from the time all supporting materials are received.

### Final Administrative Review.

If the student's application for in-state status is denied at the intermediate level, the student may appeal the decision to the Dean and Provost of EVMS for final administrative review. The final appeal must be in writing and submitted to the Office of the Dean no later than fifteen (15) days from the date of the intermediate determination letter. The Dean will render a decision, in writing, to the student within thirty (30) days from the date the appeal and all supporting documentation, if requested, is received.



## Grading Policy

### School of Health Profession – Grading Policy

This section specifies the general grading policies and procedures used by all of the health professions programs. In addition to the policies listed here, each program may have additional requirements and communicated to students in writing at the initiation of their first semester. Grades at the end of each term are assigned according to the EVMS School of Health Professions grading scale.

Grade	Grade Points	Grades NOT Affecting GPA
A	4.00	AU = Audit
A-	3.67	I = Incomplete
B+	3.33	P = Pass
B	3.00	W = Official Withdrawal
B-	2.67	WF = Unofficial Withdraw
C+	2.33	
C	2.00	
C-	1.67	
D+	1.33	
D	1.00	
D-	0.67	
F	0.00	

A grading structure that is consistent with program or departmental guidelines will be established for each class by the instructor. These requirements, along with the goals and requirements for each course, the nature of the course content, and the methods of evaluation, are communicated to students at the initiation of each course. Programs are responsible for sending grade reports to students at the end of each term.

### Grade Point Calculation

The grade point average is calculated by dividing the accumulated number of grade points earned by the accumulated number of credit hours attempted. Grades of "F" and repeats are included, but official withdrawals, audits, and grades on non-credit courses, non-degree credit courses, and pass/fail courses are not. If a student is required to repeat a course or receives permission from a program director to repeat a course, the grade point average will be calculated using only the repeated course grade and the corresponding point value. However, the original grade assigned for that course will remain on the transcript. Grades in courses accepted for transfer credit are not counted in the computation of grade point average.

Students must have a cumulative grade point average of 3.00 or higher for graduation. Students falling below the minimum GPA requirement may be required to enter a remediation program, placed on probation or suspended in accordance with procedures established below and by each program.

## Grading Scale

Unless an exception is approved by the Dean, courses offered in the School of Health Professions will use the following grading scale.

Percentile	Grade
100-94	A
93-90	A-
89-87	B+
86-84	B
83-80	B-
79-77	C+
76-74	C
73-70	C-
69-67	D+
66-64	D
63-60	C-
59 or less	F

### Incomplete Grades

The grade "I" indicates assigned work yet to be completed in a given course or an approved absence from the final examination. When an instructor assigns a grade of "I," a written agreement is prepared and signed by the instructor and student that specifies the work remaining to be completed and the time frame for doing so. The work should be completed as soon as possible, but not later than the mid-point of the following grading period/semester unless special written approval is granted by the Course Director and Program Director for extraordinary circumstances. The student must petition the Course Director and the Program Director for such an extension at least two weeks before the end of the agreed upon deadline. Unless an extension has been approved by the Course Director and the Program Director, the "I" will convert to either an "F" or the grade as specified in the written agreement after the mid-point of the semester. An "I" grade may not be changed to a "W" under any circumstances.

### Withdrawals

A student can withdraw from a course up until the mid-point of the grading period/semester and receive a W grade. Withdrawal after the midterm is not permitted without special approval by the Program Director. However, in the event of an illness or severe hardship beyond the student's control, the student should submit a written petition for permission to withdraw from the course to the instructor and program director no later than the last day of classes. If permission is granted by the Program Director, a grade of W is recorded. If permission is not granted, then the student cannot withdraw from the class. A student who stops attending classes without withdrawing is assigned a WF grade unless the student's performance was failing, in which case a grade of F will be assigned.



## Progress Review

Regular assessment of students and feedback to them is essential to effective teaching and learning. All possible effort should be extended to identify students whose performance is unsatisfactory and to establish a remedial intervention plan. Course instructors and program directors will regularly review the academic progress of their designated students and evaluate the overall progress of each student at the conclusion of each grading term and academic year. Each program will establish policies and procedures for completing assessments, communicating results to students, and documenting outcomes. Procedures for addressing performance deficiencies or circumstances that may prohibit students from successfully completing a program are outlined in subsequent pages in the Performance Deficiencies and Probation Procedures. Programs may have additional remediation policies and procedures and students should contact the appropriate Program Director for this information. Program Directors shall provide periodic reports to the Dean of the School of Health Professions that summarize student progress issues for their respective programs, and their plans for improvement.

Additional information regarding policies and procedures not listed in this Handbook, including elective, pass/fail, and audit course options and procedures for evaluating, dropping a course, and reporting of grades vary for each program and will be communicated to students at the initiation of their first semester and other times as deemed necessary.

## Grade Appeals

Students may appeal a final course grade by submitting a written request to the course instructor within seven days of the grade being issued. The appeal must state in detail the reasons for the appeal and the action the student requests. The course instructor must respond to the student in writing within seven days with a decision. If the issue is not satisfactorily resolved the student may appeal the decision in writing to the Program Director within seven days. The appeal must state in detail the reasons for the appeal and the action the student requests. If no appeal is lodged within seven days, the student's grievance will be considered resolved. The Program Director must respond to the student in writing within seven days with a decision. If the issue is still not resolved the student may appeal the decision in writing to the Dean of the School of Health Professions within seven days. The appeal must state in detail the reasons for the appeal and the action the student requests. If no appeal is lodged within seven days, the student's grievance will be considered resolved. The Dean will review all pertinent material and may meet with the student, the Program Director, the faculty member or other persons as necessary. The Dean may constitute an advisory group to assist in this review. The Dean will render a written decision within ten days to the Program Director, the faculty member, and the student. The decision of the Dean is final.

## Satisfactory Academic Progress

All students in the EVMS School of Health Professions are expected to attain a term Grade Point Average of at least 3.00 to be considered in good academic standing and a cumulative

GPA of at least 3.00 to graduate. Students who do not meet these criteria are subject to formal warnings, probation and/or dismissal, and a requirement for a written remediation plan. Students who receive a warning or are placed on probation must demonstrate sufficient academic progress in the following term, as determined by the program director and faculty, to remain in the program. Students on probation who fail to demonstrate academic progress in the following term will be subject to dismissal. The Program Director should consider the extent to which a student is performing at a level necessary to attain the knowledge, skills, and competencies required to succeed in the program, including ability to meet the cumulative GPA and other graduation requirements. All programs must review the academic progress of their students on a regular basis and at such intervals deemed appropriate but not less than once at the end of each grading term.

## School of Medicine – Assessment & Grading Policy

### M1 & M2 Grading Scale

Final module grades will be determined by the percent of earned points with the following percent ranges:

- Honors 92-100%
- High Pass 85-91%
- Pass 70-84%
- Fail 69% or below

Any rounding that occurs when calculating the final percentage will be done via Excel.

### Student Promotions through M1 & M2 Modules

In order to promote out of a module, students must earn an average of  $\geq 70\%$  of the overall module points. In addition, students must demonstrate minimum proficiency of each of the components of the grading system by achievement of the following:

- $\geq 68\%$  of Medical Knowledge points
- $\geq 70\%$  of Comprehensive points
- $\geq 80\%$  of Clinical Skills assessment points

### M1 & M2 Retest Policy

A student is recommended to retest any Medical Knowledge written summative exam on which they score  $< 68\%$ . The following number of retests is allowed per semester:

- M1 fall semester = unlimited
- M1 Spring semester = 2 retests maximum
- M2 Fall semester = 2 retests maximum
- M2 Spring semester = 1 retest maximum

Prior to the Medical Knowledge retest, the student must meet with the module director to discuss preparation for the retest and to understand the grade implications of not retesting.

If a passing score of the Medical Knowledge retest is obtained ( $\geq 68\%$ ), 68% will be recorded as the student's grade for the exam. If the retest score is  $< 68\%$ , the highest earned score will be recorded.



A student is required to retest any summative Clinical Skills assessment if they score <80%. It is the student's responsibility to contact the Clinical Skills Director and the Clinical Skills Curriculum Manager within 3 days of receiving their score to schedule a time to participate in review of and additional practice for the retest in order to demonstrate competency.

## M1 & M2 Remediation Policy

If a student is permitted to remediate a failed module by the SPC, the following remediation plans will be implemented:

- Module grade failure
  - ◆ This plan is implemented if a student does not earn either 70% of the overall module points or 68% of the Medical Knowledge points.
  - ◆ For the remediation, the student will complete all module quizzes (comprehensive and formative) and a comprehensive NBME exam.
  - ◆ The student must earn an average of  $\geq 80\%$  for all the quizzes and  $\geq 68\%$  on the comprehensive NBME exam for successful remediation.
- Comprehensive grade failure
  - ◆ This plan is implemented if a student does not earn 70% of the Comprehensive points.
  - ◆ For the remediation, the student will (1) complete all missed comprehensive activities/session(s) and mandatory sessions, and (2) create a set number of novel multiple-choice questions (with feedback for each answer choice) and minicases (with answer key for each session) for the module.
  - ◆ If deemed necessary, the student may also receive professionalism mentoring with the Director of Medical Learner Remediation.
  - ◆ The student must complete all assignments to the module director(s)' satisfaction by a specified deadline for successful remediation.

## M3 & M4 Assessment & Grading Policies

### M3 Grading

The components of the M3 grading system include the following:

- Medical Knowledge (up to 40% of the final module grade as determined by each clerkship), comprised of one summative, multiple-choice NBME subject exam. This component of the grading system is intended to both assess student's basic knowledge and to prepare them for the USMLE Step 2 CK examination.
- Clinical Performance (up to 50% of the final module grade as determined by each clerkship), comprised of clinical evaluations by faculty and residents.
- Other assignments and experiences, such as simulated patient encounters, written clinical or quality improvements assignments, etc.

Clerkship directors communicate regularly during the clerkship with the appropriate faculty and residents at each site to:

1. Discuss student progress.
2. Document the progress of each student.

3. Identify problem areas.
4. Plan supplementary strategies, if necessary.
5. Assess the effectiveness of supplementation.
6. Ensure active student participation in the above process.

Each clerkship director will provide a mid-clerkship assessment to the student and to Medical Education that documents student performance and enumerates any improvements necessary to achieve satisfactory performance by the end of the clerkship.

### M3 Grading Scale

Final clerkship grades will be determined by the percent of earned points with cutoffs determined by each clerkship. A four-tiered grading system is used (i.e., Honors, High Pass, Pass, and Fail). Any rounding that occurs when calculating the final percentage will be done via Excel.

### Student Promotions through M3 Clerkships

In order to promote out of a clerkship, students must earn an average of the overall clerkship points as determined by each clerkship. In addition, students must demonstrate minimum proficiency of each of the components of the grading system by achievement of the following:

- $\geq 60\%$  of Medical Knowledge points
- $\geq 60\%$  of Clinical Performance points

### M3 Retest Policy

If a student scores <60% on a NBME subject exam, they will be required to retest and to meet with the Vice Dean for Academic Affairs to obtain an academic plan. The student will retake the exam at a time determined with the Vice Dean. If a passing score of the Medical Knowledge retest is obtained ( $\geq 60\%$ ), the highest possible final grade for the clerkship is Pass (regardless of the actual new exam score). If a student does not pass the retest, they will receive a Fail for the clerkship.

If the subject exam is repeated, the following phrase will be included in the clerkship directors' summary: "Student Name successfully remediated his/her (subject exam) and completed the clerkship with a Pass grade."

Students who fail 2 or more clinical subject examinations will be referred to SRAC.

If a student scores <60% on any component of the clinical performance, they will be given a Fail for the clerkship and required to repeat it.

### M3 Remediation Policy

If a student is permitted to remediate a failed clerkship by the SPC, the student will be required to repeat part or all of the clerkship.

Students will be given mid clerkship formative feedback about clinical performance from supervisors and standardized patient encounters. If the clinical performance is identified as in need of remediation (either before or after a failed clerkship), the student will be referred to SRAC for assistance with clinical

performance support and a remediation plan for student success will be developed.

### **M4 Grading & Promotions Policy**

The components of the M4 grading system are determined by each elective course director. Student must pass 32 weeks of elective rotations to promote through the M4 year (see M4 Electives Catalog for further details).

## Schools at EVMS

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### School of Health Professions

EVMS' School of Health Professions provides progressive, nationally recognized graduate training at facilities throughout Hampton Roads.

### School of Medicine

Eastern Virginia Medical School is dedicated to medical and health education, biomedical research, and the enhancement of health care in the Hampton Roads region.

### Continuing Medical Education

Teaching the latest developments in medicine to help physicians maintain knowledge, learn new skills and provide cutting-edge patient care.

### Graduate Medical Education

Our community-based Graduate Medical Education is one of the nation's few training programs in which all residencies are integrated among a number of hospitals and community clinic settings, instead of one fixed setting such as a university hospital. Our residents work at 14 teaching affiliate hospitals, staffing hospitals 24 hours a day, implementing new treatment methods and conducting research.

## Certificates, Degrees, & Fellowships

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### Certificates

- Anatomy
- Core Public Health
- Epidemiology
- Healthcare Analytics
- Healthcare Management
- Implementing Change and Achieving High Performance in the Healthcare Environment
- Teaching

### Masters Degrees

- Art Therapy and Counseling, MS
- Biomedical Sciences Research, MS
- Biotechnology, MS
- Contemporary Human Anatomy, MS
- Healthcare Analytics, MHA
- Healthcare Delivery Science, MHDS
- Laboratory Animal Science, MS
- Master of Public Health
- Master of Surgical Assisting
- Medical & Health Professions Education, MMHPE
- Medical Master's
- Pathologists' Assistant, MHS
- Physician Assistant, MPA
- Reproductive Clinical Science, MS

### Doctoral Degrees

- Biomedical Sciences, PhD
- Clinical Psychology, PhD
- Health Sciences, DHSc
- Medical & Health Professions Education, PhD or EdD
- Reproductive Clinical Science, PhD

### Medical Degrees

- Doctor of Medicine, MD
- Dual MD/MBA
- Dual MD/MPH

### Fellowships

#### School of Health Professions

- Pediatric Urgent Care
- Emergency Medicine

#### School of Medicine: Emergency Medicine

- Academic Emergency Medicine Fellowship
- Emergency Medical Services
- Emergency Medicine Ultrasound
- International Emergency Medicine
- Physician Assistant Fellowship in Emergency Medicine

#### School of Medicine: Internal Medicine

- Endocrinology, Diabetes and Metabolism
- Geriatrics Medicine
- Hospice and Palliative Medicine
- Infectious Disease
- Nephrology
- Pulmonary and Critical Care
- Sleep Medicine

#### School of Medicine: Obstetrics and Gynecology

- Maternal-Fetal Medicine
- Reproductive Endocrinology and Infertility

#### School of Medicine: Pediatrics

- Child Abuse
- International Pediatric Emergency Medicine
- Pediatric Emergency Medicine
- Pediatric Simulation in Medical Education
- Physician Assistant Fellowship in Pediatric Urgent Care

#### School of Medicine: Physical Medicine and Rehabilitation

- Pain Medicine

#### School of Medicine: Surgery

- Surgical Critical Care
- Vascular Surgery

## **School of Medicine: Urology**

- Adult and Pediatric Genitourinary Reconstructive Urology
- Endourology, Laparoscopic and Robotic Surgery

## Certificate Programs

### Graduate Certificate in Anatomy

The Certificate in Anatomy at EVMS is a unique opportunity to gain a comprehensive knowledge of human gross anatomy in 8 weeks. The focus of the program is dissection of the whole human body while learning basic descriptive, functional and clinical anatomy. Medical school-level instruction occurs on-site through didactic lectures, small group learning activities and dissection labs.

#### Admission

Requirements for admission include:

- A bachelor's degree (or higher) awarded by a regionally accredited institution.
- Official transcripts from all institutions attended sent electronically or in a sealed, unopened envelope directly to EVMS Admissions & Enrollment.
- Transcripts from institutions that awarded a degree must include the date upon which the degree was issued.

#### Tuition and Fees

- \$5,350

#### Curriculum

##### MCHA500: Clinical Gross Anatomy

This course builds the foundation required for students to learn basic descriptive, functional and clinical human anatomy through didactic lectures, small group learning activities and e-learning modules. Hands-on application of anatomical concepts and relationships will be gained through whole body dissection in small groups.

### Graduate Certificate in Core Public Health

The Graduate Core Public Health Certificate is a 15-credit hour program designed to give students a strong foundation of knowledge in the five core areas of public health:

- Biostatistics
- Epidemiology
- Environmental health
- Health services administration
- Social and behavioral sciences

The fundamental knowledge and skills learned in these core courses will equip students to analyze and respond to emerging public health issues at the institution, community and societal levels.

#### Admissions

##### For U.S. Students

Requirements for admission include:

- Completion of all undergraduate degree requirements from an accredited college or university, with a

minimum Grade Point Average (GPA) of 2.5 on a 4.0 scale, prior to matriculating in the MPH program.

- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- A personal statement detailing reasons for interest in the MPH Graduate Certificate program.

#### For International Students

Requirements for admission include:

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum Grade Point Average (GPA) of 2.5 on a 4.0 scale, prior to matriculating in the MPH program.
- In cases where a non-U.S. grading system has been utilized on a transcript, students should have grades converted to the U.S. grading system by World Education Services.
- Test of English as a Foreign Language (TOEFL) - Minimum scores: Paper 550, Computer 213, iBT 80 OR International English Language Testing System (IELTS) - Minimum scores: Total 6.5, Subscores: 6
- A personal statement detailing reasons for interest in the MPH Graduate Certificate program.
- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- Sending International Transcripts to GradCAS
- GradCAS will ONLY accept the evaluation report from the credentialing agency. Do not send your foreign transcript to GradCAS.
- All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:

#### GradCAS Transcript Processing Center

PO Box 9217  
Watertown, MA 02471

#### Tuition and Fees

Tuition and fees for the Master of Public Health program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

#### Tuition

- In-state: \$909 per credit hour
- Out-of-state: \$1,107 per credit hour

#### Mandatory Fees

- Year 1: \$564

## Projected Cost of Attendance

		Core Public Health
<b>Budget length</b>		9 months
<b>Tuition*</b>	<b>In-state (\$909/credit)**</b>	\$13,635
	<b>Out-of-state (\$1,107/credit)**</b>	\$16,605
<b>Fees*</b>	<b>Mandatory</b>	\$564
	<b>Health insurance</b>	\$0
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$14,199
	<b>Out-of-state</b>	\$17,169
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,225
	<b>Room, board and miscellaneous</b>	\$15,028
	<b>Personal expenses</b>	\$720
	<b>Transportation**</b>	\$3,370
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$34,542
	<b>Out-of-state</b>	\$37,512
<b>Loan fees***</b>	<b>Direct unsubsidized - 1.066% IS</b>	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$599
	<b>Grad PLUS – 4.264% OS</b>	\$725
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$35,360
	<b>Out-of-state</b>	\$38,456

\*Tuition and fees are subject to change throughout the year.

\*\*Calculated based on attending at least half time and taking sufficient credits within 2 or 3 terms to complete the certificate (see each certificate's course sequence for details). Some courses may not be available in some terms; courses do not have prerequisites, so they may be taken in any order. You must notify Financial Aid via your initial application as to planned level of enrollment and provide updates via the revised educational plan. If you are not at least half time, some private loans through outside lenders for non-degree (certificate) programs may be available. See our historical lending list for more information on that option, or contact our office at 757.446.5804 or via email at [finaid@evms.edu](mailto:finaid@evms.edu).

## Curriculum

### Fall

#### MPH611: Social and Behavioral Sciences for Public Health (3)

This course is a social and behavioral sciences core course for the MPH program. Psychological, social and cultural concepts

and models relevant to health and disease in society are reviewed and critiqued. The course will enable students to describe core theoretical perspectives from each of the social science disciplines of psychology, sociology and anthropology. Students will learn how to select and apply appropriate social and behavioral models to the design of public health interventions and policies. The course will also cover existing social inequalities in health status related to race, social class and gender, and the critical intersection between social risk factors, behavioral risk factors and the development and implementation of public health interventions. Social ecological models that influence population health at multiple levels are emphasized.

#### MPH612: Statistical Reasoning for Public Health (3)

An introduction to the use of statistics in the health field. Emphasis is on descriptive statistics, estimation, linear regression and contingency tables. This course includes lectures, reading, demonstrations, experiential activities in a laboratory setting and written and oral assignments.

#### MPHE615: Public Health Administration and Management (3)

An introduction to the understanding of the structure and functions of the American healthcare system, public health practice in the United States and basic managerial responsibilities. Emphasis is on management tasks and styles, structure and trends in the healthcare system, legal and regulatory framework for public health, organizational and community assessment, public health settings and services. This course consists of lectures, reading and written assignments.

### Spring

#### MPH613: Principles of Environmental Health (3)

An introduction to the chemical, physical and biological factors affecting human health and disease. Emphasis is on the skills to detect environmental factors in health problems and to determine methods of control to prevent disease and maximize environmental quality. This course includes lectures, readings and required assignments.

#### MPH614: Principles of Epidemiology (3)

An introduction to epidemiology as a body of knowledge and a method for analyzing community health problems. The course emphasizes how to measure and describe the health of populations, the natural history of diseases in population groups, standardization of rates, sources of data, study designs, measurements of risk, evaluation of screening tests, causal inferences and outbreak investigation. This course includes lectures, reading and individual and group assignments.

## Graduate Certificate in Epidemiology

Epidemiology is the study of the distribution and determinants of disease, illness and injury. The graduate epidemiology certificate is a 15-credit hour program designed to provide the learner with an understanding of the concepts of epidemiology used in public health practice. The certificate is intended to



provide the concepts, methods and tools needed for the assessment of health situations and trends of population groups.

## Admissions

### For U.S. Students

Requirements for admission include:

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum Grade Point Average (GPA) of 2.5 on a 4.0 scale, prior to matriculating in the MPH program.
- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- A personal statement detailing reasons for interest in the MPH Graduate Certificate program.

### For International Students

Requirements for admission include:

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum Grade Point Average (GPA) of 2.5 on a 4.0 scale, prior to matriculating in the MPH program.
- In cases where a non-U.S. grading system has been utilized on a transcript, students should have grades converted to the U.S. grading system by World Education Services.
- Test of English as a Foreign Language (TOEFL) - Minimum scores: Paper 550, Computer 213, iBT 80 OR International English Language Testing System (IELTS) - Minimum scores: Total 6.5, Subscores: 6
- A personal statement detailing reasons for interest in the MPH Graduate Certificate program.
- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- Sending International Transcripts to GradCAS
- GradCAS will ONLY accept the evaluation report from the credentialing agency. Do not send your foreign transcript to GradCAS.
- All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:

### GradCAS Transcript Processing Center

PO Box 9217 | Watertown, MA 02471 | TOEFL Code is B886

## Tuition and Fees

Tuition and fees for the Master of Public Health program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

## Tuition

- In-state: \$909 per credit hour
- Out-of-state: \$1,107 per credit hour

## Mandatory Fees

- Year 1: \$1,045
- Year 2: \$945

## Projected Cost of Attendance

		Epidemiology
<b>Budget length</b>		12 months
<b>Tuition*</b>	<b>In-state (\$909/credit)**</b>	\$13,635
	<b>Out-of-state (\$1,107/credit)**</b>	\$16,605
<b>Fees*</b>	<b>Mandatory</b>	\$564
	<b>Health insurance</b>	\$0
<b>Subtotal tuition and fees (direct costs)</b>		
	<b>In-state</b>	\$14,199
	<b>Out-of-state</b>	\$17,169
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,225
	<b>Room, board and miscellaneous</b>	\$20,037
	<b>Personal expenses</b>	\$960
	<b>Transportation**</b>	\$4,493
<b>Cost of attendance without loan fees</b>		
	<b>In-state</b>	\$40,914
	<b>Out-of-state</b>	\$43,884
<b>Loan fees***</b>	<b>Direct unsubsidized - 1.066% IS</b>	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$870
	<b>Grad PLUS – 4.264% OS</b>	\$997
<b>Total cost of attendance including loan fees</b>		
	<b>In-state</b>	\$42,003
	<b>Out-of-state</b>	\$45,100

\*Tuition and fees are subject to change throughout the year.

\*\*Calculated based on attending at least half time and taking sufficient credits within 2 or 3 terms to complete the certificate (see each certificate's course sequence for details). Some courses may not be available in some terms; courses do not have prerequisites, so they may be taken in any order. You must notify Financial Aid via your initial application as to planned level of enrollment and provide updates via the revised educational plan. If you are not at least half time, some private loans through outside lenders for non-degree (certificate) programs may be available. See our historical lending list for more information on that option, or contact our office at

## Curriculum

### Fall Semester

#### Elective\* (3 credits)

##### **MPH612: Statistical Reasoning for Public Health (3)**

An introduction to the use of statistics in the health field. Emphasis is on descriptive statistics, estimation, linear regression and contingency tables. This course includes lectures, reading, demonstrations, experiential activities in a laboratory setting and written and oral assignments.

### Spring Semester

##### **MPH614: Principles of Epidemiology (3)**

An introduction to epidemiology as a body of knowledge and a method for analyzing community health problems. The course emphasizes how to measure and describe the health of populations, the natural history of diseases in population groups, standardization of rates, sources of data, study designs, measurements of risk, evaluation of screening tests, causal inferences and outbreak investigation. This course includes lectures, reading and individual and group assignments.

##### **MPH779: Introduction to Research Methods (3)**

The goal of this course is to provide practical, step-by-step guidance to the research process. The organizing framework used is the scientific method, which is applied to current health initiatives. Students develop a unique research design proposal.

### Summer Semester

#### Elective\* (3)

##### **ENVH523: Vector Borne Diseases Control (3)**

Vector-borne diseases affect the health and well-being of humans and other animals in a wide variety of ways. Arthropod vectors (e.g., mosquitoes, filth flies, ticks and related groups) transmit numerous debilitating infectious diseases that oftentimes impose significant burden on healthcare systems. This course provides insight on the ways in which arthropods impact global health and economic growth through the diseases they transmit.

##### **MPH772: International Health Exchange Program (3)**

This course exposes students to important issues in international public health and is unique in that it involves the analysis of health problems in the broad social, cultural, economic and political contexts that generate and sustain them.

##### **MPHE624: Data Management with SAS (3)**

A beginner's course in data management, statistical programming and basic data analysis using the SAS system. The course will introduce the students to database construction, database management and statistical programming and analysis. This is a hands-on course that will be taught using

demonstrations and experiential activities in the computer laboratory.

##### **MPHE702: Biostatistics II (3)**

Topics from inferential statistics and probability modeling will be discussed and illustrated using data selected from real-life health-related applications. Data analysis emphasizing proper interpretation of results and familiarity with SAS software will be a key component of the course.

##### **MPHE711: Epidemiologic Methods I (3)**

Introduces elements of study design, data analysis and inference in epidemiologic investigation. Prerequisite course: MPH 612

##### **MPHE715: Current Issues in Epidemiology (3)**

Discussions with experts experienced in the diverse applications of epidemiology in current research and practice. Emphasis on emerging infectious diseases, environmental and occupational health, chronic diseases and community intervention trials. Lectures, discussions, class presentations and development of research project.

##### **MPHE737: Infectious & Chronic Disease Epidemiology (3)**

This course focuses on substantive areas in epidemiology with an emphasis on infectious disease epidemiology and chronic disease epidemiology. The course will also include projects focused on field epidemiology, with an emphasis on public health surveillance and outbreak investigation. These topics are important for epidemiologists and other health professionals in public health practice.

## Graduate Certificate in Healthcare Management

Healthcare management is a multidisciplinary field of inquiry and practice that is concerned with the organization, financing, delivery and quality of health services for individuals and populations. The Graduate Healthcare Management Certificate is a 15-credit hour program designed to provide the learner with leadership and strategic management tools specifically for the healthcare environment.

## Admissions

### For U.S. Students

Requirements for admission include:

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum Grade Point Average (GPA) of 2.5 on a 4.0 scale, prior to matriculating in the MPH program.
- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- A personal statement detailing reasons for interest in the MPH Graduate Certificate program.

## For International Students

Requirements for admission include:

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum Grade Point Average (GPA) of 2.5 on a 4.0 scale, prior to matriculating in the MPH program.
- In cases where a non-U.S. grading system has been utilized on a transcript, students should have grades converted to the U.S. grading system by World Education Services.
- Test of English as a Foreign Language (TOEFL) - Minimum scores: Paper 550, Computer 213, iBT 80 OR International English Language Testing System (IELTS) - Minimum scores: Total 6.5, Subscores: 6
- A personal statement detailing reasons for interest in the MPH Graduate Certificate program.
- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- Sending International Transcripts to GradCAS
- GradCAS will ONLY accept the evaluation report from the credentialing agency. Do not send your foreign transcript to GradCAS.
- All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:

### GradCAS Transcript Processing Center

PO Box 9217

Watertown, MA 02471

## Tuition and Fees

Tuition and fees for the Master of Public Health program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state: \$909 per credit hour
- Out-of-state: \$1,107 per credit hour

### Mandatory Fees

- Year 1: \$1,045
- Year 2: \$945

## Projected Cost of Attendance

		Healthcare Management
<b>Budget length</b>		8 months
<b>Tuition*</b>	<b>In-state (\$909/credit)**</b>	\$13,635
	<b>Out-of-state (\$1,107/credit)**</b>	\$16,605
<b>Fees*</b>	<b>Mandatory</b>	\$564
	<b>Health insurance</b>	\$0
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$14,199
	<b>Out-of-state</b>	\$17,169
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,225
	<b>Room, board and miscellaneous</b>	\$13,358
	<b>Personal expenses</b>	\$640
	<b>Transportation**</b>	\$3,000
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$32,422
	<b>Out-of-state</b>	\$35,392
<b>Loan fees***</b>	<b>Direct unsubsidized - 1.066% IS</b>	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$508
	<b>Grad PLUS – 4.264% OS</b>	\$635
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$33,149
	<b>Out-of-state</b>	\$36,246

\*Tuition and fees are subject to change throughout the year.

\*\*Calculated based on attending at least half time and taking sufficient credits within 2 or 3 terms to complete the certificate (see each certificate's course sequence for details). Some courses may not be available in some terms; courses do not have prerequisites, so they may be taken in any order. You must notify Financial Aid via your initial application as to planned level of enrollment and provide updates via the revised educational plan. If you are not at least half time, some private loans through outside lenders for non-degree (certificate) programs may be available. See our historical lending list for more information on that option, or contact our office at 757.446.5804 or via email at [finaid@evms.edu](mailto:finaid@evms.edu).

## Curriculum

### Fall Semester

#### **MPHE615: Public Health Administration and Management (3)**

An introduction to the understanding of the structure and functions of the American healthcare system, public health practice in the United States and basic managerial responsibilities. Emphasis is on management tasks and styles, structure and trends in the healthcare system, legal and regulatory framework for public health, organizational and community assessment, public health settings and services. This course consists of lectures, reading and written assignments.

#### **MPHE721: Healthcare Strategy (3)**

Examination of strategy-making issues for healthcare organizations, including analysis of economic incentives, financial strategies, development of mission and goals and formulation and implementation of long-range strategies to accomplish those goals.

#### **MPHE723: Policy & Politics of Health (3)**

An introduction to the policy process, frameworks for understanding health policy issues, background research necessary for policy implementation and implementation strategies.

#### **MPHE733: Financing Healthcare (3)**

Students examine financial evaluation of the healthcare industry, the source of funds and effects of changing patient policies. Other topics of interest will be financial strategies, budgets and capital outlay.

### Summer Semester

#### **MPHE727: Organizational Management (3)**

This course examines issues and principles in the management of individuals, groups and organizations. Topics include motivation and reward systems, group dynamics and organizational design and change.

## Graduate Certificate in Healthcare Analytics

Advances in technology, the availability of large amounts of data and the rapid growth of electronic health data and analysis tools have led to an ever-increasing need for specific skills in data analytics. The online Healthcare Analytics certificate program provides learners with the knowledge and skills to contribute to data analytics and become a vital part of their healthcare informatics team.

## Admissions

Requirements for admission include:

- A bachelor's degree (or higher) awarded by a regionally accredited institution.
- Official transcripts from all institutions attended sent

electronically or in a sealed, unopened envelope directly to EVMS Admissions & Enrollment.

- Transcripts from institutions that awarded a degree must include the date upon which the degree was issued.

## Tuitions & Fees

Tuition and fees for the Healthcare Analytics program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state and out-of-state: \$919 per credit hour

### Mandatory Fees

- \$93

## Curriculum

#### **MHA500: Introduction to Healthcare Analytics (3)**

The course introduces basic concepts in healthcare analytics. Students will develop data analysis skills with an emphasis on statistical reasoning. The course is designed to teach students how to use data to make informed decisions. This process includes reviewing the data, exploring all the underlying assumptions, summarizing and analyzing the data and finally translating the results. Discussions and assignments will focus on honing data interpretation and the ability to strategically apply analysis results to improve health outcomes.

#### **MHA501: Programming Tools and Techniques in Data Management (3)**

This course is designed to train students in basic and advanced statistical programming languages (such as SAS or R) together with techniques and tools necessary for data management and data mining. Students will develop skills in the data management process for analytics including data acquisition, cleansing and debugging. Students will be able to relate and aggregate these data in analytic databases, data marts and data warehouses, and will be able to explore different analytical decision tools through case studies and projects.

#### **MHA504: Predictive Data Analytics (3)**

This course focuses on statistical inference and hypothesis testing methods in predictive analytics. Students will learn the application of statistical methods for analyzing both continuous and discrete data for knowledge discovery. Analytic continuous and discrete data concepts and methods are developed with practical skills in exploratory data analysis. Descriptive statistics, goodness-of-fit tests, correlation measures, single and multiple linear regression, analysis of variance and covariance (ANOVA and ANCOVA), contingency tables, logistic regression, multinomial and multivariate models will be covered. Application of various statistical methods using case studies and real-world data will leverage statistical assessment and interpretation.



## MHA502: Research Methods (3)

This course introduces research methods in a healthcare setting. Students will be able to learn about development of research questionnaire and design, methodology, data collection and sampling techniques, sample size and power analysis, research ethics and validation and effective dissemination of research. Students will be able to explore and evaluate different types of research procedures and outcomes in the healthcare sector.

## Graduate Certificate in Implementing Change and Achieving High Performance in Healthcare Environment

The certificate in Implementing Change and Achieving High Performance in the Healthcare Environment is a 1-credit-hour program designed for physicians, healthcare managers and other health professionals. The certificate gives students the opportunity to learn innovative strategies for implementing change and achieving high performance in their work environments.

The certificate covers the following core leadership competencies:

- Change management through IMPACT
- Situational leadership
- Conflict management through the Thomas-Kilmann Conflict Mode Instrument
- Influence: The Influencer Model
- Giving and receiving effective feedback: "Feedback That Works"
- Leadership rounding with intent

Students will directly apply the six core leadership competencies through individual capstone projects and group work sessions with colleagues in the class.

Those who complete the certificate program will understand how to implement change in a variety of healthcare settings and how to sustain highly reliable performance through change initiatives.

## Admissions

### For U.S. Students

Requirements for admission include:

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum Grade Point Average (GPA) of 2.5 on a 4.0 scale, prior to matriculating in the MPH program.
- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- A personal statement detailing reasons for interest in the MPH Graduate Certificate program.

### For International Students

Requirements for admission include:

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum Grade Point Average (GPA) of 2.5 on a 4.0 scale, prior to matriculating in the MPH program.
- In cases where a non-U.S. grading system has been utilized on a transcript, students should have grades converted to the U.S. grading system by World Education Services.
- Test of English as a Foreign Language (TOEFL) - Minimum scores: Paper 550, Computer 213, iBT 80 OR International English Language Testing System (IELTS) - Minimum scores: Total 6.5, Subscores: 6
- A personal statement detailing reasons for interest in the MPH Graduate Certificate program.
- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- Sending International Transcripts to GradCAS
- GradCAS will ONLY accept the evaluation report from the credentialing agency. Do not send your foreign transcript to GradCAS.
- All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:

### GradCAS Transcript Processing Center

PO Box 9217 | Watertown, MA 02471

## Tuition and Fees

Tuition and fees for the Master of Public Health program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state: \$909 per credit hour
- Out-of-state: \$1,107 per credit hour

## Curriculum

### SHPIPE701: Implementing Change and Achieving High Performance in the Healthcare Environment

Participants will learn cutting edge strategies for implementing change and achieving high performance in their work environments from recognized healthcare delivery experts.

## Graduate Certificate in Teaching

The Graduate Certificate in Medical and Health Professions Education-Teaching provides advanced skills in developing appropriate instruction, curriculum and assessment strategies for academic and clinical settings with an emphasis on real-world, practical applications. This certificate program is designed for those who:

- Wish to become more of an educational leader at their institution

- Teach or plan to teach students, residents or other medical and health professionals
- Play a role in curriculum development, revision or evaluation

## Admissions

### Requirements for Admission

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum GPA of 2.5 on a 4.0 scale, prior to matriculating in the MHPE program (foreign degrees considered on a case-by-case basis).
- Official transcripts from each college/university attended, including an official transcript from the degree awarding institution that specifies the date upon which the degree was issued.
- A personal statement detailing reasons for interest in the MHPE Graduate Certificate program.

This course prepares learners to design evidence-based assessment strategies to improve instructional effectiveness for faculty and learning outcomes for students. Application of principles to medical and health professions education is expected. A wide array of formative and summative assessment instruments and techniques will be explored and applied through practical application.

## Curriculum

### MHPE600: Applied Learning Theories (3)

This course is an exploration of adult learning theory. Application of principles to medical and health professions education is expected. Learners successfully completing this course will explore major theorists in the field of adult learning and create an educational philosophy. Learners will create artifacts in an electronic portfolio to exemplify the application of seven areas of learning theory: assessment of prior knowledge, encoding and retrieval and knowledge, motivation for learning, mastery of learning, feedback and practice, course climate, and self-directed learning.

### MHPE601: Instructional Methods (3)

This course prepares students with theoretic foundations and best practices to plan, apply, design, and evaluate appropriate instructional methods to enhance learner achievement. Application of principles to medical and health professions education is expected. Learners analyze a wide range of instructional methods including team-based, problem-based, inter-professional, outcome-based, experiential, indirect, and interactive in a variety of educational settings including small- and large-groups, clinical, bedside, ambulatory, community, rural, and distance.

### MHPE602: Curriculum Development (3)

This course teaches a systematic curriculum development approach. Application of principles to medical and health professions education is expected. Educators and curriculum leaders will gain knowledge, skills, and experiences in multiple facets of curriculum development including curricula planning, design, development, implementation, evaluation, and improvement/revision. Learners will also explore the benefits and challenges related to the collaborative nature of curriculum development through practical examples and application of curricular planning models.

### MHPE603: Assessment of Learning (3)



## Master's Programs

### Art Therapy and Counseling

#### Admissions

Both personal characteristics and academic qualifications of applicants are evaluated to ensure that students are capable of developing professional competence as art therapists. Our Admissions Guide contains specific information about the admissions requirements, process, and timeline for the program.

Applicants to the program must have:

- A qualifying grade point average of 3.0 or better.
- A bachelor's degree completed no later than July 1.
- All prerequisite coursework satisfactorily completed no later than July 1:
- 12 semester credit hours in Psychology (must include developmental, abnormal and theories of personality)
- 18 semester credit hours in Studio Art (must include painting, drawing, sculpture/3-D and clay/ceramics)
- Completed the online application including the following:
  - ◆ Official transcript(s) from all academic institutions attended
  - ◆ Official GRE score report (optional)
  - ◆ Official TOEFL scores (if applicable)
  - ◆ Writing sample
  - ◆ Two letters of reference
  - ◆ Personal interview with portfolio presentation
  - ◆ Reviewed the technical standards.

Transcripts must be sent to GradCAS only. GradCAS only accepts electronic transcripts from the following sites:

- Credentials Solutions
- Parchment
- National Student Clearinghouse

If your school does not offer these services, download and send a transcript request form to your school's registrar, who should send the transcript to:

**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

Applicants with foreign degrees may be considered on a case-by-case basis. A written request must be submitted to HP Admissions with all of the following included for consideration:

An official academic credential evaluation of the foreign transcript. The evaluation must include the following components:

- Analysis of credentials to determine equivalence to an accredited U.S. bachelor's degree
- Course-by-course translation, including information on course name, grade and U.S. credit equivalency
- Overall performance in comparison to the standard U.S. grading system (i.e., GPA)

Official transcripts of all coursework done in the U.S. educational system to date;

TOEFL scores for any applicant with a foreign degree and English as a second language or who entered the U.S. after age 12 from a non-English-speaking country of origin (as determined by high school graduation or personal statement). Graduation with an undergraduate degree from a U.S. educational institution will not fulfill this requirement. To ensure an ability to function at the graduate level due to the importance of communication in the English language for both learning and providing healthcare, the following are expected minimal scores:

- Internet-based test (preferred): 85
- Computer-based test: 220
- Speaking component: 25

Although multiple companies provide translation services, an English translation without the appropriate information above will not be accepted in place of an academic credential evaluation. Our preference is that you submit an evaluation completed by World Education Services to provide us with the most complete picture of your previous educational background.

All 30 credits of prerequisite coursework must be completed at an accredited U.S. or Canadian institution with a B, 3.0 (on a 4.0 scale) grade or better in order to establish a record of academic performance in this educational system. No foreign courses, degrees, work experience or other summative exams (e.g. GRE or MAT) will substitute for prerequisite coursework.

At the time of program interviews, if language issues are identified, further demonstration of English proficiency - to include TOEFL testing - may be requested as a condition of acceptance.

#### Curriculum

Our faculty members are talented educators and dedicated scholars, who have been elected to state and national leadership positions in the Virginia Art Therapy Association and the American Art Therapy Association.

Through our faculty members' teaching methods, students in our 61-credit, two-year program engage with the elements of art therapy practice and the research that leads to improved care. Our instruction focuses on collaborative and experiential learning, reflecting on learning and applying those lessons to internships and clinical work.

#### Course Sequence

##### First Year

##### Semester 1 - Fall

- AT 516 - Clinical Case Conference (1)
- AT 521 - Individual Counseling & Psychotherapy (3)
- AT 524 - Processes & Materials of Art Psychotherapy I (4)
- AT 528 - Theories of Human Psychological

Development (3)

- AT 530 - Psychopathology (3)
- AT 534 - Introduction of the History & Theory of Art Therapy (1)
- AT 548 - Assessment (3)
- AT 550 - Practica Fieldwork (1)

### Semester 2 - Spring

- AT 520 - Group Counseling & Psychotherapy (3)
- AT 529 - Case Presentation Skills (1)
- AT 547 - Individual Supervision I (1)
- AT 549 - Processes & Materials of Art Psychotherapy II (4)
- AT 551 - Practicum I (.5)
- AT 555 - Internship I (2.5)
- AT 561 - Child Counseling & Psychotherapy Skills (1) or
- AT 563 - Adolescent Counseling & Psychotherapy Skills (1) or
- AT 565 - Adult Counseling & Psychotherapy Skills (1)
- AT 567 - Group Supervision Counseling & Psychotherapy with Children (1.5) or
- AT 670 - Group Supervision Counseling & Psychotherapy with Adolescents (1.5) or
- AT 667 - Group Supervision Counseling & Psychotherapy with Adults (1.5)

### Semester 3 - Summer

- AT 513 - Research Methods & Program Evaluation (3)

## Second Year

### Semester 4 - Fall

- AT 607 - Capstone (1)\*\*\*
- AT 616 - Clinical Case Conference II (1.5)
- AT 636 - Cultural Competency (3)
- AT 646 - Individual Supervision II (1)
- AT 650 - Practicum II (.5)
- AT 656 - Internship II (2.5)
- AT 660 - Child Counseling & Psychotherapy Skills (1) or
- AT 662 - Adolescent Counseling & Psychotherapy Skills (1) or
- AT 664 - Adult Counseling & Psychotherapy Skills (1)
- AT 569 - Group Supervision Counseling & Psychotherapy with Children (1.5) or
- AT 672 - Group Supervision Counseling & Psychotherapy with Adolescents (1.5) or
- AT 669 - Group Supervision Counseling & Psychotherapy with Adults (1.5)

### Semester 5 - Spring

- AT 607 - Capstone (1)\*\*\*
- AT 617 - Ethics & Professionalism (3)
- AT 647 - Individual Supervision III (1)

- AT 649 - Creativity, Symbolism & Metaphor (3)
- AT 651 - Practicum III (.5)
- AT 657 - Internship III (2.5)
- AT 661 - Child Counseling & Psychotherapy Skills (1) or
- AT 663 - Adolescent Counseling & Psychotherapy Skills (1) or
- AT 665 - Adult Counseling & Psychotherapy Skills (1)
- AT 571 - Group Supervision Counseling & Psychotherapy with Children (1.5) or
- AT 674 - Group Supervision Counseling & Psychotherapy with Adolescents (1.5) or
- AT 673 - Group Supervision Counseling & Psychotherapy with Adults (1.5)

### Electives and Specialization Courses

- AT 533/633 - Clinical Specialties (varies)
- AT 535/635 - Art Therapy in the Schools (1)
- AT 562/652 - Medical Art Therapy (1)
- AT 615 - Family Counseling & Psychotherapy (3)\*
- AT 638 - Countertransference/Jung (1)
- AT 639 - Exploration of the Psyche (1)
- AT 655 - Trauma Informed Art Therapy (1)
- AT 632 - Addictions (3)\*
- AT 634 - Career Counseling (3)\*

\*Optional coursework for graduation; required for licensure

\*\*\*Degree requires (1) credit Capstone; may be completed in the Fall or Spring of 2nd year

## Early Assurance Program

To be eligible for the Early Assurance Program (EAP) with Regent University, a student must:

- Be at least in their junior year at Regent University, and with only one academic year left to complete in their undergraduate education when applying. Interested students should meet with the Regent University EAP Advisor (advising@regent.edu | 757.352.4385) during their freshman year or within the first semester of coursework to express interest in the EAP;
- Meet citizenship requirements of the program;
- Meet all Regent University institutional and degree requirements to continue as a student in good standing;
- Have an overall (cumulative) GPA of 3.0 or better;
- Have no academic or other code of conduct violations;
- Follow the Admission guidelines;
- Have a pre-matriculation meeting with the program director during the spring semester before the fall matriculation date.

The guarantee of admission through the EAP is contingent upon the student's continued eligibility in the EAP.

## Technical Standards

1. Observation Skills Technical Standard

- 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the classroom, lecture hall, studio and internship settings.
- 1.2. Indicators include, but are not limited to, these examples:
  - Accurate observations of a patient near and at a distance; recognizing non-verbal and verbal signs.
  - Accurate identification of differences in color, texture, shape and other formal elements of artwork.
  - Accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and key characteristics of other images.
2. Communication Skills Technical Standard
  - 2.1. Demonstrate effective communication skills with all ages and genders of patients who have a variety of diagnoses, disabilities, cultures, ethnicities and personalities.
  - 2.2. Indicators include, but are not limited to, these examples:
    - Clear, efficient and intelligible articulation of verbal language.
    - Legible, efficient and intelligible written English language.
    - Accurate and efficient reading skills (English language).
    - Ability to prepare and communicate concise oral and written summaries of patient encounters.
    - Ability to accurately follow oral and written directions.
3. Critical Reasoning Skills Technical Standard
  - 3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.
  - 3.2. Indicators include, but are not limited to, these examples:
    - Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
    - Demonstrate ability to acquire, retain and apply new and learned information.
    - Demonstrate appropriate judgment in patient assessment, diagnosis, monitoring and evaluation, including planning, time management and choice of art materials.
4. Motor And Sensory Function Technical Standard
  - 4.1. Demonstrate sufficient motor and sensory function to perform typical functions of art therapists, including, but not limited to, assessments, evaluations and individual, group and family treatment.
  - 4.2. Indicators include, but are not limited to, these examples:
    - Functional and sufficient sensory capacity (visual, auditory and tactile) to adequately perform a complete Art Therapy Projective Imagery Assessment (AT-PIA).
5. Behavioral And Social Attributes Technical Standard
  - 5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing professional art therapist.
  - 5.2. Indicators include, but are not limited to, these examples:
    - Execute motor movements to assess patients, provide assistance with art materials and techniques and implement basic art therapy processes.
    - Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, lecture hall and clinical settings).
    - Properly use art materials and tools for art making, including but not limited to, drawing implements, brushes, clay tools, glue guns, etc.
    - Physical stamina sufficient to complete the rigorous course of didactic and clinical study, which may include prolonged periods of sitting, standing and/or rapid ambulation.
    - Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
    - Ability to develop mature and effective professional relationships with faculty, patients, the public and other members of the health care team.
    - Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
    - Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
    - Ability to monitor and react appropriately to one's own emotional needs and responses.
    - Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with clinical encounters and clinical environments.
    - Compliance with standards, policies and practices set forth in the Art Therapy and Counseling student handbook.

## Tuition and Fees

EVMS' Art Therapy and Counseling tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services. Students may apply for financial aid.

### Tuition

- In-state: \$28,400
- Out-of-state: \$34,544
- Projected Cost of Attendance

### Mandatory Fees

- Year 1: \$1,670
- Year 2: \$1,570

## Projected Cost of Attendance

		Art Therapy & Counseling   Year 1	Art Therapy & Counseling   Year 2
<b>Budget length</b>		9 mos.	9 mos.
<b>Tuition*</b>	<b>In-state</b>	\$28,400	\$28,400
	<b>Out-of-state</b>	\$34,544	\$34,544
<b>Fees*</b>	<b>Mandatory</b>	\$1,670	\$1,570
	<b>Health insurance</b>	\$2,800	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$32,870	\$32,770
	<b>Out-of-state</b>	\$39,014	\$38,914
<b>Other allowances</b>	<b>Books and article packet</b>	\$2,300	\$1,500
	<b>Room, board and miscellaneous living expenses</b>	\$15,028	\$15,028
	<b>Personal expenses</b>	\$720	\$720
	<b>Transportation</b>	\$3,370	\$3,370
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$54,288	\$53,388
	<b>Out-of-state</b>	\$60,432	\$59,532
<b>Loan fees**</b>	<b>Direct unsubsidized - 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$1,441	\$1,402
	<b>Grad PLUS – 4.264% out-of-state</b>	\$1,703	\$1,664
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$55,947	\$55,009
	<b>Out-of-state</b>	\$62,354	\$61,415

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

## Academic Calendar 2018-2019

	Class of 2019	Class of 2020
<b>Orientation</b>	N/A	8/20/2018 - 8/24/2018
<b>Term I - Fall 2018</b>		
<b>Start Date</b>	8/27/2018	8/20/2018
<b>End Date</b>	12/14/2018	12/14/2018
<b>Final Exams (Oral Comp)</b>	N/A	12/14/2018 - 12/18/2018
<b>Term II - Spring 2019</b>		
<b>Start Date</b>	1/7/2019	1/7/2019
<b>End Date</b>	5/3/2019	5/3/2019
<b>Comprehensive Exams</b>	N/A	5/7/2019
<b>Term III - Summer 2019</b>		
<b>Start Date</b>	N/A	5/14/2019
<b>End Date</b>	N/A	8/3/2019
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	10/31/2018 - 11/2/2018	10/31/2018 - 11/2/2018
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/18/2018 - 1/5/2019	12/18/2018 - 1/5/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/4/2019 - 3/8/2019	3/4/2019 - 3/8/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### AT513: Research Methods & Program Evaluation (3)

This course introduces the student to basic tenets of planning, conducting, and evaluating research. Aspects of research which are specific and unique to art therapy are introduced and discussed. Basic designs and components of research methods are explored.

### AT516: Clinical Case Conference I (1)

First year, first semester students attend the 616 Clinical Case Conference II, in which second year students present case material. The goal for the first year student is to become acquainted with organization and presentation of clinical material.

### AT520: Group Counseling & Psychotherapy (3)

This course includes the study of group counseling and psychotherapy techniques and practice. Emphasis is on use of group dynamics, process illumination, and stages of group development. Cultural and ethical issues are explored.

### AT521: Individual Counseling & Psychotherapy (3)

This course explores various theoretical approaches to individual psychotherapy and their relation to art psychotherapy approaches. The therapist's values and ethics are addressed. The goal of the course is to provide the student with an opportunity to continue the development of an approach to individual psychotherapy.

### AT524: Processes & Materials of Art Psychotherapy I (4)

This course is designed so that the student will directly experience the therapeutic usefulness and understand the psychological implications of a variety of materials and processes. Students become familiar with the language of art and the range of possible therapeutic responses. Students learn the theory and application of the Expressive Therapies Continuum (ETC).

### AT528: Theories of Human Psychological Development (3)

Following a family life cycle perspective, students explore human psychological development from birth to death. Students are exposed to various theories of personality development. Cultural and environmental influences are addressed.

### AT530: Psychopathology (3)

Students learn descriptive criteria for psychiatric diagnoses, the use of the DSM V, and theories of psychopathology. A goal of the course is for students to develop an ability to recognize behavioral and art indicators of functional and organic disorders.

### AT534: Introduction to the History & Theory of Art Therapy (1)

This course offers an overview of the history and growth of art therapy as a discipline, along with an overview of theoretical approaches that have evolved from the founding practitioners in the field. Students develop a specific definition of art therapy that conveys a personal approach, as well as a clear understanding of the role of art therapists in various work settings. Current developments and future directions within the field are also explored.

### AT535/635: Art Therapy in the Schools (1)

This elective course introduces principles underlying comprehensive school art therapy service delivery. Topics explored include special and alternative education settings, program development, and research supporting art therapy in schools. Permission of program director is required.

### AT638: Countertransference/Jung (1)

This elective course facilitates through reading and discussion the exploration of the impact of transference and countertransference in work with patients. The impact on the therapist is explored with depth and implications for informing work with patients is explored. Permission of program director is required.



**AT639: Exploration of the Psyche (1)**

This elective course aims to enliven the students' understanding of the psyche and its processes, and to increase their understanding of the psychic processes both in the therapeutic process and in their own lives. Permission of program director is required.

**AT561/660/661: Child Counseling & Psychotherapy Skills (1) | AT563/662/663: Adolescent Counseling & Psychotherapy Skills (1) | AT565/664/665: Adult Counseling & Psychotherapy Skills (1)**

Students attend academic skills discussion and topic presentations related to the treatment of children/adolescents/adults in various settings. Students demonstrate in depth knowledge of strengths and psychopathology related to the population. Students demonstrate knowledge in assessment, treatment planning, case formation, genograms, theoretical orientation, cultural competency, and ethical practices.

**AT567/670/667: Group Supervision: Child Internship (1.5) | AT569/672/669: Group Supervision: Adolescent Internship (1.5) | AT571/674/673: Group Supervision: Adult Internship (1.5)**

Students meet in a supervision group (no more than 1:8 for 1.5 hours), with a registered art therapist, to discuss clinical topics related to the treatment of children/adolescents/adults and couples and their families in various settings. Students use case examples from their internship sites to explore art expression, assessments, treatment planning, treatment approaches, relationship dynamics, and treatment team interactions.

**AT547: Individual Supervision I (1) | AT646: Individual Supervision II (1) | AT647: Individual Supervision III (1)**

The student receives one hour of individual supervision per week from a registered art therapist. Supervision provides opportunities for integration of didactic information with clinical experience. Through supervision, students explore verbal, behavioral, and artistic communication along with assessment and treatment dynamics.

**AT548: Assessment (3)**

Students explore the fundamentals of psychological testing and art therapy assessment and become familiar with a variety of specific instruments and procedures used in appraisal and evaluation. Students learn to administer and document Art Therapy-Projective Imagery Assessments and to formulate treatment goals and objectives based upon assessment findings.

**AT529: Case Presentation Skills (1)**

Students develop presentation skills and learn to effectively communicate clinical case material. This course is designed to prepare the student for the case conference course in the second year.

**AT549: Processes & Materials of Art Psychotherapy II (4)**

This course is a continuation of 524 Processes and Materials of Art Psychotherapy I.

**AT551: Practicum I (.5) | AT650: Practicum II (.5) | AT651: Practicum III (.5)**

Three days per week (16 hours) are spent at the site for two weeks to enable the student to prepare for the internship through observation and practice.

**AT555: Internship I (2.5) | AT656: Internship II (2.5) | AT657: Internship III (2.5)**

Three days per week (18 hours) are spent at the site, for 13 weeks. Students provide Art Therapy-Projective Imagery Assessments, individual, group and/or family art therapy for 9 hours per week. The other hours on site are for students to attend team meetings, in-service conferences, and all related milieu activities, and to complete documentation. Students rotate through one site per semester in order to obtain experience with children, adolescents, and adults. A minimum of one placement in a mental health facility is required. Students within the specialty tracks of art therapy in the schools, medical art therapy, or family art therapy are afforded that placement focus.

**AT 607:Capstone Project (1-2) (repeated for 2 semesters or until completion)**

In this course the student develops the Capstone proposal. The student finalizes and implements the Capstone proposal. The student completes, defends, and submits the Capstone Project.

**AT615: Family Counseling & Psychotherapy (3)**

In this elective course, students develop a thorough understanding of current family systems theory, the family life cycle, evaluation, and practice. Students improve their objectivity as family psychotherapists as they develop insights about their own families of origin. This course prepares the students to administer verbal and projective imagery family evaluations and to conceptualize family dynamics from various theoretical perspectives. Permission of program director is required.

**AT616: Clinical Case Conference II (1)**

Students demonstrate the ability to effectively communicate clinical material and integrate theory and practice through structured case presentations.

**AT617: Ethics & Professionalism (3)**

This course addresses professional identity, professional ethics, and the ethical practice of art psychotherapy. Students prepare to enter the job market and review the requirements for professional credentialing.

**AT649: Creativity, Symbolism & Metaphor (3)**

This course reviews various theories regarding the types, formation and roles of symbolism and its relation to psychopathology and mental health. Students explore the



function and interpretation of symbols in dreams and artwork and examine the role of symbolism in assessment and art therapy. Students develop a deeper understanding of symbolic language in order to enhance their understanding of inner experiences. Students develop an understanding of the nature of creativity, creativity research, and the impact of mental illness upon the creative process.

#### **AT632 Additions (3)**

This three-credit elective course provides an overview of the field of Addiction Studies. Topics that will be covered include drugs and society, substance and process addictions, evidence-based best practices for the substance abuse counselor, assessment, the recovery process, addiction and the family, and prevention strategies. This course covers diagnosis and treatment of addictive disorders and includes an overview of the philosophies and evidenced-based best practices, policies, and outcomes of the most generally accepted models of treatment, recovery, relapse prevention, and continuing care for addictions and other substance abuse related problems. Students also gain awareness of the impact of drug abuse on society and an appreciation of the cultural context within which addiction and recovery occurs.

#### **AT634 Career Counseling (3)**

This elective course includes the study of theory and process of career counseling. Students will acquire skills to incorporate career development theory into the practice of counseling. Students will be introduced to career assessment tools and occupational methods.

#### **AT636: Cultural Competency (3)**

This course addresses the competencies essential for a culturally responsive therapist. Through self-assessment and exploration of culture, students will gain the awareness, skill, and respect necessary to think critically, to establish rapport, and to work effectively with diverse individuals and groups.

#### **AT652: Medical Art Therapy (1)**

This elective course provides an introduction to the use of art therapy in a medical setting. Topics explored include developmental perceptions of illness, death and dying, hospitalization, and body image throughout the life span as well as research supporting art therapy as a treatment modality for persons with medical illnesses. Permission of program director is required.

#### **AT655: Trauma Informed Art Therapy (1)**

This elective course will review and engage students in the current literature of Trauma Informed Art Therapy Practices and additional materials. The objective is for the student to build skills an understanding how to treat survivors of trauma, understand the etiology of behaviors, emotions, and functioning related to trauma, and develop age-appropriate treatment plans based in best art therapy practice. Permission of program director is required.

#### **AT533/633: Clinical Specialties (varied)**

Clinical Specialties are clinical and professional development topics that you attend outside of your regularly scheduled coursework. Clinical Specialties are credits earned for attending additional education offerings, clinical case presentations, psychiatry department grand rounds, educational seminars, workshops, symposiums, trainings, and other educational experiences offered by the GATCP, EVMS, professional trainings, seminars, or other professionally documented trainings. The course is designed to encourage participation in ongoing education beyond the required curriculum of the GATCP. The clinical specialties course intends to offer and award credit for student initiative in expanding his/her knowledge to become a well-rounded art therapist.

#### **Faculty**

##### **Program Director**

Mary R. Roberts, PhD, LPC-ACS, ATR-BC, ATCS, Associate Professor

##### **Faculty**

Matthew G. Bernier, MCAT, ATR-BC, Associate Professor

Eileen K. Douglas, PhD, LPC, ATR-BC, Assistant Professor

##### **Art Therapy Community Faculty**

Tim A. Sanderson, MD, ATR, Assistant Professor

##### **Staff**

Kiera S. Dorsey, Office Coordinator

##### **Community Faculty**

Erin E. Blair, MA, ATR, Teacher

Alex E. Dryden, PsyD, LPC, ATR-BC, Teacher

Laura Silzle Maloney, ATR-BC, LPC, LMFT, Teacher

Edward S. Powers, MS, ATR-BC, Teacher

Geoffrey A. Thompson, PhD, ATR-BC, LCAT, Teacher

Karen Bladergroen, MS, ATR-BC, LPC, Teacher



# Biomedical Sciences Research, MS

## Admissions

The Biomedical Sciences Research Master's program is now participating in the Graduate Centralized Application Service (GradCAS).

Applicants to the program must have:

- A bachelor's degree prior to matriculating as an EVMS student
  - ◆ If the bachelor's degree was issued by a U.S. college or university, as a general rule it should be from a regionally accredited institution. However, the program may grant exceptions on a case-by-case basis.
  - ◆ Official transcripts from the awarding institution must specify the date upon which the degree was issued.
- A cumulative grade point average (GPA) of 3.0 (B) or better (preferred)
  - ◆ We consider an applicant's entire record, and applicants with a GPA between 2.8 and 3.0 may be accepted. We pay special attention to science and math course grades, and we prefer to accept applicants with mostly A's and B's in these courses.
- Successfully completed the following courses:
  - ◆ General Biology (1 semester with lab)
  - ◆ Additional Biology (1 semester with lab)
  - ◆ General Chemistry (2 semesters with labs)
  - ◆ Organic Chemistry I (1 semester with lab)
  - ◆ Organic Chemistry II or Biochemistry (1 semester, lab not required)
  - ◆ General Math, Calculus or Statistics (1 semester)
  - ◆ College Math or Physics (1 semester)
- Competitive Graduate Record Examination (GRE) scores
  - ◆ This requirement will no longer be necessary as of September 1, 2018.
- Competitive Test of English as a Foreign Language (TOEFL) scores
  - ◆ This applies to international applicants only.

## Early Assurance Program

The Early Assurance Program (EAP) exists to offer outstanding and qualified undergraduate students with firm interests in a career as a biomedical researcher and in attending EVMS the opportunity to gain early assurance of acceptance into the Biomedical Sciences Research Master's program at EVMS before beginning their final year of college.

By granting early assurance of acceptance into the program, students will be able to broaden their academic focus, engage in extracurricular leadership activities and pursue first-hand, lab experience.

### Partner Institutions

- Christopher Newport University
- Norfolk State University
- Regent University

Each January, early assurance program advisers at each partner institution will forward names of eligible students who are interested in applying to the Biomedical Sciences Research Master's program through the Early Assurance Program to EVMS. Students interested in the program are required to maintain regular contact with the EAP adviser during their college career. Eligible students will receive an email containing the necessary links and instructions to apply.

Below are the main steps necessary to apply through the Early Assurance Program at EVMS.

- Meet with the EAP adviser at your institution as soon as possible.
- Establish a plan to complete prerequisites, certification and patient care experience prior to application deadline.
- Complete the EVMS EAP application by May 30 during the spring semester of your junior year.
- Complete the GradCAS application (GradCAS Application Site) by June 15 of your junior year.
- Complete the undergraduate degree requirements and maintain EAP eligibility.

## Eligibility

To be eligible to apply for the Early Assurance Program, a student must:

- Have completed the fall semester of their junior year with only one more academic year to complete;
- Meet all institutional and degree requirements to continue as a student in good standing;
- Maintain an overall (cumulative) GPA of 3.25 or better;
- Have satisfactorily completed 7 of 8 pre-requisite courses by the time of application without withdrawing from or repeating any courses used to satisfy the pre-requisites;
- Obtain grades of B or above in all science courses taken in sophomore, junior, or senior year;
- Have no academic or conduct code violations

## Maintaining Eligibility

Continuation in the EAP will require evidence of general academic progress consistent with past performance, and of significant progress toward achievement of individually specified goals outlined in the application. Ongoing communication between the EAP applicant, the EAP advisor, and the EVMS Biomedical Sciences program will ensure that both school's requirements and individual applicant's objectives are being met. In addition, the following criteria must be maintained by the student to continue eligibility:

- Meet with EAP adviser each semester;
- Maintain contact with the EVMS Biomedical Sciences Program during the senior year;
- Carry sufficient credit load during the remaining regular academic semesters to fulfill undergraduate degree requirements;
- Maintain an overall (cumulative) GPA of 3.25 or better

with consistent academic performance; obtain grades of B or above in all science courses taken after the freshman year;

- Make significant progress toward achieving the individually-specified goals outlined on the PUR submitted with the student's application, including accumulation of additional hours to meet a goal of 300 hours of research experience before matriculating into the EVMS program;
- Fulfill all institution and degree requirements to maintain status as a student in good standing (no academic or conduct code violations) and earn a bachelor's degree prior to matriculating in the EVMS Research MS program;
- Complete any additional specific matriculation conditions set by the EVMS Research MS program at the time of acceptance notification (e.g., official transcripts confirming date of degree completion, a criminal background check, indication of ability to independently meet the Technical Standards, and submission of all health requirements)

Failure to meet or maintain these eligibility standards will constitute grounds for dismissal from the program. Admission to the Research MS Program can be denied if events occur that would cause the Admissions Committee to question a student's suitability to pursue a career in biomedical research. These include, but are not limited to, misdemeanor or felony convictions, academic dishonesty or other code of conduct violations, unprofessional conduct in a laboratory or education setting, or inability to meet the Technical Standards.

## Transfer Credit Policy

Transfer of credit may be allowed for courses comparable to those offered in our programs. Courses must have been taken at an accredited biomedical or biological sciences graduate program in the U.S. Grades of B or higher or a passing grade in a pass/fail course are required. The Biomedical Sciences Research master's program may accept up to 9 transfer credits. Transfer credit will be determined by the program director in consultation with program faculty after a student matriculates into the program.

Official transcripts must be sent to GradCAS. Test scores and supportive application documents should be electronically submitted or mailed to EVMS Admissions and Enrollment for Health Professions.

## Technical Standards

The abilities and skills candidates and students must possess in order to complete the education and training of the Biomedical Sciences Research master's programs are referred to as technical standards. These abilities and skills are essential for entry into most professional practice settings associated with this degree program.

### 1. Observation Skills Technical Standard

- 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, laboratory and/or online settings.

- 1.2. Indicators include, but are not limited to, this example:

- Accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.

### 2. Communication Skills Technical Standard

- 2.1. Demonstrate effective communication skills with other students, faculty members, laboratory staff members and scientific colleagues.

- 2.2. Indicators include, but are not limited to, these examples:

- Clear, efficient and intelligible articulation of verbal language.
- Legible, efficient and intelligible written English language.
- Accurate and efficient English language reading skills.
- Accurate and efficient expressive and receptive communication skills.
- Ability to accurately follow oral and written directions.

### 3. Critical Reasoning Skills Technical Standard

- 3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.

- 3.2. Indicators include, but are not limited to, these examples:

- Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
- Demonstrate ability to acquire, retain and apply new and learned information.
- Demonstrate ability to pursue a course of independent research in a laboratory setting, including the ability to plan and execute experiments.

### 4. Motor And Sensory Function Technical Standard

- 4.1. Demonstrate sufficient motor and sensory function to perform typical research laboratory duties.

- 4.2. Indicators include, but are not limited to, these examples:

- Functional and sufficient sensory capacity (visual, auditory and tactile) to use laboratory equipment and perform experiments.
- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom and laboratories).
- Physical stamina sufficient to complete the didactic and laboratory requirements, including prolonged periods of sitting or standing.

### 5. Behavioral And Social Attributes Technical Standard

- 5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing laboratory professional.

5.2. Indicators include, but are not limited to, these examples:

- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
- Ability to develop mature and effective professional relationships with faculty, students and other members of the research team.
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with technical difficulties in research or scientific review (e.g., criticism of ideas shared in written or oral presentations, manuscripts, etc.)

Compliance with standards, policies and practices set forth in the EVMS Student Handbook and the program handbook.

## Curriculum

This program is offered to students with two options: thesis or non-thesis. Both options consist of 1.5 years of core academic courses and 2 to 3 laboratory rotations, as well as advanced electives. Students in both options complete laboratory research projects in a faculty member's lab.

- Thesis option:
  - ◆ Students choosing the thesis option complete a research project that is developed into a written thesis and is defended in an oral presentation.
- Non-thesis option:
  - ◆ Students in the non-thesis option prepare a written report of their research followed by an oral presentation.

## Course Sequence

### Thesis Option

#### Year One - Fall

- Molecules to Cells
- Molecular and Cellular Techniques
- Cell Communication and Signaling
- Intro to the Lab
- Molecular Genetics
- Biomedical Sciences Lab Rotation 1

#### Year One - Spring

- Cell Energetics and Organ Function
- Methods in Cell Energetics and Organ Function
- Lab Rotation 2 and 3 (optional)
- Oral Communication Forum\*
- Applied Bioinformatics and Biostatistics

#### Year One - Summer

- Research\*

#### Year Two - Fall

- Responsible Conduct in Science
- Oral Communication Forum
- Methods & Logic in Translational Biology
- Research
- Electives
- Scientific Writing and Research Design

#### Year Two - Spring

- Oral Communication Forum
- Electives (as needed)
- Thesis

#### Year Two - Summer

- Research (as needed)
- Thesis Defense

## Non-thesis Option

#### Year One - Fall

- Molecules to Cells
- Molecular and Cellular Techniques
- Cell Communication and Signaling
- Intro to the Lab
- Molecular Genetics
- Biomedical Sciences Lab Rotation 1

#### Year One - Spring

- Cell Energetics and Organ Function
- Methods in Cell Energetics and Organ Function
- Lab Rotation 2 and 3 (optional)
- Oral Communication Forum\*
- Applied Bioinformatics and Biostatistics

#### Year One - Summer

- Research\*

#### Year Two - Fall

- Responsible Conduct in Science
- Oral Communication Forum
- Methods & Logic in Translational Biology
- Research
- Electives
- Scientific Writing and Research Design

#### Year Two - Spring

- Oral Communication Forum
- Electives (as needed)
- Thesis

## Year Two - Summer

- Research (as needed)
- Oral Presentation of Research

Both options are a total of 47-49 credits.

## Tuition and Fees

Tuition and fees for the Biomedical Sciences Research Master's program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

## Tuition

- In-state : \$224 per credit hour
- Out-of-state: \$298 per credit hour

## Mandatory Fees

- Year 1: \$1,045
- Year 2: \$945

Students must show proof of major medical insurance coverage. Students who are eligible for coverage under the policy of a parent or spouse are urged to do so. As an alternative, EVMS offers a student health insurance plan.

## Project Cost of Attendance

		Biomedical Sciences Research, MS   Year 1	Biomedical Sciences Research, MS   Year 2
<b>Budget length</b>		12 mos.	12 mos.
<b>Tuition*</b>	<b>In-state (\$224/credit)**</b>	\$5,600	\$5,376
	<b>Out-of-state (\$298/credit)**</b>	\$7,450	\$7,152
<b>Fees*</b>	<b>Mandatory</b>	\$1,045	\$945
	<b>Health insurance</b>	\$2,800	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$9,445	\$9,121
	<b>Out-of-state</b>	\$11,295	\$10,897
<b>Other allowances</b>	<b>Books, supplies and article packet</b>	\$200	\$100
	<b>Room, board and miscellaneous living expenses</b>	\$20,037	\$20,037
	<b>Personal expenses</b>	\$960	\$960
	<b>Transportation</b>	\$4,493	\$4,493
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$35,135	\$34,711
	<b>Out-of-state</b>	\$36,985	\$36,487
<b>Loan fees***</b>	<b>Direct unsubsidized - 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$624	\$606
	<b>Grad PLUS – 4.264% out-of-state</b>	\$703	\$682
<b>Total cost of attendance</b>			
<b>including loan fees</b>	<b>In-state</b>	\$35,978	\$35,536
	<b>Out-of-state</b>	\$37,906	\$37,388

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.



## Academic Calendar 2018-2019

	Class of 2019	Class of 2020
<b>Orientation</b>	N/A	8/9/2018-8/11/2018
<b>Term I</b>		
<b>Start Date</b>	8/13/2018	8/13/2018
<b>End Date</b>	12/14/2018	12/14/2018
<b>Final Exams</b>	"12/11/2018 - 12/14/2018"	"12/11/2018 - 12/14/2018"
<b>Term II</b>		
<b>Start Date</b>	1/2/2019	1/2/2019
<b>End Date</b>	5/10/2019	5/10/2019
<b>Final Exams</b>	"5/6/2019 - 5/10/2019"	"5/6/2019 - 5/10/2019"
<b>Term III</b>		
<b>Start Date</b>	5/20/2019	5/20/2019
<b>End Date</b>	8/2/2019	8/2/2019
<b>Final Exams</b>		
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	11/21/2018 - 11/23/2018	11/21/2018 - 11/23/2018
<b>Thanksgiving</b>	11/22/2018	11/22/2018
<b>Winter Break</b>	"12/14/2018 - 1/1/2019"	"12/14/2018 - 1/1/2019"
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/15/2019	3/11/2019 - 3/15/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### BP700: Molecules to Cells (2)

The Molecules to Cells course presents the basic cellular functions and processes. This course is divided into three modules which study genome and gene expression, biochemistry of the cell, cell organelles, the cytoskeleton and protein trafficking.

### BP701: Molecular and Cellular Techniques (2)

This course provides an opportunity for students to gain an understanding of research techniques commonly employed in research laboratories.

### BP703: Cell Communication and Signaling (3)

This is a foundational course covering basic cell membrane functions, cell signaling, cell specialization and immunology.

### BP718: Introduction to the Laboratory (2)

This intensive laboratory course introduces students to basic research techniques, including DNA purification, subcloning, polymerase chain reaction and cell culture methods.

### BP704: Molecular Genetics (1.5)

Molecular Genetics will teach students the key aspects of molecular genetics including the important concept of genetic dissection as well as mutational analysis of gene and pathway function.

### BP719 or BP819; BP720 or BP820; BP721 or BP821: Biomedical Sciences Lab Rotation I, II, III (2 each)

Students get hands-on laboratory experience in these lab rotations, with help from a pre-designated faculty member. These courses are designed for students to sample different types of research models, techniques and subject matter.

### BP706: Cell Energetics and Organ Function (4)

This course integrates elements of cellular metabolism with organ system physiology. Students will gain an understanding of and critically discuss the cellular metabolic pathways required for normal function and the systemic organ function with a focus on human physiology.

### BP707: Methods in Cell Energetics and Organ Function (1)

This course introduces students to various approaches to measure cell energetics, metabolism and basic organ function.

### BP709: Scientific Writing and Research Design (3)

Students learn how to design and write a realistic research proposal and gain a general understanding of how different techniques can be used to address a wide range of research questions. Students gain experience in small group presentation, evaluation and discussion of current scientific literature.

### BP710: Oral Communication Forum (1)

Students host seminar presentations in various research areas such as tumor biology, infectious diseases, immunology, molecular cell biology, cardiovascular and reproductive physiology, endocrinology and neuroscience. Journal articles describing major scientific advances are discussed and critiqued. This course is offered each year during the fall and spring semesters.

### BP771: Methods and Logic in Translational Biology (4)

This is an advanced course that will emphasize the key elements required to successfully design and conduct translational projects. The course will serve as a bridge between basic research and the clinical manifestations of disease, and it will cover therapies of the future that are still under development.

### BP773: Responsible Conduct in Science (1)

This course features a series of lectures that expose graduate students to moral and ethical dilemmas in biomedical sciences.

The course will also expose students to peer review processes related to submission of grants and manuscripts.

#### **BP798: Research (1-6)**

Laboratory research for Research Master's students in both thesis and non-thesis options.

#### **BP799: Thesis (1-6)**

Review of the student's literature and written presentation of research.

#### **BP895: Special Topics in Biomedical Sciences (1-3)**

Guided readings and discussions of current research topics in a specialized area. Prerequisites: approval of instructor.

### **Faculty**

Jerry L. Nadler, MD, FAHA, MACP, Internal Medicine Chairman & Vice Dean of Research

Maggie Morris-Biomedical Sciences PhD

Margaret A. Morris, PhD, Associate Professor

#### **EVMS Microbiology & Molecular Cell Biology**

Julie A. Kerry, PhD Chair, Department of Microbiology and Molecular Cell Biology, Chairman

Richard P. Ciavarra, Professor

Dianne C. Daniel, PhD, Associate Professor

Elena Galkina - EVMS Microbiology

Elena V. Galkina, PhD, FAHA, Professor

Edward M. M. Johnson, PhD, Professor Emeritus

Aurora Fe E. Kerscher, PhD, Associate Professor

Woong-Ki Kim, PhD, Associate Professor

Neel K. Krishna, PhD, Professor

Patric Sven J. Lundberg, PhD, Associate Professor

David Mu, Professor

Julius O. Nyalwidhe, PhD, Associate Professor

O. John Semmes, PhD, Associate Dean

Amy H. Tang, Professor

David A. Taylor Fishwick, PhD, Professor

Julia A. Sharp, PhD, Assistant Professor

#### **EVMS Pathology & Anatomy**

Paul F. Aravich, PhD, Professor

Earl W. Godfrey, PhD, Teacher

Gyorgy Lonart, PhD, Professor

Larry D. Sanford, PhD, Professor

#### **EVMS Obstetrics & Gynecology**

Silvina Bocca, MD, PhD, HCLD, Professor

Gustavo F. Doncel, MD, PhD, Professor

Irina A. Zalenskaya, PhD, Assistant Professor

#### **EVMS Physiological Sciences**

Gerald J. Pepe, PhD, Chair and Professor

Frank J. Castora, PhD, Professor

Anca D. Dobrian, PhD, FAHA, Professor

Diane M. Duffy, PhD Vice Chair (Research), Professor

Eva Forgacs-Lonart, PhD, Associate Professor

Frank A. Lattanzio, PhD, Professor

Howard D. White, PhD, Professor

#### **EVMS Radiation Oncology**

Richard A. Britten, PhD

# Biotechnology, MS

## Admissions

The Biotechnology program is now participating in the Graduate Centralized Application Service (GradCAS).

Applicants to the program must have:

- A bachelor's or graduate degree
- A 3.0 grade point average (GPA) or higher is preferred.
  - ◆ We consider an applicant's entire record, and applicants with a GPA between 2.8 and 3.0 may be accepted. We pay special attention to science and math course grades, and we prefer to accept applicants with mostly A's and B's in these courses.
- Competitive scores from the Graduate Record Examination (GRE)
  - ◆ This requirement will no longer be necessary as of September 1, 2018.
- Competitive scores on the Test of English as a Foreign Language (TOEFL)
  - ◆ This applies to international applicants only.
- Successfully completed the following courses:
  - ◆ Biology (2 semesters with labs)
  - ◆ General Chemistry (2 semesters with labs)
  - ◆ Mathematics, e.g., Calculus or Statistics (1 semester)
  - ◆ Additional Math or Physics (1 semester)

Candidates must have completed all undergraduate degree requirements and have been issued a bachelor's degree prior to matriculating as an EVMS student. If the bachelor's degree was issued by a U.S. college or university, as a general rule it should be from a regionally accredited institution. However, the program may grant exceptions on a case-by-case basis. Official transcripts from the awarding institution must specify the date upon which the degree was issued.

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- Regent University
- Virginia Wesleyan

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- Maintain an overall (cumulative) GPA of 3.0 or better with consistent academic performance; obtain grades of B or above in all science courses taken after the freshman year;
- Make significant progress toward achieving the individually-specified goals outlined on the PUR submitted with the student's application, including accumulation of additional hours to meet a goal of 300 hours of research experience before matriculating into the EVMS program;
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The abilities and skills candidates and students must possess in order to complete the education and training of the Biotechnology master's program are referred to as technical standards. These abilities and skills are essential for entry into most professional practice settings associated with this degree program.

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- 2.1. Demonstrate effective communication skills with other students, faculty members, laboratory staff members and scientific colleagues.
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  - Clear, efficient and intelligible articulation of verbal language.

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- Accurate and efficient English language reading skills.
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- 3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.
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  - Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
  - Demonstrate ability to acquire, retain and apply new and learned information.
  - Demonstrate ability to pursue a course of independent research in a laboratory setting, including the ability to plan and execute experiments.

### 4. Motor And Sensory Function Technical Standard

- 4.1. Demonstrate sufficient motor and sensory function to perform typical research laboratory duties.
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  - Functional and sufficient sensory capacity (visual, auditory and tactile) to use laboratory equipment and perform experiments.
  - Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom and laboratories).
  - Physical stamina sufficient to complete the didactic and laboratory requirements, including prolonged periods of sitting or standing.

### 5. Behavioral And Social Attributes Technical Standard

- 5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing laboratory professional.
- 5.2. Indicators include, but are not limited to, these examples:
  - Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
  - Ability to develop mature and effective professional relationships with faculty, students and other members of the research team.
  - Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
  - Ability to monitor and react appropriately to one's own emotional needs and responses.
  - Display appropriate flexibility and adaptability

in the face of stress or uncertainty associated with technical difficulties in research or scientific review (e.g., criticism of ideas shared in written or oral presentations, manuscripts, etc.).

Compliance with standards, policies and practices set forth in the EVMS Student Handbook and the program handbook.

## Curriculum

The Biotechnology master's program is an accelerated curriculum of 16 months. The program offers a unique balance of hands-on training in a diverse set of research technologies and solid theoretical training in molecular and cellular biology and experimental design. This innovative program includes a six-month research internship, which can be completed in an EVMS research laboratory, in the EVMS Molecular Core Laboratory or through one of our biotechnology industry partners. Students gain a range of applied research training in disease models, bioprocessing, virology, molecular diagnostics, regenerative medicine, imaging and immunology.

## Course Sequence

### Semester 1

- Molecules to Cells (2 credits)
- Molecular and Cellular Techniques (2 credits)
- Introduction to the Laboratory (2 credits)
- Cell Communication and Signaling (3 credits)
- Laboratory Management (1 credit)
- Introduction to Animal Biomedical Research (2 credits)

### Semester 2

- Advanced Molecular and Cellular Techniques (2 credits)
- Applied Bioinformatics and Biostatistics (3.5 credits)
- Microscopy & Imaging Techniques (2 credits)
- Proteomic Technology (2 credits)
- Flow Cytometry (2 credits)
- Research Design (1 credit)
- Introduction to Drug Discovery (1 credit)
- Techniques Journal Club (1 credit)

### Semester 3

- Internship (on- or off-campus) (3 credits)
- Online Journal Club (1 credit)

### Semester 4

- Internship (continues) (6 credits)
- Online Journal Club (1 credit)

Total: 39.5 credits

## Tuition and Fees

Tuition and fees for the Biotechnology program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

## Tuition

- In-state : \$909 per credit hour
- Out-of-state: \$1,107 per credit hour

## Mandatory Fees

- Year 1: \$895
- Year 2: \$600

## Projected Cost of Attendance

		Biotechnology   Year 1	Biotechnology   Year 2
<b>Budget length</b>		12 mos.	4 mos.
<b>Tuition*</b>	<b>In-state (\$909/credit)**</b>	\$29,543	\$6,363
	<b>Out-of-state (\$1,107/credit)**</b>	\$35,978	\$7,749
<b>Fees*</b>	<b>Mandatory</b>	\$895	\$600
	<b>Health insurance</b>	\$2,800	\$1,189
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$33,238	\$8,152
	<b>Out-of-state</b>	\$39,673	\$9,538
<b>Other allowances</b>	<b>Books and equipment</b>	\$200	\$100
	<b>Room, board and miscellaneous</b>	\$20,037	\$6,679
	<b>Personal expenses</b>	\$960	\$320
	<b>Transportation**</b>	\$4,493	\$1,500
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$58,928	\$16,751
	<b>Out-of-state</b>	\$65,363	\$18,137
<b>Loan fees***</b>	<b>Direct unsubsidized - 1.066% IS</b>	\$219	\$179
	<b>Direct unsubsidized - 1.066% out-of-state</b>	\$219	\$193
	<b>Grad PLUS – 4.264% in-state</b>	\$1,639	\$0
	<b>Grad PLUS – 4.264% OS</b>	\$1,913	\$0
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$60,786	\$16,930
	<b>Out-of-state</b>	\$67,495	\$18,330

\*Tuition and fees are subject to change throughout the year.

\*\*Cost of attendance projection for the first year is based on enrolling in 32.5 credits. The second year is based on enrolling in 7 credits.

\*\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

Year 1 disbursements: Two equal disbursements of student financial aid, one per term.

Year 2 disbursements: Two equal disbursements of student financial aid, one per term.



## Academic Calendar 2018-2019

	Class of 2018	Class of 2019
<b>Orientation</b>	N/A	8/9/2018-8/11/2018
<b>Term I</b>		
<b>Start Date</b>	9/4/2018	8/13/2018
<b>End Date</b>	12/14/2018	12/14/2018
<b>Final Exams</b>	"12/11/2018 - 12/14/2018"	"12/11/2018 - 12/14/2018"
<b>Term II</b>		
<b>Start Date</b>		1/2/2019
<b>End Date</b>		5/10/2019
<b>Final Exams</b>		"5/6/2019 - 5/10/2019"
<b>Term III</b>		
<b>Start Date</b>		5/20/2019
<b>End Date</b>		8/2/2019
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	11/21/2018 - 11/23/2018	11/21/2018 - 11/23/2018
<b>Thanksgiving</b>	11/22/2018	11/22/2018
<b>Winter Break</b>	"12/14/2018 - 1/1/2019"	"12/14/2018 - 1/1/2019"
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/15/2019	3/11/2019 - 3/15/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### BT722: Molecules to Cells (2)

The course provides a foundation in cellular and molecular biology, DNA and RNA structure and function, protein synthesis, and regulation of gene expression.

### BT723: Molecular and Cellular Techniques (2)

Lectures cover topics in molecular cloning and analysis, detection systems including PCR and real time PCR, working with proteins, basics of cell culture.

### BT702: Introduction to the Laboratory (2)

Intensive laboratory course will introduce students to basic research techniques, including DNA purification, subcloning, polymerase chain reaction, and cell culture methods.

### BT704: Laboratory Management (1)

Students will learn how laboratory practices and procedures

must comply with national, state, and local regulations when conducting research in the academic and biotech sectors. Students will become familiar with: (1) Good Laboratory Practices; (2) the Institutional Research Board, Institutional Biosafety Committee, Institutional Animal Care and Use Committee, and Environmental Health and Safety (Chemical & Radiation Safety); (3) Responsible conduct in research; (4) Intellectual property; (5) Research and regulatory affairs in the Biotechnology sector; and (6) Communication skills (how to prepare a resume and strengthen job interview skills).

### BT724: Cell Communication and Signaling (3)

This is a foundational course covering basic cell membrane functions, cell signaling, cell specialization, histology and immunology.

### BT705: Introduction to Animal Biomedical Research (2)

This course will teach students important aspects of working with animals in the biomedical research setting. Student will learn: (1) Ethical and welfare aspects of working with Laboratory animals. (2) State and federal regulations overseeing the laboratory animal field. (3) The general aspects of husbandry and care of laboratory animals, including common diseases and signs of diseases. (4) Common animal models. (5) How to design and develop an animal research protocols. (6) Handling of common laboratory species (rats, mouse and rabbits). (7) Introduction to specific common animal research procedures. (8) Biosecurity and potential zoonotic diseases in the biomedical research setting.

### BT719: Advanced Molecular & Cellular Techniques (2)

Methods of gene manipulation and mutagenesis and immunological techniques will be discussed. Topics include deletion and site-directed mutagenesis, chimeras, use of linkers and expression tags, SDS polyacrylamide gel electrophoresis, in vitro transcription and translation.

### BT707: Microscopy and Imaging Techniques (2)

This is a hands-on, technical course that will focus on developing microscopy and imaging skills. The course will provide basic instruction and practice in electron microscopy, confocal and fluorescence microscopy, immunofluorescence, and image analysis.

### BT740: RNA Sequencing (1.5)

This laboratory course is designed to provide students a basic understanding of the techniques used to profile gene expression at a large scale. Both microarrays and RNA sequencing are commonly employed tools to interrogate RNA expression. The course will discuss these tools with a focus on RNA sequencing.

### BT709: Proteomic Technologies (2)

Laboratory course will give students an introduction to basic proteomic techniques, including 2D-gel electrophoresis and mass spectrometry.

**BT730: Applied Bioinformatics & Biostatistics (3.5)**

Provide an introductory overview of the concepts behind and practical use of bioinformatics & statistical analysis as it relates to the life sciences with an emphasis on modern medicine and biology.

**BT711: Flow Cytometry (2)**

Course covers basic knowledge and main applications of flow cytometry, and contains both lectures/tutorials and laboratory work. The students will learn: (1) Principles of flow cytometry; instrumentation for flow cytometry; probes for flow cytometry; quality control; and instrument maintenance. (2) Basic skills: flow cytometric protocol design; sample preparation; data analysis and presentation. (3) Major applications of flow cytometry in biomedical research and diagnostics.

**BT720: Introduction to Drug Discovery (1)**

This course will teach students the basic pharmacological principles, fundamental issues in drug discovery, theories of drug action, and the process of drug development.

**BT712: Research Design (1)**

This course will introduce the students to the concept of research design and the Scientific Method, relate research design to the NIH grant format and introduce the students to research design focused on various biotechnologies through presentation of a published article by a faculty member who will lead the discussion. A second meeting, in which the students will analyze the research design in the material presented, will follow the faculty presentation.

**BT713: Techniques Journal Club (1)**

Seminar presentations by students in various research areas: e.g., tumor biology, infectious diseases, immunology, molecular cell biology, cardiovascular and reproductive physiology, endocrinology and neuroscience. Journal articles emphasizing the latest innovative techniques and instrumentation used for biological and medical research are discussed and critiqued.

**BT714: Internship (3)**

Mentored internship at an academic research laboratory or in the biotechnology sector focusing on advanced biotechnical training.

**BT715: On-Line Journal Club (1)**

The Biotechnology program is unique in that after an intensive on-campus experience, students then complete a 6-month on-campus or off-campus internship. This on-line journal club is designed to fulfill three primary objectives: (1) maintain student contact with the primary institution and class cohort while fulfilling their internship requirement; (2) continue the process of life-long learning that is an essential component of scientific research; and (3) enhance their internship experience by discussing journal articles related to their internship research focus.

**BT716: Internship (6)**

Mentored internship at a biotechnology company or in a research laboratory focusing on advanced biotechnical training.

**BT718: On-Line Journal Club – continued (1)**

Mentored internship at a biotechnology company or in a research laboratory focusing on advanced biotechnical training.

\*The Biotechnology Master's Research Internship Presentation: Students will return to EVMS sometime during their last month in the program and present to the EVMS community what they have learned during their research internships in academic labs and the biotechnology industry - as required for completion of the EVMS Biotechnology Master's Degree.

**Faculty**

Jerry L. Nadler, MD, FAHA, MACP, Internal Medicine Chairman & Vice Dean of Research

Maggie Morris-Biomedical Sciences PhD

Margaret A. Morris, PhD, Associate Professor

**EVMS Microbiology & Molecular Cell Biology**

Julie A. Kerry, PhD Chair, Department of Microbiology and Molecular Cell Biology, Chairman

Richard P. Ciavarra, Professor

Dianne C. Daniel, PhD, Associate Professor

Elena Galkina - EVMS Microbiology

Elena V. Galkina, PhD, FAHA, Professor

Edward M. M. Johnson, PhD, Professor Emeritus

Aurora Fe E. Kerscher, PhD, Associate Professor

Woong-Ki Kim, PhD, Associate Professor

Neel K. Krishna, PhD, Professor

Patric Sven J. Lundberg, PhD, Associate Professor

David Mu, Professor

Julius O. Nyalwidhe, PhD, Associate Professor

O. John Semmes, PhD, Associate Dean

Amy H. Tang, Professor

David A. Taylor Fishwick, PhD, Professor

Julia A. Sharp, PhD, Assistant Professor

**EVMS Pathology & Anatomy**

Paul F. Aravich, PhD, Professor

Earl W. Godfrey, PhD, Teacher

Gyorgy Lonart, PhD, Professor

Larry D. Sanford, PhD, Professor

**EVMS Obstetrics & Gynecology**

Silvina Bocca, MD, PhD, HCLD, Professor

Gustavo F. Doncel, MD, PhD, Professor

Irina A. Zalenskaya, PhD, Assistant Professor

**EVMS Pysiological Sciences**

Gerald J. Pepe, PhD, Chair and Professor

Frank J. Castora, PhD, Professor

Anca D. Dobrian, PhD, FAHA, Professor

Diane M. Duffy, PhD Vice Chair (Research), Professor

Eva Forgacs-Lonart, PhD, Associate Professor

Frank A. Lattanzio, PhD, Professor

Howard D. White, PhD, Professor

**EVMS Radiation Oncology**

Richard A. Britten, PhD



# Contemporary Human Anatomy, MS

## Admissions

The Contemporary Human Anatomy program evaluates applicants using a holistic review process, during which all components of an application are reviewed prior to making an admission decision. We are strongly committed to diversity among our students.

The following are required:

- Completion of all undergraduate degree requirements from an accredited college or university, with a minimum grade point average (GPA) of 2.75 on a 4.0 scale, or successful completion of the CHA certificate program (B+ or higher) prior to matriculation.
- Official transcripts from each college/university attended, including an official transcript from the degree-awarding institution that specifies the date upon which the degree was issued.
  - ◆ Applicants who attended an institution outside of the United States: Contact the WES or ECE credentialing agencies to submit transcripts for official evaluation. Instruct the credentialing agency to send the official evaluation (and translation) directly to GradCAS. The third-party documents must be comprehensive and include a course-by-course evaluation and a GPA calculation.
- Two letters of recommendation, (submitted by the reference electronically) from individuals who are acquainted with you academically and/or professionally. Committee letters of recommendation will also be accepted. References from close friends and family members will not be accepted.
- A 1-2 page personal essay expressing your motivation to obtain a master's in contemporary human anatomy, including your future goals. Complete essay instructions are available inside the online application portal.
- Completed scores on the GRE, MCAT, DAT or TOEFL.
  - ◆ To ensure an ability to function at the graduate level in this healthcare program, the following are the minimum acceptable TOEFL scores:
    - Internet-based test (preferred): 85
    - Computer-based test: 220
    - Minimum score of 25 - Speaking
- International students must abide by all U.S. immigration laws throughout their enrollment at EVMS. This includes, but is not limited to, qualifying and obtaining a proper visa prior to attendance. For further information regarding the visa process, please contact EVMS Human Resources at 757.446.6043.

Official transcripts, scores, and supportive application documents should be mailed to GradCAS.

## Technical Standards

The abilities and skills candidates and students must possess in order to complete the education and training associated with master's program in Contemporary Human Anatomy are

referred to as Technical Standards. These abilities and skills are essential for entry into most professional practice settings associated with this degree program.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, laboratory and/or online settings. Indicators include but are not limited to accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.
2. Communication Skills Technical Standard
  - 2.1. Demonstrate effective communication skills with healthcare professionals and with people of varying cultures, ethnicities and personalities.
  - 2.2. Indicators include, but are not limited to, these examples:
    - Clear, efficient and intelligible articulation of spoken English language.
    - Legible, efficient and intelligible written English language.
    - Accurate and efficient English language reading skills.
    - Accurate and efficient, expressive and receptive communication skills.
    - Ability to accurately follow directions (oral and written).
3. Critical Reasoning Skills Technical Standard
  - 3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.
  - 3.2. Indicators include, but are not limited to, these examples:
    - Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
    - Demonstrate ability to acquire, retain and apply new and learned information.
4. Motor And Sensory Function Technical Standard
  - 4.1. Perform demonstrations and experiments in the basic sciences.
  - 4.2. Observe a patient accurately, both at a distance and close at hand; this ability requires the functional use of vision and somatic sensation.
  - 4.3. Speak, hear and observe patients in order to elicit information, describe changes in mood, activity and posture and perceive nonverbal communications.
  - 4.4. Communicate effectively and efficiently in oral and written form.
  - 4.5. Execute movements reasonably required to provide patients with general care and emergency treatment.
  - 4.6. Students should also have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other



diagnostic techniques.

- 4.7. The ability to solve problems, a skill which is critical to the practice of medicine, requires the intellectual abilities of measurement, calculation, reasoning, analysis and synthesis. In addition, a student must possess the emotional health required for full utilization of his or her intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities required for the diagnosis and care of patients and the development of mature, sensitive and effective relationships with patients.

- 4.8. All students of medicine must possess the intellectual, ethical, physical and emotional capabilities required to undertake the full curriculum and to achieve the levels of competence required by the faculty.

5. Behavioral And Social Attributes Technical Standard

- 5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing laboratory professional.

- 5.2. Indicators include, but are not limited to, these examples:

- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
- Ability to develop mature and effective professional relationships with faculty, patients, the public and other members of the healthcare team.
- Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with clinical encounters and clinical environments.
- Compliance with standards, policies and practices set forth in the EVMS Student Handbook and the program handbook.

## Curriculum

The EVMS Contemporary Human Anatomy master's program is an accelerated curriculum of 3 semesters designed to be flexible for each individual's unique career goals. Graduates gain a comprehensive understanding of the human body while acquiring teaching and research skills using cutting-edge technologies.

## Course Sequence

### Summer

- Clinical Gross Anatomy (5 credit hours)
- Instructional Methods (1 credit hour)
- Medical Imaging (2 credit hours)
- Embryology (2 credit hours)

### Fall

- Histology of Cells and Tissues (2 credit hours)
- Research in Medical & Health Professions Education (3 credit hours)
- Teaching Assistant (2 credit hours)
- Elective (3 credit hours)

### Spring

- General Mechanisms of Disease (6 credit hours) or Pathophysiology (5 credit hours)
- Capstone Project (3 credit hours)
- Elective (3 credit hours)

### Electives

- Applied Learning Theories (3 credit hours)
- Assessment in Learning (3 credit hours)
- Clinical Shadowing/Service Learning (1 credit hour)
- Essential Physiology & Anatomy Primer (5 credit hours)
- Foundational Neuroanatomy (6 credit hours)
- MCAT Preparation (2 credit hours)
- Medical Terminology (2 credit hours)
- Musculoskeletal & Skin Module (4 credit hours)
- Pathophysiology: Mechanisms for Disease (5 credit hours)
- Simulation in Healthcare (3 credit hours)
- Plastination Training in Guben, Germany (3 credit hours)
- Independent Study

## Tuition and Fees

EVMS' Contemporary Human Anatomy tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state: \$1,037 per credit hour
- Out-of-state: \$1,228 per credit hour

### Mandatory Fees

- Program Total: \$3,087

### Projected Cost of Attendance

Contemporary Human Anatomy, MS		
<b>Budget length</b>		12 mos.
<b>Tuition*</b>	<b>In-state (\$1,037/credit)</b>	\$33,184
	<b>Out-of-state (\$1,228/credit)</b>	\$39,296
<b>Fees*</b>	<b>Mandatory</b>	\$3,087
	<b>Health insurance</b>	\$3,028
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$39,299
	<b>Out-of-state</b>	\$45,411
<b>Other allowances</b>	<b>Books and equipment</b>	\$2,425
	<b>Room, board and miscellaneous living expenses</b>	\$20,037
	<b>Personal expenses</b>	\$960
	<b>Transportation</b>	\$4,493
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$67,214
	<b>Out-of-state</b>	\$73,326
<b>Loan fees**</b>	<b>Direct unsubsidized - 1.066%</b>	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$1,992
	<b>Grad PLUS – 4.264% out-of-state</b>	\$2,253
<b>Total cost of attendance</b>		
<b>including loan fees</b>	<b>In-state</b>	\$69,425
	<b>Out-of-state</b>	\$75,798

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

## Academic Calendar 2018-2019

Class of 2019	
<b>Orientation</b>	6/4/2018
<b>Term I</b>	
<b>Start Date</b>	6/6/2018
<b>End Date</b>	7/27/2018
<b>Final Exams</b>	7/23/2018 - 7/27/2018
<b>Term II</b>	
<b>Start Date</b>	8/13/2018
<b>End Date</b>	12/21/2018
<b>Final Exams</b>	12/17/2018 - 12/21/2018
<b>Term III</b>	
<b>Start Date</b>	12/31/2018
<b>End Date</b>	5/17/2019
<b>Final Exams</b>	5/13/2019 - 5/17/2019
<b>Graduation Rehearsal</b>	
	5/17/2019
<b>Graduation</b>	
	5/18/2019
<b>HOLIDAYS AND BREAKS</b>	
<b>Labor Day</b>	9/3/2018
<b>Fall Break</b>	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/22/2018 - 12/30/2018
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	N/A
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

## Course Descriptions

### MCHA500: Clinical Gross Anatomy (5)

This course builds the foundation required for students to learn basic descriptive, functional and clinical human anatomy through didactic lectures, small group learning activities and e-learning modules. Hands-on application of anatomical concepts and relationships will be gained through whole body dissection in small groups.

### MCHA501: Instructional Methods (1)

The course prepares students with theoretical foundations and practical techniques to plan, apply and design appropriate instructional methods while serving as a teaching assistant. It introduces a wide range of instructional methods and discusses techniques of writing good examination questions.

### MCHA502: Medical Imaging (2)

This course applies basic foundational anatomy principles to medical imaging including X-ray, MRI, CT and ultrasound. Students are expected to apply their cross-sectional knowledge to the interpretation and acquisition of medical images.

### MCHA503: Embryology (2)

This course consists of lectures devoted to the student's understanding of how the human body develops. Topics covered will include early embryogenesis, organogenesis and clinical embryology.

### MCHA510: Histology of Cells and Tissues (2)

The overall goal of this course is to provide students with an understanding of how cells become specialized to form tissues and how those tissues form organs. The course provides an essential foundation for understanding structure-function relationships in normal organs and how those relationships are affected by pathogenic mechanisms.

### MHPE505: Research in Medical & Health Professions Education (online) (3)

This course provides the knowledge necessary to understand the purpose and process of educational research and help learners become informed consumers of research literature in the field of medical and health professions education. It will survey the major types of educational research in this area including qualitative and quantitative forms of analysis to better answer questions which cannot be studied in laboratory settings, particularly in the social sciences and education. This course will also examine criteria for evaluating empirical studies to ensure academic rigor.

### MCHA504: Teaching Assistant (2)

This course allows students to serve as teaching assistants for medical, physician assistant or graduate courses in gross anatomy or histology. Responsibilities would include prosection of specimens, laboratory instruction, small group facilitation, course reviews and design of innovative study materials.

### BM531: General Mechanisms of Disease (6)

This course introduces students to the general principles of disease including microbial, inflammatory, carcinogenic and genetic mechanisms of disease. Course content will be presented in lectures, small group activities, laboratories and e-modules.

### MCHA516: Foundational Neuroanatomy (6)

This course presents an overview of the human nervous system so that a student can understand the function of its complex parts as they relate to each other, to normal brain function and to major neurologic and psychiatric problems. This is an integrated neuroscience course that includes molecular, developmental, anatomical, metabolic, physiologic and pathologic concepts. Learning methodologies include lectures, wet labs, special dissections, small group problem-based learning and peer-to-peer teaching.

### MCHA507: Capstone Project (3)

All students participate in a capstone experience through a synthesis and integration of knowledge gained through their coursework and other learning experiences, with the application of anatomical specimen preparation, medical

education, clinical trainers/phantoms, service learning or simulation. The project must be an original work of scholarship or research.

#### **MHPE500: Applied Learning Theories (online) (3)**

This course is an introduction to adult learning theory applied to medical and health professions education settings. Learners successfully completing this course will explore major contributors in behaviorism, cognitivism and constructivism to the field of adult learning to create an educational philosophy. Learners will create artifacts in an electronic portfolio to exemplify the application of seven areas of learning theory: assessment of prior knowledge, encoding and retrieval and knowledge, motivation form learning, mastery of learning, feedback and practice, course climate and self-directed learning.

#### **ANT104: Essential Physiology & Anatomy Primer (5)**

This course explains the underlying physiologic principles of the cardiovascular, respiratory, renal, hepatic and gastrointestinal and endocrine systems in the non-disease state through a series of lectures and small groups.

#### **BM524: Clinical Shadowing/Service Learning (1)**

Clinical Shadowing and Service Learning opportunities are arranged through the School of Medicine. Students are expected to participate in approximately 3 hours/week of shadowing and service learning experiences. Participation in these activities will be monitored by EVMS faculty advisors and academic counselors.

#### **MSA500: Medical Terminology (2)**

The medical terminology class is an intense, three-week course that employs a body systems-oriented, word-analysis approach to learning medical terminology. The goal of the class is to prepare students for the terminology they might encounter in their subsequent coursework, in their clinical rotations and ultimately in their roles as healthcare professionals.

#### **MHPE503: Assessment in Learning (online) (3)**

Assessment drives learning, whether through the effectiveness of instruction or the assessment of individual learners. This course will describe how effective assessment can be employed to improve instructional effectiveness for learners, faculties and institutions. A wide array of formative and summative assessment instruments and techniques will be explored and applied through practical application.

#### **BM522/BM523: MCAT Preparation (2)**

Students take an MCAT preparation course taught by the Princeton Review during the first year of the program. EVMS faculty advisors and academic counselors will monitor students' progress in the course. Approximately 60 hours of in-class preparation per semester. This course requires an additional fee.

#### **MCHA515: Skin, Muscle & Bone (4)**

This module is designed to provide students with fundamental principles and concepts regarding the normal function and key pathological states of the musculoskeletal system and skin. The successful student will develop a fundamental understanding of these systems from the molecular and cellular basis of normal and abnormal function, to systems integration, differential diagnosis and disease treatment.

#### **MSA509: Pathophysiology: Mechanisms for Disease (5)**

This course provides the structural framework for the understanding of cell injury, inflammation and wound healing. Specific pathophysiology of selected organ systems is studied throughout the course.

#### **MCHA509: Plastination Training in Guben, Germany (3)**

Students would travel to learn plastination techniques from world experts at the Plastinarium in Guben, Germany. In conjunction, students would prepare dissections for plastination. This course requires an additional fee.

#### **MHPE514: Simulation in Healthcare (online) (3)**

As the educational environment introduces and implements greater amounts of technology, faculties must be prepared to maximize these tools to promote effective learning. This course will explore the application of simulation and distance (distributed) learning as instructional and assessment tools of the modern educator.

### **Faculty**

Carrie Elzie, PhD, Associate Professor

Craig Goodmurphy, PhD, Professor

Paul Aravich, PhD, Professor

Lane Fortney, MS, Instructor

Gyorgy Lonart, PhD, Professor



# Healthcare Analytics, MS

## Admissions

The Healthcare Analytics program evaluates applicants using a holistic review process. All components of an application are reviewed prior to making an admission decision. Consideration will be given for appropriate work experience in a health-related field.

Effective August 29, 2018, the Master of Healthcare Analytics program will be participating in the Graduate Centralized Service (GradCAS)

Requirements for admission include:

- A bachelor's degree in science or related fields awarded by a regionally accredited institution.
- A qualifying grade point average (GPA) of 3.0 or better (on a 4-point scale), taken from the highest of the following three possible calculations:
  - ◆ Completed undergraduate GPA (foreign degrees considered on a case by case basis)
  - ◆ Completed U.S. graduate degree GPA
  - ◆ A replacement GPA computed from the most recent 30 semester credit hours of U.S. coursework. This is a one-time calculation based on the transcript and will not be re-calculated in spite of completing additional courses. Applicants without 30 semester credits completed in the U.S. will not qualify for a replacement GPA.
- Two letters of recommendation and evaluations from individuals who can reasonably assess the applicant's ability to successfully complete the program. The letters and evaluations should be completed electronically via GradCAS.
- Personal essay of approximately 300-500 words describing how this program will enhance the applicant's academic and/or professional career goals.
- Current resume/CV documenting professional experience and educational achievements.
- Official transcripts from all institutions attended sent electronically directly to GradCAS.
- GradCAS only accepts electronic transcripts from the following:
  - ◆ Credential Solutions
  - ◆ Parchment
  - ◆ National Student Clearinghouse

Sending transcripts by mail

- ◆ Download a transcript request form after you enter each institution in GradCAS.
- ◆ Send the transcript request form to the institution registrar to send transcript by mail to:

**GradCAS Transcript Processing Center**

**P.O. Box 9217**

**Watertown, MA 02471**

## Additional Requirements for International Applicants

- A bachelor's degree in science or related fields awarded by a regionally accredited institution.

- Test of English as a Foreign Language (TOEFL) 80 for the iBT (preferred), 213 for CBT or 550 for the PBT.
  - ◆ Scores must have been obtained within two years of the application date. This requirement will be waived for applicants who have completed an undergraduate or graduate degree from a regionally accredited institution in the United States.
- A transcript evaluation and translation, including a course-by-course evaluation and an overall GPA calculation:
  - ◆ World Education Services
  - ◆ Educational Credential Evaluators

## Technical Standards

The essential abilities and skills that candidates and students must possess in order to complete the education and training associated with this program are referred to as technical standards.

1. Software Skills Technical Standard
  - 1.1. Demonstrate advanced level of proficiency in MS Office products such as Word, Excel and PowerPoint. Previous academic or industrial experience in such areas as statistics or computer programming are helpful prerequisites for this program.
2. Observation Skills Technical Standard
  - 2.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, in clinical and educational settings and online. Indicators include, but are not limited to, accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.
3. Communication Skills Technical Standard
  - 3.1. Demonstrate effective communication skills with professionals of varying cultures, ethnicities and personalities.
  - 3.2. Indicators include, but are not limited to, these examples:
    - Clear, efficient and intelligible articulation of spoken English language.
    - Legible, efficient and intelligible written English language.
    - Accurate and efficient English language reading skills.
    - Accurate and efficient, expressive and receptive communication skills.
    - Ability to accurately follow directions (oral and written).
4. Critical Reasoning Skills Technical Standard
  - 4.1. Demonstrate critical reasoning skills, including but not limited to intellectual, conceptual, integrative and quantitative abilities. Indicators include, but are not limited to, these examples:
    - Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize



information.

- Demonstrate ability to acquire, retain and apply new and learned information.

5. Motor and Sensory Function Technical Standard

5.1. Demonstrate sufficient motor and sensory function.

5.2. Indicators include, but are not limited to, these examples:

- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, online).
- Physical stamina sufficient to complete online didactic study, which will include prolonged periods of sitting.

6. Behavioral and Social Attributes Technical Standard

6.1. Demonstrate the behavioral and social attributes vital to participation in a graduate-level academic program.

6.2. Indicators include, but are not limited to, these examples:

- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
- Ability to develop mature and effective professional relationships with faculty and other members of the educational and healthcare team.
- Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty in teaching and learning environments.
- Compliance with standards, policies and practices set forth in the program handbook.

**Semester 2**

- MHA 503 | Leveraging Data for Evidence-Based Decision Making (3 credits)
- MHA 504 | Predictive Data Analytics (3 credits)
- MHA 505 | Healthcare Delivery Systems (3 credits)

**Semester 3**

- MHA 506 | Data Mining and Machine Learning (3 credits)

**Elective (3 credits)**

Students will choose one of the following courses depending on their individual career goals:

- MHA 507 | Strategic Communication
- MHA 508 | Management of Organizational Change
- MHA 509 | Leadership and Professionalism
- MHA 510 | Population Health and Preventive Care

**Semester 4**

- MHA 511 | Practicum Project (6 credits)

**Total: 30 credit hours**

## Curriculum

The MHA curriculum addresses the growing demand of data analysts with the knowledge and skills to integrate, analyze and translate the results of health data. Students will have unique opportunities to study and practice analytic methods applied particularly to health data, with basic and advanced skills in data mining, statistics and database processing.

## Course Sequence

### Semester 1

- MHA 500 | Introduction to Healthcare Analytics (3 credits)
- MHA 501 | Programming Tools and Techniques in Data Management (3 credits)
- MHA 502 | Research Methods (3 credits)

## Tuition and Fees

Tuition and fees for the Healthcare Analytics program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state and out-of-state: \$919 per credit hour

### Mandatory Fees

- Program Total: \$93

Employees of EVMS and Sentara receive a 5% tuition discount.

## Projected Cost of Attendance

		Healthcare Analytics, MS   Year 1	Healthcare Analytics, MS   Year 2
<b>Budget length</b>		12 mos.	4 mos.
<b>Tuition*</b>	<b>In-state (\$919/credit)</b>	\$22,056	\$5,514
	<b>Out-of-state (\$919/credit)</b>	\$22,056	\$5,514
<b>Fees*</b>	<b>Mandatory</b>	\$75	\$83
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$22,131	\$5,597
	<b>Out-of-state</b>	\$22,131	\$5,597
<b>Other allowances</b>	<b>Books and equipment</b>	\$600	\$0
	<b>Room, board and miscellaneous living expenses</b>	\$13,825	\$4,608
	<b>Personal expenses</b>	\$960	\$320
	<b>Transportation</b>	\$1,595	\$532
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$39,111	\$11,057
	<b>Out-of-state</b>	\$39,111	\$11,057
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$118
	<b>Grad PLUS – 4.264% in-state</b>	\$794	\$0
	<b>Grad PLUS – 4.264% out-of-state</b>	\$794	\$0
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$40,124	\$11,175
	<b>Out-of-state</b>	\$40,124	\$11,175

Funds are released in equal disbursements on the eighth day after the beginning of each term, subject to continued satisfactory academic progress.

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are subject to change for loans first disbursed on or after October 1.

## Academic Calendar 2018-2019

Class of 2020

Orientation	
Term I	
Start Date	8/25/2018
End Date	12/14/2018
Final Exams	12/8/2018 - 12/14/2018
Term II	
Start Date	1/12/2019
End Date	5/8/2019
Final Exams	5/1/2019 - 5/8/2019
Term III	
Start Date	5/20/2019
End Date	8/10/2019
Final Exams	
Graduation Rehearsal	5/15/2020
Graduation	5/16/2020
HOLIDAYS AND BREAKS	
Labor Day	9/3/2018
Fall Break	10/6/2018 - 10/9/2018
Thanksgiving Break	11/22/2018 - 11/23/2018
Winter Break	12/15/2018 - 1/11/2019
Martin Luther King, Jr. Day	1/21/2019
Spring Break	3/11/2019 - 3/16/2019
Memorial Day	5/27/2019
Fourth of July	7/4/2019

## Course Descriptions

### MHA500: Introduction to Healthcare Analytics (3)

The course introduces basic concepts in healthcare analytics. Students will develop data analysis skills with an emphasis on statistical reasoning. The course is designed to teach students how to use data to make informed decisions. This process includes reviewing the data, exploring all the underlying assumptions, summarizing and analyzing the data and finally translating the results. Discussions and assignments will focus on honing data interpretation and the ability to strategically apply analysis results to improve health outcomes.

### MHA501: Programming Tools and Techniques in Data Management (3)

This course is designed to train students in basic and advanced statistical programming languages (such as SAS or R) together with techniques and tools necessary for data management and data mining. Students will develop skills in the data management process for analytics including data acquisition, cleansing and debugging. Students will be able to relate and aggregate these data in analytic databases, data marts and

data warehouses, and will be able to explore different analytical decision tools through case studies and projects.

### MHA502: Research Methods (3)

This course introduces research methods in a healthcare setting. Students will be able to learn about development of research questionnaire and design, methodology, data collection and sampling techniques, sample size and power analysis, research ethics and validation and effective dissemination of research. Students will be able to explore and evaluate different types of research procedures and outcomes in the healthcare sector.

### MHA503: Leveraging Data for Evidence-Based Decision Making (3)

The utilization of data in decision-making is essential in healthcare delivery. Data can be used to evaluate the quality of care delivery, program effectiveness, health economics and more. This course provides an introduction to the use of data and how to transform analysis results into evidence driven decisions. Students will also learn how to apply and integrate these concepts into health-related scenarios and gain fundamental skills in data-driven decision-making for healthcare leaders.

### MHA504: Predictive Data Analytics (3)

This course focuses on statistical inference and hypothesis testing methods in predictive analytics. Students will learn the application of statistical methods for analyzing both continuous and discrete data for knowledge discovery. Analytic continuous and discrete data concepts and methods are developed with practical skills in exploratory data analysis. Descriptive statistics, goodness-of-fit tests, correlation measures, single and multiple linear regression, analysis of variance and covariance (ANOVA and ANCOVA), contingency tables, logistic regression, multinomial and multivariate models will be covered. Application of various statistical methods using case studies and real-world data will leverage statistical assessment and interpretation.

### MHA505: Healthcare Delivery Systems (3)

This course focuses on the identification and analysis of factors and interrelationships which influence the operation of health services organizations, with specific attention to local health departments, hospitals, multi-institutional systems, integrated health systems and strategic alliances. These organizations will be viewed and discussed comparatively with other types of health service agencies.

### MHA506: Data Mining and Machine Learning (3)

This course covers healthcare analytics using data mining and machine learning techniques. Statistical software, such as SAS or R, will be implemented for data exploration and visualization, classification, clustering and time series analysis. Decision trees, nearest neighbor algorithm, Bayesian analysis, neural network, genetic algorithm and support vector machine methods will be introduced to the students. Case studies and real-world data will leverage students' data mining and

machine learning outcomes.

### **MHA507: Strategic Communication (3)**

Communication skills have never been more important than in the 21st century where professionals must balance verbal and written interactions. Strategic communication must align the message, the medium and the audience to help organizations achieve their goals. This course will explore those concepts and help students improve their communication skills, including topics such as professional writing, developing effective PowerPoint presentations, the importance of active listening and the evolving use of social media.

### **MHA508: Management of Organizational Change (3)**

A study of organizational management theory and organizational models in a variety of settings as related to culture, mission, performance and change management with an emphasis on the application of management theory and research. This course provides an opportunity to explore conceptual frameworks addressing organizational development, leadership, decision making and the stages of change management.

### **MHA509: Leadership and Professionalism (3)**

This course will expose learners to effective leadership approaches and skill sets. Topics will include fundamentals of leadership, leadership and professionalism self-assessment, leadership philosophy, professionalism, essential leadership and professional skills, modeling best leadership practices and behaviors, ethics in leadership, institutional and program accreditation, handling conflict and emerging issues. Learners will apply this learning to their professional life through a series of practical exercises.

### **MHA510: Population Health and Preventive Care (3)**

This course discusses the determinants of health, health behavior change, measuring health status and influences on health status including health disparities and socioeconomic status. This includes discussion on how healthcare organizations utilize this information to improve health status among populations. Additionally, students will be able to identify and understand population-based approaches aimed at health improvement.

### **MHA511: Practicum Project (6)**

The practicum is designed to demonstrate the student's accumulated learning experience through an approved healthcare analytics project. The goal of the practicum is to provide students with the opportunity to apply academic theory and acquired technical skills to community-based healthcare research and service in a practice setting. The completed product should bring together the student's technical competency, communication skills and research capabilities. The practicum project will be guided by the faculty.

## **Faculty**

### **PROGRAM DIRECTOR**

Tina D. Cunningham, PhD, Associate Professor

### **FACULTY**

C. Donald Combs, PhD, Vice President & Dean, School Health Professions

Rajan Lamichhane, Assistant Professor

Brian C. Martin, PhD, MBA, Associate Dean, Administration



# Healthcare Delivery Science, MS

## Admissions

- A bachelor's degree awarded by a regionally accredited institution in the field of healthcare, education, management, or related disciplines.
- Qualifying grade point average (GPA) of 3.0 or better (on a 4-point scale), taken from the highest of the following three possible calculations:
  - ◆ Completed Undergraduate GPA (foreign degrees considered on a case by case basis)
  - ◆ Completed U.S. graduate degree GPA
  - ◆ A Replacement GPA computed from the most recent 30 semester credit hours of U.S. coursework. This is a one-time calculation based on the transcript and will not be re-calculated in spite of completing additional courses. Applicants without 30 semester credits completed in the U.S. will not qualify for a replacement GPA.
- Two letters of recommendation and evaluations from individuals who can reasonably assess the applicant's ability to successfully complete the program. Make sure your recommenders submit this form through the GradCAS Evaluator portal
- Personal essay of approximately 300-500 words describing how the Healthcare Delivery Science Masters program will enhance the applicant's academic and/or professional career goals.
- Current resume/CV documenting professional experience and educational achievements.
- Applicants must report all institutions attended and send all official transcripts to GradCAS. If you do not list or send official transcripts for all institutions attended, processing of your application may be delayed.
- Sending Transcripts Electronically (Click here for additional information)
  - ◆ GradCAS accepts electronic transcripts from:
    - Credential Solutions
    - Parchment
    - National Student Clearinghouse
- Sending transcripts to GradCAS by mail
  - ◆ Download a transcript request form after you enter each institution in GradCAS
  - ◆ Send the transcript request form to the institution registrar to send transcript by mail to the address below:  
**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

## Additional Requirements for International Applicants

English Proficiency Exams -- Competitive applicants should achieve or surpass the following scores for the Test of English as a Foreign Language (TOEFL):

- 80 for the iBT (preferred),
- 213 for CBT or

- 550 for the PBT.

Scores must have been obtained within two years of the application date. This requirement will be waived for applicants who have completed an undergraduate or graduate degree from a regionally accredited institution in the United States.

In addition to official transcripts, applicants must provide both a transcript evaluation and translation, including a course-by-course evaluation and an overall GPA calculation:

- World Education Services
- Educational Credential Evaluators

Sending International Transcripts to GradCAS:

GradCAS will ONLY accept the evaluation report from the credentialing agency. DO NOT SEND your foreign transcript to GradCAS.

All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:

**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

**GRE School Code: 5729 TOEFL School Code: B886**

## Applicant Help Center

- Having trouble accessing the application? The preferred browsers are Google Chrome or Firefox
- Applicant Help Center
- If you have questions about your application status, please contact your GradCAS Customer Service Representative at (857) 304-2086 or GradCASinfo@liaisonedu.com

## Technical Standards

The essential abilities and skills that candidates and students must possess in order to complete the education and training associated with this program are referred to as technical standards.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, in clinical and educational settings and online. Indicators include but are not limited to accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.
2. Communication Skills Technical Standard
  - 2.1. Demonstrate effective communication skills with professionals of varying cultures, ethnicities and personalities.
  - 2.2. Indicators include, but are not limited to, these examples:
    - Clear, efficient and intelligible articulation of spoken English language.
    - Legible, efficient, and intelligible written English language.



- Accurate and efficient English language reading skills.
  - Accurate and efficient, expressive and receptive communication skills.
  - Ability to accurately follow directions (oral and written).
3. Critical Reasoning Skills Technical Standard
    - 3.1. Demonstrate critical reasoning skills, including but not limited to intellectual, conceptual, integrative and quantitative abilities.
    - 3.2. Indicators include but are not limited to these examples:
      - Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
      - Demonstrate ability to acquire, retain and apply new and learned information.
  4. Motor and Sensory Function Technical Standard
    - 4.1. Demonstrate sufficient motor and sensory function.
    - 4.2. Indicators include, but are not limited to, these examples:
      - Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, online).
      - Physical stamina sufficient to complete online didactic study, which will include prolonged periods of sitting.
  5. Behavioral and Social Attributes Technical Standard
    - 5.1. Demonstrate the behavioral and social attributes vital to participation in a graduate-level academic program.
    - 5.2. Indicators include, but are not limited to, these examples:
      - Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
      - Ability to develop mature and effective professional relationships with faculty and other members of the educational and healthcare team.
      - Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence and confidentiality).
      - Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
      - Ability to monitor and react appropriately to one's own emotional needs and responses.
      - Display appropriate flexibility and adaptability in the face of stress or uncertainty in teaching and learning environments.
      - Compliance with standards, policies and practices set forth in the program handbook.

## Curriculum

The MHDS curriculum is designed to provide students with knowledge in healthcare delivery science and fundamental skills to contribute to the development of high-quality, patient-centered, safe and accessible healthcare. Students will be trained with the competencies required to participate in healthcare quality improvement and will be exposed to a variety of disciplines and tools.

## Course Sequence

### Semester 1

- MHDS 500 | Strategic Communication (3 credits)
- MHDS 501 | Management of Organizational Change (3 credits)

### Semester 2

- MHDS 502 | Healthcare Delivery Systems (3 credits)
- MHDS 503 | Effective Information Technology for Healthcare Organizations (3 credits)

### Semester 3

- MHDS 602 | Population Health and Preventive Care (3 credits)
- MHDS 505 | Leadership and Professionalism (3 credits)

### Semester 4

- MHDS 600 | Essentials of Financial Management (3 credits)
- MHDS 504 | Introduction to Healthcare Analytics (3 credits)

### Semester 5

- MHDS 601 | Leveraging Data for Evidence-Based Decision Making (3 credits)
- MHDS 603 | Leading Innovation (3 credits)

**Total: 30 credit hours**

## Tuition and Fees

Tuition and fees for the Healthcare Delivery Science program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state and out-of-state: \$919 per credit hour

### Mandatory Fees

- Year 1: \$93
- Year 2: \$83

Employees of EVMS and Sentara receive a 5% tuition discount.

### Projected Cost of Attendance

		Healthcare Delivery Science, MS	Healthcare Delivery Science, MS
<b>Budget length</b>		12 mos.	9 mos.
<b>Tuition*</b>	<b>In-state (\$919/credit)</b>	\$16,542	\$11,028
	<b>Out-of-state (\$919/credit)</b>	\$16,542	\$11,028
<b>Fees*</b>	<b>Mandatory</b>	\$93	\$83
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$16,635	\$11,111
	<b>Out-of-state</b>	\$16,635	\$11,111
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,850	\$650
	<b>Room, board and miscellaneous living expenses</b>	\$13,825	\$10,369
	<b>Personal expenses</b>	\$960	\$720
	<b>Transportation</b>	\$1,595	\$1,196
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$34,865	\$24,046
	<b>Out-of-state</b>	\$34,865	\$24,046
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$613	\$151
	<b>Grad PLUS – 4.264% out-of-state</b>	\$613	\$151
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$35,697	\$24,416
	<b>Out-of-state</b>	\$35,697	\$24,416

First-year students will enroll in 18 credit hours over 3 terms. Second-year students will enroll in 12 credit hours over 2 terms. Funds are released in equal disbursements on the eighth day after the beginning of each term, subject to continued satisfactory academic progress.

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are subject to change for loans first disbursed on or after October 1.

## Academic Calendar 2018-2019

	Sem 4 and 5 Class of 2019	Sem 1 - 3 Class of 2020
<b>Orientation</b>	N/A	
<b>Term I</b>		
<b>Start Date</b>	8/25/2018	8/25/2018
<b>End Date</b>	12/15/2018	12/15/2018
<b>Final Exams</b>	12/8/2018 - 12/14/2018	12/8/2018 - 12/14/2018
<b>Term II</b>		
<b>Start Date</b>	1/12/2019	1/12/2019
<b>End Date</b>	5/8/2019	5/8/2019
<b>Final Exams</b>	5/1/2019 - 5/8/2019	5/1/2019 - 5/8/2019
<b>Term III</b>		
<b>Start Date</b>	N/A	5/20/2019
<b>End Date</b>	N/A	8/9/2019
<b>Final Exams</b>	N/A	
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	10/6/2018 - 10/9/2018	10/6/2018 - 10/9/2018
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/15/2018 - 1/11/2019	12/15/2018 - 1/11/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/16/2019	3/11/2019 - 3/16/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### MHDS500: Strategic Communication (3)

Communication skills have never been more important than in the 21st century where professionals must balance verbal and written interactions. Strategic communication must align the message, the medium and the audience to help organizations achieve their goals. This course will explore those concepts and help students improve their communication skills, including topics such as professional writing, developing effective PowerPoint presentations, importance of active listening and evolving use of social media.

### MHDS501: Management of Organizational Change (3)

This course is a study of organizational management theory and organizational models in a variety of settings as related to culture, mission, performance and change management with an emphasis on the application of management theory and research. This course provides an opportunity to explore conceptual frameworks addressing organizational

development, leadership, decision making and the stages of change management.

### MHDS502: Healthcare Delivery Systems (3)

This course focuses on the identification and analysis of factors and interrelationships which influence the operation of health services organizations with specific attention to local health departments, hospitals, multi-institutional systems, integrated health systems and strategic alliances. These organizations will be viewed and discussed comparatively with other types of health service agencies.

### MHDS503: Effective Information Technology for Healthcare Organizations (3)

This course provides the key concepts related to information technology within healthcare organizations. Students will learn how information technology is used as a tool to improve performance within healthcare organizations for positive health outcomes. Topic areas include the electronic health record, HIPAA and security requirements, ethics and legal rules for retrieving and managing clinical data, computerized provider order entry and the use of administrative and registry data for standard reports, scorecards and dashboards.

### MHDS602: Population Health and Preventive Care (3)

This course discusses the determinants of health, health behavior change, measuring health status and influences on health status including health disparities and socioeconomic status. This includes discussion on how healthcare organizations utilize this information to improve health status among populations. Additionally, students will be able to identify and understand population-based approaches aimed at health improvement.

### MHDS505: Leadership and Professionalism (3)

This course exposes learners to effective leadership approaches and skill sets. Topics will include fundamentals of leadership, leadership and professionalism self-assessment, leadership philosophy, professionalism, essential leadership and professionalism skills, modeling best leadership practices and behaviors, ethics in leadership, institutional and program accreditation, handling conflict and emerging issues. Learners will apply this learning to their professional life through a series of practical exercises.

### MHDS600: Essentials of Financial Management (3)

This course covers financial management in healthcare organizations including, but not limited to, financial decision-making using accounting information, operation of business units, principles of economics and capital budgeting processes along with budgetary and financial controls. Financial performance will be analyzed along with revenue determination and profitability. General accounting foundations and terminology will be covered. Students will analyze "real-life" cases to apply cost allocation, marginal cost pricing, breakeven, budget variance, capital investment and financial analysis skills. Students will also identify and explore a healthcare finance-related topic and prepare a research paper.

### **MHDS504: Introduction to Healthcare Analytics (3)**

The course introduces basic concepts in healthcare analytics. Students will develop data analysis skills with an emphasis on statistical reasoning. The course is designed to teach students how to use data to make informed decisions. This process includes reviewing the data, exploring all the underlying assumptions, summarizing and analyzing the data and finally translating the results. Discussions and assignments will focus on honing data interpretation and the ability to strategically apply analysis results to improve health outcomes.

### **MHDS601: Leveraging Data for Evidence-Based Decision Making (3)**

The utilization of data in decision-making is essential in healthcare delivery. Data can be used to evaluate the quality of care delivery, program effectiveness, health economics and more. This course provides an introduction to the use of data and how to transform analysis results into evidence driven decisions. Students will also learn how to apply and integrate these concepts into health-related scenarios and gain fundamental skills in data-driven decision-making for healthcare leaders.

### **MHDS603: Leading Innovation (3)**

Increasingly complex environments require a commitment to develop innovative solutions to address changing systems and evolving needs. This course will examine concepts and case studies of innovation in a variety of organizations, along with the tools and strategies necessary to promote effective change through discovery and networking. Students will apply information learned throughout the program to develop an innovative proposal for their place of employment or for an organization they aspire to work for.

## **Faculty**

### **Program Director**

Tina D. Cunningham, PhD, Associate Professor

### **Faculty**

C. Donald Combs, PhD, Vice President & Dean, School Health Professions

Brian C. Martin, PhD, MBA, Associate Dean, Administration

Rajan Lamichhane, Assistant Professor

Vincent A. Rhodes, PhD, APR, Assistant Vice President of Marketing and Communications

Maureen Boshier, LPD, MBA, MS, FACHE, Adjunct Associate Professor



# Laboratory Animal Science, MS

## Admissions

The program is designed to provide basic training in laboratory animal science, animal resource management and study design to highly motivated veterinary students, veterinary technicians and research associates in educational or pharmaceutical research facilities.

The following elements are requirements to be considered for admission into the program:

For all applicants

- Bachelor's or graduate degree with a qualifying GPA of 2.5 or higher from a regionally and nationally accredited U.S. college or university or an international equivalent.
  - ◆ The program may grant exceptions on a case-by-case basis.
  - ◆ Please be advised that all students in the EVMS School of Health Professions are expected to attain a term Grade Point Average of at least 3.0 to be considered in good academic standing and a cumulative GPA of at least 3.0 to graduate.
- Successful completion of two semesters each of college-level Biology and Chemistry and one semester of Mathematics.
  - ◆ No more than one (1) prerequisite course will be accepted without a traditional letter grade (e.g. Pass, Advanced Placement, International Baccalaureate, etc.).
  - ◆ The courses without a traditional letter grade can only be accepted for intro level prerequisite courses of Biology I, Chemistry I or Mathematics I.
  - ◆ Replacement courses may be accepted for missing prerequisite courses, only with Program Director's approval. Replacement course syllabus should be submitted by applicant for consideration.
- Minimum of three (3) months or 500 hours of hands-on experience, as described below is required prior to the start of the first semester.
  - ◆ Applicants who desire a future as a Laboratory Animal technologist are strongly encouraged to continue a full-time experience/employment during the two (2) years of the program to be eligible for LAT and LATG certification through American Association of Laboratory Animal Science (AALAS).
- Two letters of Recommendation, one of which must verify the minimum hands-on animal experience requirement.
- Personal statement outlining the applicant's academic and professional goals.
- Computer and computer services with various specifications.

## Instructions for International Applicants

In addition to meeting the admissions requirements above, international applicants are required to meet the following:

## Foreign Transcripts

- Request a course by course evaluation of all foreign transcripts showing GPA calculation on a four point scale.
- Eastern Virginia Medical School does not endorse any particular evaluating and/or credentialing service. You can use the following agencies:
  - ◆ World Education Services
  - ◆ Educational Credential Evaluators

## Translation

If the academic institution that you attended does not issue documents in English, the credentialing agency will require that you submit a word-for-word translation of your transcripts. You can contact University Language Services to submit your transcript for translation and instruct them to send the translated transcript to the credentialing agency you choose.

## Transcript Evaluation

International students whose native language is not English may contact one of the following credentialing agencies to submit transcripts for official evaluation: WES or ECE. Instruct the credentialing agency to send the official evaluation (and translation) directly to GradCAS. You must provide both a course-by-course evaluation report along with an overall GPA calculation. Evaluations are mandatory even for transcripts from institutions that report grades in English. This provides EVMS with a U.S. credit equivalency and allows the transcripts to be reviewed accurately. WES and ECE are preferred credentialing services. If you wish to select a company other than these, please contact the program first.

## TOEFL

International applicants whose native language is not English must take the TOEFL exam and receive a score as follows: Paper-based test: 550; Computer-based test: 213; iBT exam: 80. Please go to the ETS website to take the TOEFL exam, and request your TOEFL scores be sent directly to GradCAS. ETS reports scores for two years after the test date. If you have previously taken the TOEFL but the two-year period has expired, the program will accept a personal copy if available.

## Note

If the candidate has received a BS or graduate degree from a college or university in a country where English is the primary language (like the U.S., Canada and UK), applicants could request for the TOEFL requirement to be waived by the Program Director or the Admission Committee.

## GradCAS

GradCAS will ONLY accept the evaluation report from the credentialing agency. Do not send your foreign transcript to GradCAS.

All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:



GRE School Code: 5729 TOEFL School Code is B886

### Application submission

Application materials may be submitted beginning Nov. 1 for admission to the next matriculating class. Applications should be submitted by March 1 for early admission consideration. Applications submitted after March 1 will be considered until all positions are filled. Students who plan to seek Financial Aid are advised to submit their applications as early as possible. Upon acceptance into the program, a \$300 nonrefundable matriculation fee (which will be credited toward the first semester's tuition) is required to secure class placement.

### Prerequisite Experience

Applicants are encouraged to include all animal-related experience they have. Experience and skills related to the maintenance of the health and well-being of animals in research or laboratory animal facility settings will be considered as hour-for-hour against experience requirement. Such experience includes procurement, care, use, handling, treatment, surgical or necropsy activities, cage wash operations, clinical pathology, quality assurance and IACUC functions that relate to laboratory animal science or the direct supervision or training of personnel engaged in these activities, and experience gained as part of an externship, internship, preceptorship or fellowship in a laboratory animal facility.

Experience and skills in a laboratory animal facility that do not affect the health and well-being of laboratory animals — such as office/administration, selling laboratory animals equipment — or in a non-laboratory animal facility — such as veterinary clinics, zoos, pet stores or other similar businesses — will be considered based on a 3-to-1 ratio. Therefore, nine (9) months of such experience will be considered as equal to three (3) months of hands-on experience.

### Transfer credits

Transfer of credit may be allowed for coursework taken at a regionally accredited institution of higher learning, such as an accredited member of the Southern Association of Colleges and Schools, for courses in which a grade of B (3.0) or higher was received and for a maximum of 9 transfer credits. Course grades obtained from another institution will not be counted in the GPA. All applicants seeking to transfer credit(s) should contact the program for special application or credential requirements. Decisions regarding applicability of transfer courses/credits will be made by the program director in consultation with faculty as deemed appropriate.

### Technical Standards

The abilities and skills that candidates and students must possess in order to complete the education and training associated with the master's of Laboratory Animal Science Program are referred to as "Technical Standards." These abilities and skills are essential for professionals in animal care facilities

and preclinical biomedical research settings which utilize animal models.

#### 1. Observation Skills Technical Standard

1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, laboratory and/or online settings. Indicators include but are not limited to accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.

#### 2. Communication Skills Technical Standard

2.1. Demonstrate effective communication skills with biomedical research or animal care professionals and with people of varying cultures, ethnicities and personalities.

2.2. Indicators include, but are not limited to, these examples:

- Clear, efficient and intelligible articulation of spoken English language.
- Legible, efficient and intelligible written English language.
- Accurate and efficient English language reading skills.
- Accurate and efficient, expressive and receptive communication skills.
- Ability to accurately follow directions (oral and written).

#### 3. Critical Reasoning Skills Technical Standard

3.1. Demonstrate critical reasoning skills, including but not limited to intellectual, conceptual, integrative and quantitative abilities.

3.2. Indicators include but are not limited to these examples:

- Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
- Demonstrate ability to acquire, retain and apply new and learned information.

#### 4. Motor and Sensory Function Technical Standard

4.1. Demonstrate sufficient motor and sensory function to perform typical animal care or laboratory duties.

4.2. Indicators include but are not limited to these examples:

- Functional and sufficient sensory capacity (visual, auditory and tactile) to use laboratory equipment and perform procedures.
- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, online and laboratories).
- Physical stamina sufficient to complete the online didactic and some laboratory study, which will include prolonged periods of sitting.

#### 5. Behavioral and Social Attributes Technical Standard

5.1. Demonstrate the behavioral and social attributes

vital to participation in a professional program and service as a practicing animal care and laboratory professional.

5.2. Indicators include but are not limited to these examples:

- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
- Ability to develop mature and effective professional relationships with faculty, animal user researchers, the public and other members of the animal care or use team.
- Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with clinical encounters and clinical environments.
- Compliance with standards, policies and practices set forth in the program handbook.

- MLAS 512 Graduate Seminar
- MLAS 515 Laboratory Animal Behavior and Behavioral Management
- MLAS 516 Cryopreservation

## Curriculum

The online Master of Laboratory Animal Science program is designed for individuals who may be currently working within the field of laboratory animal science, those seeking career advancement or those looking for opportunities in research laboratories but who do not want to relocate to attend a traditional master's program.

The program has a total of 31 credits in 5 semesters over 2 years.

## Course Sequence

### Semester One

- MLAS 513 Comparative Anatomy & Physiology
- MLAS 514 Applied Biostatistics & Research Design

### Semester Two

- MLAS 504 Diseases of Lab Animals I
- MLAS 502 Laboratory Animal Husbandry, Care & Ethics
- MLAS 503 Journal Club

### Semester Three

- MLAS 506 Anesthesia & Surgery
- MLAS 508 Internship

### Semester Four

- MLAS 511 Facility Management
- MLAS 505 Diseases of Lab Animals II

### Semester Five

- MLAS 509 Biotechnology & Diagnostic Techniques

## Tuition and Fees

EVMS' Laboratory Animal Science tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state: \$1,085 per credit hour
- Out-of-state: \$1,271 per credit hour

### Mandatory Fees

- Year 1: \$93
- Year 2: \$83

## Projected Cost of Attendance

		Laboratory Animal Science   Year 1	Laboratory Animal Science   Year 2
<b>Budget length</b>		12 mos.	9 mos.
<b>Tuition*</b>	<b>In-state (\$1,085/credit)</b>	\$19,530	\$14,105
	<b>Out-of-state (\$1,271/credit)</b>	\$22,878	\$16,523
<b>Fees*</b>	<b>Mandatory</b>	\$93	\$83
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$19,623	\$14,188
	<b>Out-of-state</b>	\$22,971	\$16,606
<b>Other allowances</b>	<b>Books and article packet</b>	\$1,800	\$100
	<b>Room, board and miscellaneous living expenses</b>	\$13,825	\$10,369
	<b>Personal expenses</b>	\$960	\$720
	<b>Transportation</b>	\$1,595	\$1,196
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$37,803	\$26,573
	<b>Out-of-state</b>	\$41,151	\$28,991
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% IS</b>	\$738	\$259
	<b>Grad PLUS – 4.264% OS</b>	\$880	\$362
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$38,760	\$27,051
	<b>Out-of-state</b>	\$42,250	\$29,572

For distance or hybrid programs, your aid will be released on the eighth day of the term (or the next business day). All aid is released initially in as close to equal amounts as possible over the academic year to your student tuition account, subject to satisfactory academic progress.

First-year students will enroll in 18 credit hours over 3 terms. Second-year students will enroll in 13 credit hours over 2 terms.

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are subject to change for loans first disbursed on or after October 1.

## Academic Calendar 2018-2019

	Class of 2019	Class of 2020
<b>Orientation</b>	N/A	"8/1/2017 - 8/10/2017"
<b>Term I</b>		
<b>Start Date</b>	8/13/2018	8/13/2018
<b>End Date</b>	12/9/2018	12/9/2018
<b>Final Exams</b>	"12/3/2018 - 12/9/2018"	"12/3/2018 - 12/9/2018"
<b>Term II</b>		
<b>Start Date</b>	1/2/2019	1/2/2019
<b>End Date</b>	4/28/2019	4/28/2019
<b>Final Exams</b>	"4/29/2019 -5/5/2019"	"4/29/2019 -5/5/2019"
<b>Term III</b>		
<b>Start Date</b>	N/A	5/13/2019
<b>End Date</b>	N/A	7/28/2019
<b>Final Exams</b>	N/A	"7/22/2019 -7/28/2019"
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	N/A	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	"12/10/2018 -1/1/2019"	"12/10/2018 -1/1/2019"
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	"3/11/2019 -3/15/2019"	"3/11/2019 -3/15/2019"
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### MLAS513: Comparative Anatomy & Physiology (4)

This course will cover anatomy and physiology of laboratory animals including study of body systems such as skeletal, muscular, circulatory, digestive, nervous, respiratory, reproductive and special sense organs and principles of diseases.

### MLAS514: Applied Biostatistics & Research Design (3)

This course will cover the fundamentals of research design, including the use of literature search, the formulation of testable hypotheses, selection of the appropriate methodology and statistics to evaluate these hypotheses and the generation and interpretation of experimental outcomes. Students will learn to critique published studies, as well as to create and evaluate their own studies and protocols.

### MLAS502: Laboratory Animal Husbandry, Care, & Ethics (3)

This course will discuss husbandry practices, proper nutrition and enrichment requirements for different species; environmental parameters, such as proper housing, temperatures, humidity and lighting. Humane handling, restraint and overall well-being of laboratory animals will also be covered.

### MLAS503: Journal Club (1)

This course will review the selected publications in related fields such as animal models in research, new technologies, etc.

### MLAS504: Diseases of Laboratory Animals I (3)

These courses will cover the biology, husbandry, diseases, pathology, treatments and main research uses of main laboratory animal species.

### MLAS505: Diseases of Laboratory Animals II (3)

These courses will cover the biology, husbandry, diseases, pathology, treatments and main research uses of main laboratory animal species.

### MLAS506: Anesthesia & Surgery (2)

This course will review techniques and procedures used in surgery and anesthesia, including instruments and equipment preparation and identification, handling of instruments and supplies during surgery, anesthesia induction and monitoring, post-surgical care, clean up and surgical record keeping.

### MLAS508: Internship (2)

During this course, students will have hands-on experience on various aspects and techniques and on multiple laboratory animal species. This course is for one week (40 hours) on the EVMS campus in Norfolk, VA.

### MLAS511: Facility Management (3)

This course provides both technical and Non-technical skills necessary for the successful laboratory animal facility managers such as; understanding of facility equipment, personnel management and scheduling, supply procurement, space allocation, animal production management, communication with researchers and senior management, conflict resolution, hiring and firing, critical thinking, problem solving, negotiation, finance/budgeting and vendor management skills.

### MLAS509: Biotechnology & Diagnostic Techniques (3)

This course will cover various topics such as molecular analysis and detection systems including ELISA, PCR and real time PCR, basics of cell culture, laboratory blood, urine processing and basics of imaging techniques such as ultrasound, etc.

### MLAS512: Graduate Seminar (2)

During this course students will be assigned to one topic of interest which will be presented to the whole group. Students will review the recent publications in their assigned topic and with recommendation and suggestions of their selected expert mentors, will prepare and present their presentation.

### **MLAS515: Laboratory Animal Behavior and Behavioral Management (1)**

This course will provide students with behavioral biology of species commonly used in laboratories. The course will also cover behavioral management, including enrichment and positive reinforcement training and will introduce students to some behavioral tests utilized to model human behavior.

### **MLAS516: Cryopreservation (1)**

Cell freezing is now a well-established laboratory activity in both clinical and research facilities. This course is designed to teach technically complex process of cryopreservation by explaining the procedure of cryopreservation (freezing) of cells.

### **Faculty**

Marta Agata Ambrozewicz , MD, PhD, Assistant Professor

Richard A. Britten, PhD, Professor

Kristine D. Coleman, Instructor

Dianne C. Daniel, PhD, Associate Professor

Stephen I. Deutsch, MD, PhD, CAPT (ret.), Medical Corps, United States Navy, Chairman

Diane M. Duffy, PhD Vice Chair (Research), Professor

Eva Forgacs-Lonart, PhD, Associate Professor

Alireza Hosseini, Associate Professor

Neel K. Krishna, PhD, Professor

Frank A. Lattanzio, PhD, Professor

Gyorgy Lonart, PhD, Professor

Patric Sven J. Lundberg, PhD, Associate Professor

Jacob Mayer, PhD, Professor

Julius O. Nyalwidhe, PhD, Associate Professor

Karen Owen , CSA, Instructor

Edgardo R. Rivera-Colon, Instructor

Helena Russell, MS, Assistant Professor

Larry D. Sanford, PhD, Professor

Julia A. Sharp, PhD, Assistant Professor

Mark T. Sharpless, Instructor

Pamela A. Straeter, Instructor

William J. Wasilenko, PhD, Vice Dean, Research

Nazita Yousefieh, PhD, Research Assistant Professor

## Medical & Health Professions Education, MS

Prepare medical and health professionals to become educational leaders in various organizational settings by providing advanced education in the areas of learning, assessment, curriculum, instruction (including simulation), research, evaluation, leadership and professionalism with an emphasis on real-world, practical applications.

### Program Goals

Graduates of the MHPE program are:

- educational leaders who integrate the science of adult learning with evidence-based instruction, curriculum development, learner assessment and program evaluation.
- reflective educational leaders who will serve the needs of their communities.
- educational leaders who can critique, apply and share scholarship in medical and health professions education.

### Student Learning Outcomes

Graduates of this program are medical and health professionals who:

- apply adult learning theories to knowledge evaluation and construction.
- illustrate how knowledge assessment strategies relate to curriculum and instructional design.
- design evidence-based instruction for various MHPE learning situations and learners.
- devise plans for implementing educational programs.
- evaluate educational problems.

Are prepared to be educational leaders who:

- perform ongoing assessment of personal leadership traits, strengths and skills.
- adhere to a personal leadership philosophy.
- strategize solutions to current challenges facing MHPE leadership and professionalism.
- model best practices in MHPE leadership.
- apply principles of lifelong learning to the study of leadership and professionalism.

Are scholarship participants who:

- interpret educational research and use it to inform decisions regarding teaching and learning.
- support and promote different types of educational scholarship.
- work collaboratively with diverse stakeholders (e.g., faculty, administrators, researchers, practitioners, agencies, professional organizations).

### Admissions

Candidates must have completed all undergraduate degree requirements and have been issued a bachelor's degree prior to matriculating as an EVMS student. If the bachelor's degree was issued by a U.S. college or university, as a general rule, it

should be from a regionally accredited institution. However, the program may grant exceptions on a case-by-case basis. Official transcripts from the awarding institution must specify the date upon which the degree was issued.

#### Requirements for Admission

- A bachelor's degree in Health Professions/Medical discipline or related field or a bachelor's degree in an unrelated field with the addition of 3+ years of work experience in a health field
- Complete and submit online application (including \$60 application fee)
- Qualifying GPA of 3.0 or better (4-point scale)
  - ◆ Actual undergraduate GPA of 3.0 or better (foreign degrees considered on a case-by-case basis) from the degree-granting institution, OR
  - ◆ Completed U.S. graduate degree GPA of 3.0 or better from the degree-granting institution, OR
  - ◆ A replacement GPA of 3.0 or better computed from the most recent 40 semester credit hours of U.S. graduate and undergraduate coursework in the case where a graduate degree was started and not completed
- Two letters of recommendation from those familiar with student's ability to be successful in an online graduate program
- Letter of intent/personal essay outlining the applicant's academic and professional goals related to medical and health professions education
- Resume/CV with health-related experience listed
- Official transcripts from each college/university attended, including an official transcript from any degree-granting institution that specifies the date upon which the degree was issued. Transcripts must be sent to GradCas only. GradCAS only accepts electronic transcripts from:
  - ◆ Credentials Solutions
  - ◆ Parchment
  - ◆ National Student Clearinghouse
- To send transcripts to GradCAS by mail:
  - ◆ Download a transcript request form after you enter each institution in GradCAS
  - ◆ Send the transcript request form to the registrar at the institution requesting the transcript be sent to:

**GradCAS Transcript Processing Center**

**P.O. Box 9217**

**Watertown, MA 02471**

#### Additional Requirements for International Students

Requirements for admission include:

- English proficiency exams (may be waived)
  - ◆ TOEFL Minimum Scores: Paper 550, Computer 213, iBT 80
  - ◆ IELTS Minimum Scores: Total 6.5, Subscores 6
- A transcript evaluation and translation
  - ◆ Please refer to Educational Credential Evaluators or World Education Services.



- ♦ Applicants must supply a course-by-course evaluation and an overall GPA calculation
- GradCAS will ONLY accept the evaluation report from the credentialing agency. Do not send your foreign transcript to GradCAS.
  - ♦ All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:

**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

**GRE School Code is: 5729 TOEFL School Code is B886**

### **Applicant Help Center**

- Having trouble accessing the GradCAS application? The preferred browsers are Google Chrome or Firefox
- The Applicant Help Center can be accessed here: Applicant Help Center
- If you have questions about your application status, please contact your GradCAS Customer Service Representative contact information at (857) 304-2086 or GradCASinfo@liaisonedu.com

## **Technical Standards**

The essential abilities and skills that candidates and students must possess in order to complete the education and training associated with this program are referred to as Technical Standards.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, in clinical and educational settings and online. Indicators include but are not limited to accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.
2. Communication Skills Technical Standard
  - 2.1. Demonstrate effective communication skills with professionals of varying cultures, ethnicities and personalities.
  - 2.2. Indicators include, but are not limited to, these examples:
    - Clear, efficient and intelligible articulation of spoken English language.
    - Legible, efficient and intelligible written English language.
    - Accurate and efficient English language reading skills.
    - Accurate and efficient, expressive and receptive communication skills.
    - Ability to accurately follow directions (oral and written).
3. Critical Reasoning Skills Technical Standard
  - 3.1. Demonstrate critical reasoning skills, including but not limited to intellectual, conceptual, integrative and quantitative abilities.

3.2. Indicators include but are not limited to these examples:

- Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
  - Demonstrate ability to acquire, retain and apply new and learned information.
4. 4.0 Motor and Sensory Function Technical Standard
    - 4.1. Demonstrate sufficient motor and sensory function.
    - 4.2. Indicators include but are not limited to these examples:
      - Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, online).
      - Physical stamina sufficient to complete online didactic study, which will include prolonged periods of sitting.
  5. Behavioral and Social Attributes Technical Standard
    - 5.1. Demonstrate the behavioral and social attributes vital to participation in a graduate-level academic program.
    - 5.2. Indicators include but are not limited to these examples:
      - Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
      - Ability to develop mature and effective professional relationships with faculty and other members of the educational and healthcare team.
      - Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
      - Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
      - Ability to monitor and react appropriately to one's own emotional needs and responses.
      - Display appropriate flexibility and adaptability in the face of stress or uncertainty in teaching and learning environments.
      - Compliance with standards, policies and practices set forth in the program handbook.

## **Curriculum**

The Master of Medical and Health Professions Education (MMHPE) program is designed to prepare educational leaders in various medical and health professions organizational settings. Employment of postsecondary education administrators is projected to grow 10 percent from 2016 to 2026, faster than the average for all occupations according to the Bureau of Labor Statistics. The program provides advanced education in the areas of learning, assessment, curriculum, instruction (including simulation), scholarship, evaluation, leadership and professionalism with an emphasis on real-world, practical applications. The program incorporates the use of cutting edge instructional methods and technology

throughout.

This 31-credit hour distance education program is designed for working professionals who require flexibility as they pursue an advanced degree in medical and health professions education, as well as for less experienced individuals seeking a long-term role in medical and health professions higher education. Coursework is completed in less than two years.

## **Educational Format**

Courses are delivered entirely online asyn-chronously with the occasional synchronous session. Courses are scheduled sequentially in eight week units with the exception of the capstone course, which is completed over 16 weeks. Students complete the practicum virtually at EVMS. The practicum involves building upon didactic knowledge to design a completely online course.

## **Course Sequence**

### **Semester 1 | Fall - Year One**

- MHPE 600 Applied Learning Theories
- MHPE 601 Instructional Methods

### **Semester 2 | Spring - Year One**

- MHPE 602 Curriculum Development
- MHPE 603 Assessment of Learning

### **Semester 3 | Summer - Year Two**

- MHPE 700 Leadership and Professionalism
- MHPE 707 Practicum (may also be completed in Fall Year 2)

### **Semester 4 | Fall - Year Two**

- MHPE 701 Research Methods
- MHPE 702 Program Evaluation
- MHPE 707 Practicum (may also be completed in Summer Year 2)

### **Semester 5 | Spring - Year Two**

- MHPE 703 or MHPE 704 Introduction to GME (GME concentration) or Simulation in Healthcare
- MHPE 705 or MHPE 706 Advanced Principles in GME (GME concentration) or Clinical and Community-based Teaching
- MHPE 708 Capstone

## Tuition and Fees

EVMS' Medical and Health Professions Education tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state and out-of-state: \$919 per credit hour

### Mandatory Fees

- Year 1: \$93
- Year 2: \$83

### Projected Cost of Attendance

		Medical & Health Professions Education   Year 1	Medical & Health Professions Education   Year 2
<b>Budget length</b>		9 mos.	12 mos.
<b>Tuition*</b>	<b>In-state (\$919/credit)</b>	\$11,028	\$17,461
	<b>Out-of-state (\$919/credit)</b>	\$11,028	\$17,461
<b>Fees*</b>	<b>Mandatory</b>	\$93	\$83
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$11,121	\$17,544
	<b>Out-of-state</b>	\$11,121	\$17,544
<b>Other allowances</b>	<b>Books and article packet</b>	\$2,050	\$200
	<b>Room, board and miscellaneous living expenses</b>	\$10,369	\$13,825
	<b>Personal expenses</b>	\$720	\$960
	<b>Transportation</b>	\$350	\$525
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$24,610	\$33,054
	<b>Out-of-state</b>	\$24,610	\$33,054
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$175	\$535
	<b>Grad PLUS – 4.264% out-of-state</b>	\$175	\$535
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$25,004	\$33,808
	<b>Out-of-state</b>	\$25,004	\$33,808

For distance or hybrid programs, your aid will be released on the eighth day of the term (or the next business day). All aid is released initially in as close to equal amounts as possible over the academic year to your student tuition account, subject to satisfactory academic progress.

The MHPE Master's Program covers 31 credits over a 21-month period. First-year students will enroll in 12 credit hours (2018-2019) and 19 credit hours (2019-2020). Second-year students will enroll in 18 credit hours.

\*Tuition and fees are subject to change throughout the year.

\*\* Loan fees are subject to change for loans first disbursed on or after October 1.

## Academic Calendar 2018-2019

	Class of 2019	Class of 2020
<b>Orientation</b>	N/A	"Complete Online: July 2020 Prior to start of classes"
	<b>Term III</b>	<b>Term I</b>
<b>Start Date</b>	6/4/2018	"First 8 Weeks: 8/13/2018 Second 8 Weeks: 10/8/2018"
<b>End Date</b>	7/29/2018	"First 8 Weeks: 10/7/18 Second 8 Weeks: 12/7/18"
	<b>Term IV</b>	<b>Term II</b>
<b>Start Date</b>	"First 8 Weeks: 8/13/2018 Second 8 Weeks: 10/8/2018 "	"First 8 Weeks: 1/7/2019 Second 8 Weeks: 3/11/2019"
<b>End Date</b>	"First 8 Weeks: 10/7/2018 Second 8 Weeks: 12/7/2018"	"First 8 Weeks: 3/3/2019 Second 8 Weeks: 5/5/2019"
	<b>Term V</b>	
<b>Start Date</b>	"First 8 Weeks: 1/7/2019 Second 8 Weeks: 3/11/2019"	
<b>End Date</b>	"First 8 Weeks: 3/3/2019 Second 8 Weeks: 5/5/2019"	
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	N/A	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/8/2018 - 1/6/2019	12/8/2018 - 1/6/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/4/2019 - 3/10/2019	3/4/2019 - 3/10/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### MHPE600: Applied Learning Theories (3)

This course is an exploration of adult learning theory. Application of principles to medical and health professions education is expected. Learners successfully completing this course will explore major theorists in the field of adult learning and create an educational philosophy. Learners will create artifacts in an electronic portfolio to exemplify the application of seven areas of learning theory: assessment of prior knowledge, encoding and retrieval and knowledge, motivation for learning, mastery of learning, feedback and practice, course

climate, and self-directed learning.

### MHPE601: Instructional Methods (3)

This course prepares students with theoretic foundations and best practices to plan, apply, design, and evaluate appropriate instructional methods to enhance learner achievement. Application of principles to medical and health professions education is expected. Learners analyze a wide range of instructional methods including team-based, problem-based, inter-professional, outcome-based, experiential, indirect, and interactive in a variety of educational settings including small- and large-groups, clinical, bedside, ambulatory, community, rural, and distance.

### MHPE602: Curriculum Development (3)

This course teaches a systematic curriculum development approach. Application of principles to medical and health professions education is expected. Educators and curriculum leaders will gain knowledge, skills, and experiences in multiple facets of curriculum development including curricula planning, design, development, implementation, evaluation, and improvement/revision. Learners will also explore the benefits and challenges related to the collaborative nature of curriculum development through practical examples and application of curricular planning models.

### MHPE603: Assessment of Learning (3)

This course prepares learners to design evidence-based assessment strategies to improve instructional effectiveness for faculty and learning outcomes for students. Application of principles to medical and health professions education is expected. A wide array of formative and summative assessment instruments and techniques will be explored and utilized through practical application.

### MHPE700: Leadership & Professionalism (3)

This course will expose learners to effective leadership approaches and skill sets. Topics will include fundamentals of leadership, leadership and professionalism self-assessment, leadership philosophy, professionalism, essential leadership and professionalism skills, modeling best leadership practices and behaviors, ethics in leadership, institutional and program accreditation, handling conflict, and emerging issues. Learners will apply this learning to their professional life through a series of practical exercises.

### MHPE701: Research Methods (3)

This course provides the knowledge necessary to understand the purpose and process of educational research and to help learners to become informed consumers of research literature. The course will introduce students to quantitative and qualitative design approaches and examine foundational issues of research from both quantitative and qualitative perspectives, particularly in the social sciences and in education. In addition, the course will also build skills at for interpreting and evaluating research including criteria for evaluating empirical studies to ensure academic rigor.

### **MHPE702: Program Evaluation (3)**

This introductory course in program evaluation takes the learner from the beginnings of program evaluation as an academic discipline through current Logic Model-based evaluation that encompasses the ethical, political, and social landscapes within which an evaluation resides. Students will have an opportunity to design each step of an educational program evaluation beginning with an evaluability assessment. Diverse models focused on different stakeholder audiences and program goals will be implemented to evaluate real-life, ongoing educational programs selected by each student. Students will develop Logic Models to guide evaluation planning and implementation. Data collection and analysis plans will include quantitative, qualitative and mixed methods approaches. The course will culminate in presentation of an evaluation report based on data from actual educational programs.

### **MHPE706: Clinical and Community-based Teaching (3)**

This course will prepare medical and health professions educators to teach in a clinical setting and community-based learning environment. It will identify unique conditions associated with such learning environments and characteristics of these groups of adult learners. Research-based needs analysis practices, instructional strategies and formative assessment methods that will enhance student learning outcomes will be explored. Criteria to evaluate educational outcomes will also be analyzed. Students will apply these approaches to their specific learning environment.

### **MHPE704: Simulation in Healthcare (3)**

As the educational environment introduces and implements greater amounts of technology, faculties must be prepared to maximize these tools to promote effective learning. This course will explore the application of simulation and distance (distributed) learning as instructional and assessment tools of the modern educator.

### **MHPE703: Introduction to Graduate Medical Education (3)**

This course will provide learners with an introduction to graduate medical education. Topics will include the culture of academic medicine, GME leadership, mentoring highly effective professionals to become change agents, and other contemporary aspects of GME.

### **MHPE705: Advanced Principles in Graduate Medical Education (3)**

This course will explore several topics related to advanced principles of graduate medical education. Topics will include evaluation methods and procedures utilized in GME, preparing for a Clinical Learning Environment Review site visit by the ACGME and other current topics in GME.

### **MHPE707: Practicum (3)**

The practicum provides students with an in-depth supervised experience in an approved organization. The practicum will require students to complete a project related to an actual MHPE issue that is a focus within the organization.

### **MHPE708: Capstone (1)**

The capstone experience provides the learner the opportunity to present a program portfolio demonstrating achievement of all program goals and student learning outcomes.

### **Faculty**

#### **Program Director**

Cynthia Cadieux , PhD, RDN, FAND, Associate Dean, Education Assessment & Evaluation

#### **FACULTY**

Julie A. Bridges, PhD, Educational Specialist, Instructional Designer

Andrew E. Cross, Instructor, Administrative

Geoffrey T. Miller, MS, MS, EMT-P, Assistant Professor

Agatha Dado Parks-Savage, EdD, RN, LPC, Associate Dean

Don G. Robison , PhD, CPT, Assistant Professor

#### **Medical Education Advisor & Faculty**

Joel M. Clingenpeel, MD, MPH , MPH, MMedEdL, Assistant Professor

#### **Graduate Medical Education (GME) Advisor**

Linda R. Archer, PhD, Vice Dean, GME

#### **Educators**

Brielle E. Ashley, MAEd&HD

David Billberry, MEd

# Medical Master's

## Admissions

- A bachelor's degree from a regionally accredited institution in the U.S. or Canada prior to matriculating at EVMS. Official transcripts from the awarding institution must indicate the date the degree was conferred.
- Successfully completed each of the following medical school prerequisite courses with a grade of "C" or better:
  - ◆ 2 semesters or 3 quarters of physics with labs
  - ◆ 2 semesters or 3 quarters of organic chemistry/biochemistry with labs
  - ◆ 2 semesters or 3 quarters of chemistry with labs
  - ◆ 2 semesters or 3 quarters of biology with labs

Online coursework is not accepted to fulfill prerequisite requirements. Prerequisite courses taken abroad are generally not accepted, however exceptions may be granted on a case-by-case basis.

- A cumulative grade point average of 2.75 (B-) or better.
- MCAT (Students pursuing medical school)
  - ◆ One-year program: MCAT with a strict minimum score of 503.
  - ◆ Two-year program: MCAT with a minimum score of 496. (Exceptions may be made on a case-by-case basis if all other application requirements are exceeded.)
    - We will accept MCAT scores from exams taken January 2017 to present for the 2019-2020 school year.
    - Applicants with an MCAT score below the accepted minimum for either program will not be considered for admission.
- DAT (Students pursuing dental school)
  - ◆ Taken the DAT with an academic average score of 18, with no less than a 17 in any section. We will accept DAT scores taken from January 2016 to present for the 2019-2020 school year.
- GRE: We do not accept GRE scores.

**Applicants must be U.S. citizens or U.S. permanent residents.**

## Technical Standards

The abilities and skills candidates and students must possess in order to complete the education and training of the Biomedical Sciences Medical Master's Program are referred to as "Technical Standards." These abilities and skills are essential for entry into most professional practice settings associated with this degree program.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory, and tactile) in the lecture hall, laboratory and/or online settings.
  - 1.2. Indicators include, but are not limited to, this example:
    - a. Accurate visualization and discrimination of

text, numbers, patterns, graphic illustrations, and other imaging texts.

2. Communication Skills Technical Standard
  - 2.1. 2.01 Demonstrate effective communication skills with healthcare professionals, and with people of varying cultures, ethnicities and personalities.
  - 2.2. 2.02 Indicators include, but are not limited to, these examples:
    - a. Clear, efficient and intelligible articulation of spoken English language.
    - b. Legible, efficient and intelligible written English language.
    - c. Accurate and efficient English language reading skills.
    - d. Accurate and efficient expressive and receptive communication skills.
    - e. Ability to accurately follow oral and written directions.
3. Critical Reasoning Skills Technical Standard
  - 3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.
  - 3.2. Indicators include, but are not limited to, these examples:
    - a. Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
    - b. Demonstrate ability to acquire, retain and apply new and learned information.
4. Motor And Sensory Function Technical Standard
  - 4.1. Perform demonstrations and experiments in the basic sciences.
  - 4.2. Observe a patient accurately, both at a distance and close at hand; this ability requires the functional use of vision and somatic sensation.
  - 4.3. Speak, hear, and observe patients in order to elicit information, describe changes in mood, activity, and posture, and perceive nonverbal communications.
  - 4.4. Communicate effectively and efficiently in oral and written form.
  - 4.5. Execute movements reasonably required to provide patients with general care and emergency treatment.
  - 4.6. Students should also have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other diagnostic techniques.
  - 4.7. The ability to solve problems, a skill which is critical to the practice of medicine, requires the intellectual abilities of measurement, calculation, reasoning, analysis and synthesis. In addition, a student must possess the emotional health required for full utilization of his or her intellectual abilities, the exercise of good judgment, the prompt completion of



all responsibilities required for the diagnosis and care of patients, and the development of mature, sensitive, and effective relationships with patients.

- 4.8. All students of medicine must possess the intellectual, ethical, physical, and emotional capabilities required to undertake the full curriculum and to achieve the levels of competence required by the faculty.

5. Behavioral And Social Attributes Technical Standard

- 5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing laboratory professional.

- 5.2. Indicators include, but are not limited to, these examples:

- a. Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect, and cognition).
- b. Ability to develop mature and effective professional relationships with faculty, patients, the public, and other members of the healthcare team.
- c. Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
- d. Demonstrate impartial motives, attitudes, and values in roles, functions, and relationships.
- e. Ability to monitor and react appropriately to one's own emotional needs and responses.
- f. Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with laboratory experiments.
- g. Compliance with standards, policies, and practices set forth in the EVMS Student Handbook and the program handbook.

## Curriculum

There are many different types of post-baccalaureate programs across the country that can help prepare students to matriculate into medical school. Our program is an academic record-enhancing program designed for students who need to show medical schools that they can handle the rigor of medical school despite their undergraduate GPA. The program is also appropriate for career changers and non-science majors who have already taken the MD prerequisite courses.

Since 1995, the EVMS Medical Master's program has helped 85% to 96% of our students successfully place themselves in the entering classes of allopathic and osteopathic medical schools across the nation. Please note: the percentages below are running totals, not first-year numbers. For example, the Class of 2015 percentage includes those who were accepted directly after the program as well as the following 2 years.

Our program offers a rigorous medical curriculum, with five of seven courses taken with first-year medical students, and help with the non-academic aspects of the MD application. The

EVMS Med Master's program is highly respected by medical schools. We have multiple levels of staff to support, mentor and counsel students in a cooperative learning environment with a cohesive faculty.

### The EVMS Medical Master's program offers:

- Personalized review and suggestions for all applicants before admissions committee review
- Majority of classes are taken with medical students
- Practice medical interviews and feedback
- Multiple sessions with standardized patients
- Assistance with medical school applications
- Volunteer/community service opportunities
- Cadaver dissection
- Program letter of recommendation from faculty adviser
- A 'Big Sib' program that pairs a MM graduate/first-year medical student mentor with each incoming student
- Opt-out opportunities for graduates who matriculate into the MD program

### Unique to our two-year program:

- Structured physician shadowing opportunities
- Structured volunteer activities
- MCAT/DAT test preparation
- Master's of Public Health courses and the option to complete the Core Public Health Certificate over the summer at a discounted rate

Applying to medical school is often a multi-year process requiring dedication, perseverance and a well-conceived application strategy. While many applicants will be able to gain acceptance to a medical school at the end of their post-bacc year, others will require another year and application cycle to complete the process.

## Course Sequence

### One-year program

#### Fall Semester

- BM 529: Foundational Science\*
- BM536: Human Structure
- BM519: Presentation Skills and Professional Knowledge

#### Spring Semester

- BM531: General Mechanisms of Disease\*
- BM532: Skin, Muscle and Bone\*
- BM533: Gastrointestinal System and Metabolism\*

\*Courses taken with first-year medical students.

### Two-year program

The two-year Medical Master's program offers academic record enhancement to students with MCAT scores of at least 496, and limited clinical shadowing and volunteer experiences. Students take all the courses in the one-year program curriculum along with MCAT preparation, MPH courses and clinical shadowing

and volunteer experiences.

Students in this program have the option to take three additional MPH courses, at a discounted rate, to complete the Core Public Health Certificate in addition to their master's degree.

#### **Fall Semester: Year One**

- BM529: Foundational Science I\*
- MPH611: Social and Behavioral Sciences for Public Health
- PATH513: Histology for Health Professions
- BM524: Clinical Shadowing/Service Learning

#### **Spring Semester: Year One**

- MPH614: Principles of Epidemiology
- BM534: MCAT Prep
- MPA 5341: Legal and Ethical Issues in Medicine
- BM525: Clinical Shadowing/Service Learning
- BM535: Medical Humanities and Ethics

Students must achieve a grade of B or better in all of the first year courses and must retake the MCAT to continue into the second year of the program. Students must complete both years of the program to be eligible to matriculate into EVMS.

#### **Fall Semester: Year Two**

- BM536: Human Structure
- BM530: Foundational Science II\*
- BM519: Presentation Skills and Professional Knowledge

#### **Spring Semester: Year Two**

- BM531: General Mechanisms of Disease\*
- BM532: Skin, Muscle and Bone\*
- BM533: Gastrointestinal System and Metabolism\*

**\*Indicates courses taken with first-year medical students.**

Although the program does not specify a specific MCAT score to be eligible to take the second year and complete the program, students will need a score of at least 503 and a 3.5 average GPA to be competitive for most allopathic medical schools.

## Tuition and Fees - One year

Tuition and fees for the Medical Master's program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### One-year traditional program

#### Tuition

- In-state: \$37,658
- Out-of-state: \$44,936

#### Mandatory Fees

- Program Total: \$1,925

\*Cost of tuition per year.

### Projected Cost of Attendance - One year

Medical Master's: One-year program		
<b>Budget length</b>		9 mos.
<b>Tuition*</b>	<b>In-state</b>	\$37,658
	<b>Out-of-state</b>	\$44,936
<b>Fees*</b>	<b>Mandatory</b>	\$1,925
	<b>Health insurance</b>	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$42,383
	<b>Out-of-state</b>	\$49,661
<b>Other allowances</b>	<b>Books and article packet</b>	\$1,576
	<b>Room, board and miscellaneous living expenses</b>	\$15,028
	<b>Personal expenses</b>	\$720
	<b>Transportation</b>	\$3,370
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$63,077
	<b>Out-of-state</b>	\$70,355
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$1,815
	<b>Grad PLUS – 4.264% out-of-state</b>	\$2,126
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$65,111
	<b>Out-of-state</b>	\$72,700

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

## Tuition and Fees - Two year

Tuition and fees for the Medical Master's program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Two-year extended program

#### Tuition

- In-state: \$26,790\*
- Out-of-state: \$28,392\*

#### Mandatory Fees

- Year 1: \$2,904
- Year 2: \$1,435

\*Cost of tuition per year.

### Projected Cost of Attendance - Two year

		Medical Master's two-year program   Year 1	Medical Master's two-year program   Year 2
<b>Budget length</b>		9 mos.	9 mos.
<b>Tuition*</b>	<b>In-state (\$919/credit)</b>	\$26,790	\$26,790
	<b>Out-of-state (\$919/credit)</b>	\$28,392	\$28,392
<b>Fees*</b>	<b>Mandatory</b>	\$2,904	\$1,435
	<b>Health insurance</b>	\$2,800	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$32,494	\$31,025
	<b>Out-of-state</b>	\$34,096	\$32,627
<b>Other allowances</b>	<b>Books and article packet</b>	\$1,576	\$600
	<b>Room, board and miscellaneous living expenses</b>	\$15,028	\$15,028
	<b>Personal expenses</b>	\$720	\$720
	<b>Transportation</b>	\$3,370	\$3,370
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$53,188	\$50,743
	<b>Out-of-state</b>	\$54,790	\$52,345
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$1,394	\$1,290
	<b>Grad PLUS – 4.264% out-of-state</b>	\$1,462	\$1,358
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$54,801	\$52,252
	<b>Out-of-state</b>	\$56,471	\$53,922

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

## Academic Calendar 2018-2019

### One-Year

	Class of 2019
<b>Orientation</b>	8/9/2018
<b>Term I</b>	
<b>Start Date</b>	8/13/2018
<b>End Date</b>	12/14/2018
<b>Final Exams</b>	12/11/2018 - 12/14/2018
<b>Term II</b>	
<b>Start Date</b>	1/2/2019
<b>End Date</b>	5/10/2019
<b>Final Exams</b>	5/6/2019 - 5/10/2019
<b>Graduation Rehearsal</b>	5/17/2019
<b>Graduation</b>	5/18/2019
<b>HOLIDAYS AND BREAKS</b>	
<b>Labor Day</b>	9/3/2018
<b>Fall Break</b>	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/14/2018 - 1/1/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/15/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

### Two-Year

	Class of 2019	Class of 2020
<b>Orientation</b>	N/A	8/9/2018
<b>Term I</b>		
<b>Start Date</b>	8/13/2018	8/13/2018
<b>End Date</b>	12/14/2018	12/14/2018
<b>Final Exams</b>	12/11/2018 - 12/14/2018	12/11/2018 - 12/14/2018
<b>Term II</b>		
<b>Start Date</b>	1/2/2019	1/2/2019
<b>End Date</b>	5/10/2019	5/10/2019
<b>Final Exams</b>	5/6/2019 - 5/10/2019	5/6/2019 - 5/10/2019
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	N/A	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/14/2018 - 1/1/2019	12/14/2018 - 1/1/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/15/2019	3/11/2019 - 3/15/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

### Course Descriptions

#### BM526: Foundational Science (10)

Foundational Science introduces students to molecular and cell biology, biochemistry, and histology from an intracellular perspective. In addition, students will be introduced to the fundamental principles of biostatistics and develop skills required to obtain a complete patient-centered medical history. This course provides the foundational building blocks necessary to progress to subsequent modules in the curriculum.

#### BM536: Human Structure (10)

The Human Structure course is devoted to developing a three-dimensional understanding of the human body. Information will be presented in various formats using online, live and interactive methods followed by a dissection of a human donor in the human anatomy laboratory. This is a course designed for active, self-motivated learners who carry a strong professional drive to master the content. Materials will cover the following: 1. Anatomical concepts and structures 2. Clinical applied anatomy 3. Medical imaging (plain film, CT, MRI, US) and 4. Developmental anatomy.

### **BM519: Presentation and Professional Knowledge Skills (3)**

Presentation and Professional Knowledge Skills is a team-based course covering non-academic aspects of the admissions process, including practice interviews and history/vitals using standardized patients in small groups; application strategies; AMCAS application personal statement; the role of healthcare teams (various allied health professions) in delivering medical care; community medicine; coping skills (personality types, cultural issues, interview anxieties, effective study strategies, setting goals and failure); ethics and healthcare economics.

### **BM531: General Mechanisms of Disease (6)**

The General Mechanisms of Disease module serves as a transition from the foundational modules to the organ systems modules. It focuses on the general mechanisms of disease, introducing students to microbiology and infectious disease, principles for discriminating healthy from unhealthy conditions, and predicting clinical manifestations from available data. Students will interpret clinical data and prioritize differential diagnoses and management plans. Students will also conduct integrated and focused physical examinations based on chief complaint and history.

### **BM532: Skin, Muscle and Bone (4)**

The Skin, Muscle and Bone module provides students with the tools to recognize the causes and potential diseases of the integumentary and musculoskeletal systems. Through integration of these systems, the students will develop the ability to diagnose and create management plans for diseases of skin, muscle, and bones based on signs, symptoms, complaints, and diagnostic results.

### **BM533: Gastrointestinal System and Metabolism (5)**

The Gastrointestinal System and Metabolism module provides students with the tools to recognize causes and potential gastrointestinal and metabolic diseases. Students will develop the ability to develop diagnoses and management plans for gastrointestinal system and metabolic diseases based on signs, symptoms, complaints, and diagnostic results.

## **Medical Masters two (2) year program**

### **BM529: Foundational Science I (5)**

The Foundational Sciences 1 module introduces students to the molecular and biochemical underpinnings of cellular structure and function, and initiates the foundations of clinical practice through the conductance of a patient-centered interview. Students will apply the principles of cell structure and function to clinical scenarios.

### **MPH611: Social & Behavioral Sciences for Public Health (3)**

This course is a social and behavioral sciences core course for the MPH program. Psychological, social, and cultural concepts and models relevant to health and disease in society are reviewed and critiqued. The course will enable students to describe core theoretical perspectives from each of the social science disciplines of psychology, sociology, and anthropology. Students will learn how to select and apply appropriate

social and behavioral models to the design of public health interventions and policies. The course will also cover existing social inequalities in health status related to race, social class, and gender, and the critical intersection between social risk factors, behavioral risk factors, and the development and implementation of public health interventions. Social ecological models that influence population health at multiple levels are emphasized.

### **PATH313: Histology for Health Professions (2)**

This course provides students with an understanding of the normal architecture of cells and an opportunity to gain appreciation of how cellular components specialize to form primary tissues, and of how these tissues give rise to organs and organ systems. The course allows for the evaluation of the structure-function relationships in normal cells, tissues, and organs. Students will acquire morphological pattern recognition and cell/tissue/organ identification skills at the light microscopic level and to a lesser extent at the electron microscope level through a lecture-lab combination, systems-based approach. Students will be introduced to proper use of a light microscope and essentials of microscopy. Utilizing light microscopes in a laboratory setting and on-line tutorials to recognize the morphology of structures, students will relate these structures to their function.

### **MPH614: Principles Of Epidemiology (3)**

An introduction to epidemiology as a body of knowledge and a method for analyzing community health problems. Emphasis is on how to measure and describe the health of populations, the natural history of diseases in population groups, standardization of rates, sources of data, study designs, measurements of risk, evaluation of screening tests, causal inferences and outbreak investigation. This course includes lectures, reading and individual and group assignments.

### **BM534: MCAT Preparation (4)**

The students will take an MCAT preparation course taught by Kaplan Test Prep during the spring of year 1. EVMS faculty advisors and academic counselors will monitor students' progress in the course.

### **MPA5341: Legal and Ethical Issues in Medicine (2)**

Examination of the relationships and impact of health law and medical ethics in healthcare by analyzing case studies of contemporary health issues.

### **BM524: Clinical Shadowing & Service Learning (1)**

Clinical Shadowing and Service Learning opportunities are included throughout the first year of this program. The Medical Master's Program will arrange 3+ hours/week of shadowing and 4+ hours/week of service learning experiences. Participation in these activities will be monitored by EVMS faculty advisors and academic counselors. Transportation is not provided; students must have their own means of transportation.



### **BM525: Clinical Shadowing & Service Learning (1)**

Clinical Shadowing and Service Learning opportunities are included throughout the first year of this program. The Medical Master's Program will arrange 3+ hours/week of shadowing and 4+ hours/week of service learning experiences. Participation in these activities will be monitored by EVMS faculty advisors and academic counselors. Transportation is not provided; students must have their own means of transportation.

### **BM535: Medical Humanities and Ethics (3)**

Students will learn to see patients as whole persons in contexts and in relationships thereby preserving the innate empathy and sensitivity that brought students to medical school in the first place.

### **BM536: Human Structure (10)**

The Human Structure course is devoted to developing a three-dimensional understanding of the human body. Information will be presented in various formats using online, live and interactive methods followed by a dissection of a human donor in the human anatomy laboratory. This is a course designed for active, self-motivated learners who carry a strong professional drive to master the content. Materials will cover the following: 1. Anatomical concepts and structures 2. Clinical applied anatomy 3. Medical imaging (plain film, CT, MRI, US) and 4. Developmental anatomy.

### **BM530: Foundational Science II (5)**

The Foundational Sciences 2 module addresses the fundamentals of organ structure and function, and builds upon the foundations of clinical practice laid in earlier modules. Students will be able to apply the principles and process of organ structure and function to effective practice.

### **BM519: Presentation Skills and Professional Knowledge (3)**

Presentation and Professional Knowledge Skills is a team based course covering non-academic aspects of the admissions process including practice interviews and history/vitals using standardized patients in small groups; application strategies; AMCAS application, personal statement; the role of healthcare team (various allied health professions) in delivering medical care; community medicine; coping skills (personality types, cultural issues, interview anxieties, effective study strategies, setting goals and failure); ethics and healthcare economics.

### **BM532: General Mechanisms of Disease (6)**

The General Mechanisms of Disease module serves as a transition from the foundational modules to the organ systems modules. It focuses on the general mechanisms of disease, introducing students to microbiology and infectious disease, principles for discriminating healthy from unhealthy conditions, and predicting clinical manifestations from available data. Students will interpret clinical data and prioritize differential diagnoses and management plans. Students will also conduct integrated and focused physical examinations based on chief complaint and history.

### **BM532: Skin, Muscle and Bone (4)**

The Skin, Muscle and Bone module provides students with the tools to recognize the causes and potential diseases of the integumentary and musculoskeletal systems. Through integration of these systems, the students will develop the ability to diagnose and create management plans for diseases of skin, muscle, and bones based on signs, symptoms, complaints, and diagnostic results.

### **BM533: Gastrointestinal System and Metabolism (5)**

The Gastrointestinal System and Metabolism module provides students with the tools to recognize causes and potential gastrointestinal and metabolic diseases. Students will develop the ability to develop diagnoses and management plans for gastrointestinal system and metabolic diseases based on signs, symptoms, complaints, and diagnostic results.

## **Faculty**

### **Director**

Deborah H. Damon , PhD, Professor

### **Staff**

Michelle A. Kubricky, Program Administrator

Dominique L. Bannarn, Administrative Secretary

Diane E. Dougherty, Administrative Secretary

Erin N. Neal, Advisor, Medical Master's

### **Instructor**

Edward J. Sommers , PhD, Teacher

## Admissions

Candidates must have completed all undergraduate degree requirements and have been issued a bachelor's degree prior to matriculating as an EVMS student. If the bachelor's degree was issued by a U.S. college or university, as a general rule it should be from a regionally accredited institution. However, the program may grant exceptions on a case-by-case basis. Official transcripts from the awarding institution must specify the date upon which the degree was issued.

Applicants must have a bachelor's degree from an accredited university with an undergraduate cumulative grade point average of 3.0 or higher (on a 4-point scale) and must have completed the following:

- Required science courses
  - ♦ 2 semesters of General Chemistry with lab
  - ♦ 2 semesters of Organic Chemistry with lab or 1 semester of Organic Chemistry with lab and 1 semester of Biochemistry
  - ♦ 2 semesters of General Biology with lab or equivalent
  - ♦ 1 semester of Mathematics
  - ♦ 1 semester of Physics
- Recommended science courses
  - ♦ 1 semester of Microbiology
  - ♦ 1 semester of combined Anatomy & Physiology
  - ♦ Neuroanatomy and Histology courses
- Official transcripts must be sent in an unopened envelope directly to GradCAS
- Three letters of recommendation from faculty (in the prerequisite courses) who are familiar with the student's ability to be successful in a graduate program
  - ♦ Online personal reference forms will be sent to the recommenders upon completion of the online application
- Letter of intent/personal essay outlining the applicant's academic and professional goals
- Resume/CV with health-related experience listed
- GRE or MCAT scores
- An interview with Pathologists' Assistant admissions committee
- Complete and submit online application (including \$60 nonrefundable application fee)

## International Applicants

- English Proficiency Exams
  - ♦ TOEFL (Minimum scores: Paper 550, Computer 213, iBT 80)
  - ♦ IELTS (Minimum scores: Total 6.5, Subscores: 6)
- In addition to official transcripts, provide both a transcript evaluation and translation (course-by-course evaluation with an overall GPA calculation) through one of these services:
  - ♦ Educational Credential Evaluators

## Technical Standards

Technical standards for admission are defined as "physical, cognitive and behavioral abilities required for satisfactory completion of all aspects of the curriculum and for entry into the profession."

The technical standards for admission establish the expectations and abilities considered essential for students admitted to the EVMS Pathologists' Assistant program in order to achieve the level of competency required for graduation and competency in the practice for a pathologists' assistant. Applicants to the program must possess independent ability, aptitude and skills in the following areas – observation, communication, critical reasoning, motor and sensory functions and behavioral and social attributes – as outlined below. It is expected that students also have sufficient computer skills and are comfortable with electronic communication and media to successfully and professionally function as a student pathologists' assistant.

### 1. Observation Skills Technical Standard

- 1.1. Demonstrate sufficient attention and proficiency in observation skills (visual, auditory and tactile) in the lecture hall, laboratory and clinical rotations and setting.
- 1.2. Indicators include but are not limited to the following examples:
  - Accurate observation and participation in the lecture hall and the laboratory and during clinical rotations at affiliated hospitals and other clinical settings.
  - Accurate identification of appropriate pathology in frozen and fixed surgical specimens and gross findings in autopsy cases.
  - Accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and findings in academic and clinical settings.

### 2. Communication Skills Technical Standard

- 2.1. Demonstrate effective verbal and non-verbal communication skills with other students, faculty, pathologists, surgeons and other healthcare providers from different social backgrounds, cultural backgrounds and varying personalities.
- 2.2. Indicators include but are not limited to the following examples:
  - Clear, efficient and intelligible articulation of English language.
  - Legible, efficient and intelligible written English language.
  - Ability to prepare and communicate concise oral and written summaries of gross surgical specimens and case presentations of autopsy findings.
  - Ability to provide appropriate dictations of gross specimens.
  - Record examination and provide clear, accurate and precise descriptions of autopsy

cases.

### 3. Critical Reasoning Skills Technical Standard

3.1. Demonstrate critical reasoning skills required to undertake the full curriculum, achieve the level of competency required by the faculty and meet the demands of a fully competent Pathologists' Assistant. These skills include, but are not limited to, intellectual, conceptual, integrative and quantitative abilities.

3.2. Indicators include, but are not limited to, these examples:

- Accurate and efficient reading skills (English language).
- Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
- Comprehend the spatial relationships of structures (e.g. three-dimensional relationships)
- Demonstrate ability to acquire, retain, assimilate and apply large amounts of complex, technical and detailed general medical, specific pathological and non-medical information.
- Demonstrate ability to synthesize and apply concepts and information from various disciplines in order to deliver appropriate technical support.
- Demonstrate appropriate judgment in pathological cases, including planning, time management, extraction of critical information from review of medical charts and medical history and use of resources to obtain relevant information.

### 4. Motor and Sensory Function Technical Standard

4.1. Demonstrate sufficient motor and sensory function to perform typical functions of a Pathologists' Assistant, including, but not limited to, physical examinations of autopsies, assessment of surgical pathology specimens, tissue preparation and fixation techniques and general functions that pertain to a career as a Pathologists' Assistant.

4.2. Indicators include but are not limited to the following examples:

- Functional and sufficient sensory capacity (visual, auditory and tactile) to adequately perform a complete physical examination in autopsy cases and elicit information gained from proper use of examination tools and maneuvers.
- Execute fine and gross motor movements with sufficient coordination, postural control, equilibrium and hand-eye coordination to safely participate in laboratory sessions, use standard medical/surgical instruments, assess cadavers, provide appropriate summary and findings and participate in basic and advanced assistance of pathological diagnostic maneuvers and procedures.

- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, laboratories and clinical rotations, including appropriate negotiation of self in various clinical support environments).
- Physical stamina sufficient to complete the rigorous course of didactic and clinical study, which may include prolonged periods of sitting, standing and/or rapid ambulation.
- Coordination of motor skills necessary to respond to "on-call" emergency situations quickly and appropriately.

### 5. Behavioral and Social Attributes Technical Standard

5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing professional Pathologists' Assistant.

5.2. Indicators include but are not limited to the following examples:

- Possess personal qualities that facilitate effective peer interactions (e.g., compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Possess the emotional health required for full utilization of mental faculties (including judgment, orientation, affect and cognition).
- Ability to establish rapport and develop mature and effective professional relationships with faculty, professional peers, the public and other members of the medical profession team.
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships. Communicate and interact with, in a non-judgmental way, persons who differ from oneself and one's beliefs in a variety of ways, including but not limited to gender, age, race, ethnicity, socio-economic status, culture, creed, military status, sexual orientation and identity and religious or spiritual beliefs.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility, adaptability, composure and emotional stability during periods of high stress or uncertainty associated with didactic and clinical encounters and environments.
- Ability to accurately follow oral and written directions with prompt completion of all responsibilities in the classroom and clinical setting.
- Compliance with standards, policies and practices set forth in the program handbook.

These standards will serve as prerequisites for entrance, continuation, promotion and graduation from the Pathologists' Assistant program. Pathologists' Assistant students and applicants must be prepared to meet the technical standards, with or without reasonable accommodation, in order to complete the program and indicate possession of such ability

prior to their matriculation into the program and during registration for each semester.

Note that the use of an intermediary (a person trained to perform essential skills on behalf of the student) is not permitted.

EVMS must maintain the integrity of the curriculum and preserve those elements deemed essential to the education of a pathologists' assistant and cannot compromise the health and safety of other students or health officials.

Inquiry by the program faculty and staff regarding disability is strictly prohibited. The Pathologists' Assistant program, in accordance with EVMS policy and as delineated by federal and Virginia law, does not discriminate in admissions, educational programs or employment against any individual on the basis of that individual's disability and will make good faith efforts at providing reasonable accommodation as required. However the program reserves the right not to admit or register students who cannot meet the technical standards or who would constitute a direct threat to the health and safety of others.

Applicants or students who may have questions regarding these technical standards or who believe they may need to request reasonable accommodation in order to meet the standards are encouraged to contact the EVMS Disability Officer by email at [studentdisability@evms.edu](mailto:studentdisability@evms.edu) or by phone at 757.446.7261.

Revealing a disability is voluntary; however, such disclosure is necessary before any accommodations may be made in the learning environment or in the program's procedures. Information regarding disabilities is handled in a confidential manner.

## Curriculum

Students rotate through various facilities where they observe and practice the various aspects of anatomical pathology under the supervision of pathologists and pathology assistants. Rotations account for a minimum of 20 credit hours. Review the Supervised Clinical Practice Guidebook for more information.

## Course Sequence

### Year 1 - FALL

- PATH 500 | Intro to Anatomical Laboratories - online
- PATH 501 | Medical Ethics - online
- PATH 503 | Essential Physiology & Primer for Human Anatomy
- PATH 512 | Histotechnology I
- PATH 513 | Histology for Health Professions - online
- PATH 514 | Medical Terminology

### Year 2 - SPRING

- PATH 504 | Anatomical Foundations
- PATH 507 | Neuroanatomy
- PATH 510 | Pathophysiology
- PATH 515 | Embryology - online
- PATH 516 | General Mechanisms of Disease

### Year 1 - SUMMER

- PATH 502 | Educational Methodologies - online
- PATH 506 | Microbiology
- PATH 508 | Medical Photography
- PATH 509 | Autopsy & Surgical Pathology Technique
- PATH 511 | Organ System Pathology

### Year 2 - FALL

- PATH 600 | Clinical Rotations
- PATH 601 | University of Pathology Informatics Certificate of Completion Program
- PATH 602 | Special Topics: Pathology (pediatric pathology) - online
- IPE 700 | Inter Professional Education IPE - online

### Year 2 - SPRING

- PATH 603 | Clinical Rotations
- PATH 604 | Lab Management University Certificate of Completion Program - online
- PATH 605 | Gross Anatomy Teaching Assistant
- PATH 606 | Special topics: Pathology (neuropathology) - online

### Year 2 - SUMMER

- PATH 607 | Clinical Rotations
- PATH 608 | ASCP Certification Exam Prep
- PATH 609 | Graduate Seminar PATH
- ASCP Certification Exam

## Tuition and Fees

EVMS' Pathologists' Assistant tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state: \$21,012
- Out-of-state: \$25,116

### Mandatory Fees

- Year 1: \$1,217
- Year 2: \$972

## Projected Cost of Attendance

		Pathologists' Assistant, MHS   Year 1	Pathologists' Assistant, MHS   Year 2
<b>Budget length</b>		12 mos.	9 mos.
<b>Tuition*</b>	<b>In-state</b>	\$21,012	\$21,012
	<b>Out-of-state</b>	\$25,116	\$25,116
<b>Fees*</b>	<b>Mandatory</b>	\$1,217	\$972
	<b>Health insurance</b>	\$2,800	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$25,029	\$24,784
	<b>Out-of-state</b>	\$29,133	\$28,888
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,684	\$750
	<b>Room, board and miscellaneous living expenses</b>	\$20,037	\$20,037
	<b>Personal expenses</b>	\$960	\$960
	<b>Transportation</b>	\$4,493	\$4,493
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$52,203	\$51,024
	<b>Out-of-state</b>	\$56,307	\$55,128
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$1,352	\$1,302
	<b>Grad PLUS – 4.264% out-of-state</b>	\$1,527	\$1,477
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$53,774	\$52,545
	<b>Out-of-state</b>	\$58,053	\$56,824

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.



## Academic Calendar 2018-2019

	Class of 2019	Class of 2020
<b>Orientation</b>		8/09/2018 - 8/11/2018
<b>Term I</b>		
<b>Start Date</b>	8/13/2018	8/13/2018
<b>End Date</b>	12/14/2018	12/14/2018
<b>Final Exams</b>	12/10/2018 - 12/14/2018	12/10/2018 - 12/14/2018
<b>Term II</b>		
<b>Start Date</b>	1/2/2019	1/2/2019
<b>End Date</b>	5/10/2019	5/10/2019
<b>Final Exams</b>	5/06/2019 - 5/10/2019	5/06/2019 - 5/10/2019
<b>Term III</b>		
<b>Start Date</b>	6/3/2019	6/3/2019
<b>End Date</b>	7/31/2019	7/31/2019
<b>Final Exams</b>	7/29/2019 - 7/31/2019	7/29/2019 - 7/31/2019
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	N/A	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/17/2019 - 01/01/2020	12/17/2019 - 01/01/2020
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	N/A	N/A
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### PATH500: Intro to Anatomical Laboratories - online (1)

This course serves as an introduction to laboratory environments commonly seen in the practice of Pathology and fulfills training requirements necessary for continued study in the Pathologists' Assistant Program. Training will address bloodborne pathogen safety, laboratory safety and handling of biohazardous materials and waste. Proper use of Personal Protective Equipment (PPE) and laboratory regulations of the College of American Pathologists (CAP), OSHA and the Joint Commission will also be addressed. Training in human subjects' research regulations and requirements (via CITI training) will also be a component of this course. As a requirement for completion of this course, students will attain a two-year certification (by the American Heart Association) in Basic Life Support for Healthcare Providers (BLS-P). This course will also serve as an introduction to the functional, operational and administrative aspects of laboratories including the Surgical Pathology Laboratory at Sentara Norfolk General Hospital, the EVMS Biorepository and LifeNet Health.

### PATH501: Medical Ethics - online (2)

This is a hybrid course having both an online component and face-to-face classroom discussions. The course was developed by Edx Inc., in collaboration with the faculty of Georgetown University, Kennedy Institute of Ethics. The course content and videos are equivalent to the (PHLX101-03X) course offered at Georgetown University. The in-house utilization of the course has supplemental features that include periodic interactive face-to-face classroom discussions on selected topics and themes. These discussions, conducted either as Blackboard postings or as classroom exchanges, personalize the course content. The course presents five major themes of bioethics and each of the five major themes is highlighted by a classroom discussion on the topic. Each week, a new unit will become available to the students either online or Blackboard. Presented in this course are the following themes: Autonomy, bioethics and the human body, bioethics as it pertains to the beginning and end of life and bioethics that have a global impact.

### PATH503: Essential Physiology & Primer for Human Anatomy (5)

This is a comprehensive introductory course to integrative organ system physiology and homeostatic regulatory mechanisms. Interrelationships of structure and function are reinforced throughout the course. The flow of the course is intended to interphase closely with the topic material being taught concurrently in Histology (PATH 513). The anatomy primer portion of the course introduces interactive learning exercises, videos and diagrams that expose the student to the major structural features that they will encounter in Anatomical Foundations (PATH 504).

### PATH514: Medical Terminology (2)

This is an interactive online and temporally guided self-paced course conducted using Quizlet. The course provides the student with an extensive vocabulary building set of exercises in medical terminology. The course is constructed with multiple sets of self-educational exercises that instruct the student in: General rules governing medical nomenclature, general rules pertaining to plurality and pronunciation, exposes students to common medical terms and conditions, presents prefixes and suffixes of medical terms, covers AAPA suggested list of medical terms derived from Robbins Pathology textbook. The individual study sets are designed to cover each individual chapter of Robbins Pathology textbook. The students are introduced to CPT coding for surgical pathology used by the American Medical Association.

### PATH513: Histology for Health Professions - online (2)

This course provides students with an understanding of the normal architecture of cells and an opportunity to gain appreciation of how cellular components specialize to form primary tissues and how these tissues give rise to organs and organ systems. The course allows for the evaluation of the structure-function relationships in normal cells, tissues and organs. Students will acquire morphological pattern recognition and cell/tissue/organ identification skills at the light microscopic level and to a lesser extent at the electron microscope level through a lecture-lab combination, systems-



based approach. Students will be introduced to proper use of a light microscope and essentials of microscopy. Utilizing light microscopes in a laboratory setting and on-line tutorials to recognize the morphology of structures, students will relate these structures to their function. This course is a critical prerequisite to Pathology and Pathophysiology.

#### **PATH512: Histotechnology I (2)**

This course focuses on the laboratory skills required to function in a clinical or research histology facility including specimen acquisition and fixation, tissue processing, embedding, sectioning and staining. Paraffin based techniques with H&E/special stains are introduced. The student is expected to gain experience in cryomicrotomy and is introduced to a variety of immunohistochemical techniques. Chemical and environmental safety issues are covered in depth and emphasized. Proper record-keeping practices including quality control and quality assurance requirements are also reinforced. Responsible lab management procedures are emphasized including essential inventory control concerns, as well as instrumentation, care, quality assurance and maintenance.

#### **PATH504: Anatomical Foundations (5)**

The course is divided into 4 modular units of learning. The sequence is: back & upper extremities; head and neck; thorax & abdomen; pelvis & lower extremity. This course affords the student a coherent, sequential approach to the dissection and study of human anatomy at the gross level with applied clinical relationships for PA, SA & PathA students. The general objective is for the experience of dissection to lead to a 3-D visual concept of the human body in order to relate this to future professional settings. This 3-D dissection experience is extrapolated to all the other bodies in the anatomy lab providing the student with the anatomical basis for understanding and appreciating the variations and complexities of the human body. Students should be able to demonstrate to each other all the different normal structures and any pathological structures detailed in the student learning objectives for specific lectures. Students should be able to integrate materials in a particular module to talk about clinical/surgical functions. These objectives are evaluated by clinical scenario types of questions on exams.

#### **PATH507: Neuroanatomy (2)**

This course is a comprehensive introduction to integrative nervous system anatomy and physiology. Interrelationships of structure and function are reinforced throughout the course, including neurological cases. The flow of the course is intended to interphase closely with the topic material being taught concurrently in Mechanism of Disease (PATH 516) and Pathophysiology (PATH 510). The Neuroanatomy course introduces interactive learning exercises based on interactive lectures, clinical cases and material demonstrations using videos, materials and diagrams that expose the student to the major structural and functional features.

#### **PATH510: Pathophysiology (3)**

This course is a didactic presentation of human pathophysiology designed for Health Professions students.

A clear understanding of the etiology, pathogenesis, pathophysiology and morphologic changes of disease serves as an essential basis for the understanding and competent practice in all areas of medicine. Students in this course will: Develop a background and vocabulary in pathophysiology; acquire an understanding of general physiologic/pathophysiological processes such as inflammation, repair, neoplasia and senescence; survey pathophysiological processes and morphologic changes which manifest in organ systems and establish a basis for the understanding of disease; exercise an approach to clinical problems which evaluates symptoms, signs and findings with a knowledge of pathophysiology to formulate a diagnosis with due consideration of differential diagnoses.

#### **PATH515: Embryology - online (2)**

This course is a comprehensive introduction to human embryology with application to pathology. The course is intended to interface with the topics taught concurrently in Anatomical Foundations (PATH 504).

#### **PATH516: General Mechanisms of Disease (2)**

The General Mechanisms of Disease module serves as a transition from the foundational modules to the organ systems modules. It focuses on the general mechanisms of disease, introducing students to microbiology and infectious disease, principles for discriminating healthy from unhealthy conditions and predicting clinical manifestations. The course consists of face-to-face lectures by basic science faculty focusing on major principles and their biomedical applications. Exams are used to assess foundational knowledge and facilitate knowledge integration and are designed to facilitate student review and self-assessment. The PathA student will complete approximately 60 contact hours. The course will have three major non-comprehensive multiple choice exams each covering approximately 6 to 8 hours of lecture content. The course will assess topic-specific foundational knowledge and facilitate disease knowledge integration.

#### **PATH502: Educational Methodologies - online (2)**

This is an online component course that introduces the student to a variety of learning and teaching methods for health professionals. The course emphasizes the integration of knowledge and experience in preparing the student to function effectively in clinical clerkships. It covers a broad range of topics designed to improve learning skills, teaching, interactions with supervisors, residents, how to interact effectively with preceptors, how to become an effective preceptor to students and residents. Core themes include orienting the student learner, defining and applying feedback, application and analysis of effective questioning to promote knowledge and comprehension, strategies used in clinical educational encounters, role modeling, entrustment and behavioral elements of professionalism in the clinical setting.

#### **PATH506: Microbiology (2)**

This course will cover Medical Bacteriology and includes an introduction to bacteria biology including structure, growth, genetics, pathogenesis, mechanism-of-action of antimicrobial

drugs and the fundamentals of disease prevention. Specific bacteria pathogens along with the human diseases they cause will be discussed. Emphasis will be on optimum methods of obtaining samples for culture and identification. Essential concepts related to life cycles, pathogenicity and aseptic technique will be introduced. One lecture each will introduce basic concepts in medical virology, medical mycology and medical parasitology.

#### **PATH508: Medical Photography (2)**

This course applies the basic foundations of digital photography to medical photo documentation techniques. Students will learn principles of light, optics, exposure, metering, lighting, special filters, annotation and archiving of images both at the macro and microscopic level. Learning methodologies include lectures and application in a practicum setting.

#### **PATH509: Autopsy & Surgical Pathology Technique (3)**

This course is a combination of lectures and laboratory sessions. Students will be taught established surgical pathology and autopsy techniques. Autopsy techniques will include evisceration and dissection methods. Historical context and legal considerations will also be introduced. Surgical pathology topics will include general dictation and grossing techniques as well as specific organ/system methods, as well as the AJCC Cancer Staging Manual criteria and CAP protocols. There will be a review of laboratory operations, coding and laboratory safety as it applies to the Pathologists' Assistant. The laboratory portion of the course will include fixed, porcine organ/tissue grossing, frozen sections and dictation exercises. Students will be oriented to the facilities of Sentara Norfolk General Hospital Surgical Pathology and the Tidewater District Office of the Virginia Medical Examiner's Office.

#### **PATH511: Organ System Pathology (4)**

This course is a comprehensive introduction to integrative organ system pathology. Organ system pathology including interrelationships of structure and function are reinforced throughout the course. The flow of the course is intended to interphase with topic material being taught concurrently in Autopsy and Surgical Pathology Techniques (PATH 509). The course introduces an interactive learning experience that exposes the student to all the major organ system pathology as is presented in Robbins Pathology and will provide the student with a strong background for fulfilling the competency requirements for a career as a Pathologists' Assistant.

#### **Core Science Preliminary Examination (No credit hours)**

Students will be administered a multiple choice exam intended to evaluate their comprehensive understanding and competency of course material presented to them during the first year of the program. The exam format contains a written and visual portion. The students must obtain a passing score of 70% on the Core Sciences Preliminary Examination prior to commencing the second year clinical clerkships. Students are permitted to remediate the exam for a total of three (3) attempts to achieve the necessary passing score. Failure to obtain a passing score will result in the assignment of remedial

work that the student must complete. Completion of remedial work will be concomitant with the first semester of required clinical clerkship rotations. The student will be given one semester in which to complete the remedial assignment.

#### **PATH600: Clinical Rotations (8)**

This course is the first of three consecutive courses comprising the Supervised Clinical Practice (SCP) component of the EVMS Pathologists' Assistant Program. This course consists of immersive clinical experiences in the various disciplines where Pathologists' Assistants may serve. Students will function under the direct supervision and guidance of site preceptors (Pathologists, Pathologists' Assistants, or other appropriate laboratory professionals). These rotations will include experience in Surgical Pathology, Medical Autopsy Pathology, Forensic Autopsy Pathology, Laboratory Management and Bio-Banking/Biorepository Sciences. The settings for these experiences will include district offices of the Virginia Medical Examiner's Office, military and Veterans Administration hospitals, community hospitals, larger private hospital complexes, academic medical centers and the EVMS Biorepository. Students will apply the knowledge and the skills developed in previous didactical courses to develop skills necessary for clinical practice. This course will introduce the student to the demands of the working environment and expectations of a practicing Pathologists' Assistant.

#### **PATH601: Medical Informatics & Electronic Health Records - online (2)**

A new self-paced online certificate program, University of Pathology Informatics (UPI) leverages case-based learning to develop critical knowledge of informatics concepts. UPI is a joint effort between the American Society for Clinical Pathology (ASCP) and the Association for Pathology Informatics (API) focusing on the four laboratory informatics competencies: Information Fundamentals, Information Systems, Workflow & Processes and Governance & Management. This certificate program consists of 20 custom courses; 12 core and eight elective courses are required to earn the certificate. UPI utilizes a case-based approach, where you will act as the project leader in developing a pathology informatics needs assessment for a laboratory.

#### **PATH602: Special Topics: Pathology (Pediatric Pathology) - online (2)**

This is an online course that introduces the student to a variety of commonly encountered pediatric pathology cases. The course emphasizes the integration of knowledge obtained from prior pathology courses and prepares the student to function effectively in clinical clerkships where pediatric samples are encountered. It covers a broad range of topics designed to improve knowledge specific to pediatric cases and samples. Following successful completion of this course the student should be able to interact with pathologists and residents specialized in the field of pediatric pathology to carry out the function of a Pathologists' Assistant.

### **IPE700: Inter Professional Education - online (1)**

A safe, effective and value-driven healthcare system requires teams of professionals working in unison to benefit patients and improve outcomes. The School of Health Professions has developed an online course for the PathA students to evoke awareness of the importance of Inter professional interactions across the following disciplines: Pathologists' Assistant, Medical technologist, Histotechnicians. Students will be required to study didactic and case-based learning modules presented online. Students are expected to demonstrate basic knowledge of the workings of cross-discipline programs and fundamental understanding of inter professional education (IPE). Each session will be presented by PowerPoint and/or video format and peer-to-peer interaction facilitated by Blackboard forum discussions and postings. The course will use the World Health Organization definition of IPE: "When students from two or more disciplines learn about, from and with each other to enable effective collaboration and improve health outcomes."

### **PATH603: Clinical Rotations (10)**

This course is the second of three consecutive courses comprising the Supervised Clinical Practice (SCP) component of the EVMS Pathologists' Assistant Program. This course also consists of immersive clinical experiences in the various disciplines where Pathologists' Assistants may serve. Students will function under the direct supervision and guidance of site preceptors (Pathologists, Pathologists' Assistants, or other appropriate laboratory professionals). These rotations will include experience in Surgical Pathology, Medical Autopsy Pathology, Forensic Autopsy Pathology, Laboratory Management and Bio-Banking/Biorepository Sciences. The settings for these experiences will include district offices of Virginia Medical Examiner's Office, military and Veterans Administration hospitals, community hospitals, larger private hospital complexes, academic medical centers and the EVMS Biorepository. Students will continue to develop skills for clinical practice, an emphasis will be placed in functioning with greater autonomy and efficiency. They will expand their repertoire of specimen types and perform duties of progressively increasing complexity. Learning objectives addressed in prior courses or clinical rotations will be reinforced and emphasized. This course will prepare the student to meet the demands of the working environment and expectations of a practicing Pathologists' Assistant.

### **PATH604: Laboratory Management - Online (2)**

This course uses the Lab Management University (LMU) self-paced online certificate program that improves competencies in laboratory management. It will teach the student practical, day-to-day skills needed to function successfully in a laboratory environment. All core concepts of laboratory management are introduced. The Fundamentals Certificate of Completion in Laboratory Management is awarded on completion of 25 courses across six core competencies: Leadership, Personnel Management, Operations, Financial Management, Informatics and Compliance. Students select and complete 25 courses under the Fundamentals program at their own pace, receiving their Certificate of Completion in Laboratory Management upon successful completion.

### **PATH605: Gross Anatomy Teaching Assistant (2)**

The students will participate in ongoing educational activity in the gross anatomy course for first year medical students or physician assistants and surgical assistants. It is anticipated that the PathA teaching assistant rotation (60 contact hours; approx. 8 weeks) will facilitate the learning experience of students currently enrolled in the course. Activities that the teaching assistant will conduct include dissection of cadavers for prosection presentation, photo documentation of dissection specimens of sufficient quality to be used for educational purposes. Conduct processing, dictation, and photo documentation of collected specimens of various pathologies encountered in the cadavers. The teaching assistants will participate in setting up formative quizzes, assisting in setting up of laboratory practical exams, opening of the calvarium and removal of brains and evaluations of student presentations.

### **PATH606: Special Topics: Pathology (Neuropathology) - online (2)**

This is an online course that introduces the student to a variety of commonly encountered neuropathology cases. The course emphasizes the integration of knowledge obtained from prior pathology courses and prepares the student to function effectively in clinical clerkships where neuropathology samples are encountered. It covers a broad range of topics designed to improve knowledge specific to neuropathology cases and samples. Following successful completion of this course the student should be able to interact with pathologists and residents specialized in the field of neuropathology to carry out the function of a Pathologists' Assistant.

### **PATH607: Clinical Rotations (2)**

This course is the final course of the Supervised Clinical Practice (SCP) component of the EVMS Pathologists' Assistant Program. This course consists of immersive clinical experiences in the various disciplines where Pathologists' Assistants may serve. Students will function under the direct supervision and guidance of site preceptors (Pathologists, Pathologists' Assistants, or other appropriate laboratory professionals). These rotations will include experience in Surgical Pathology, Medical Autopsy Pathology, Forensic Autopsy Pathology, Laboratory Management and Bio-Banking/Biorepository Sciences. The settings for these experiences will include district offices of Virginia Medical Examiner's Office, military and Veterans Administration hospitals, community hospitals, larger private hospital complexes, academic medical centers and the EVMS Biorepository. In this course, students will emphasize and refine the skills and abilities required of a practicing Pathologists' Assistant and will be capable of working with indirect supervision and with the independence expected of a PathA program graduate. Upon completion of this course, students will be fully competent in all essential duties of a PathA.

### **PATH608: ASCP Certification Exam Prep (4)**

This seminar course is designed as a comprehensive review, study guide and self-evaluation tool with the goal of preparation for the American Society for Clinical Pathology Board of Certification (ASCP-BOC) Pathologists' Assistant certification examination. Students will have access to pre-

course and post-course practice examinations and interactive study materials. Appropriate reference texts will be available as well as other review materials. This course will make use of the seminar format with students synthesizing material from multiple courses and disciplines into presentations to be shared with the class.

The course will begin with a pre-course practice test to evaluate individual strengths and weaknesses in preparation of review for the ASCP-BOC Pathologists' Assistant Examination. Students will then be assigned seminar topics and will work in groups of two or three, to synthesize material and create presentations. Multiple disciplines (anatomy, pathology, histology, embryology, surgical pathology techniques, etc.) shall be included in the generation of review presentations and presentations will provide the foundation for seminars led by the assigned group. A post-course practice examination will allow the student to track their progress and identify any remaining points of weakness.

#### **PATH609: Graduate Seminar (2)**

This is a capstone research project designed to introduce the student to multiple elements of an original research project. The student will be responsible for selecting a topic in the discipline of pathology to be worked up as a case-study finding or original research finding. The student will be responsible for the selection of the topic of interest, conducting literature search, compilation and analysis of the data material and writing of the findings in the form of an abstract and/or manuscript. Although not required, the reported findings should be of sufficient originality and scientific merit that it could be suitable for peer-review publication or presentation at a scientific meeting. The student will be responsible for writing and editing the final abstract, manuscript or report under the guidance of the Program Director. If the findings are submitted for publication, the student will be responsible for addressing reviewer comments and re-submission for publication with assistance from the Program Director.

The course presents several major themes and opportunities of instructional methods related to research techniques and methods in health profession education. This course will allow the student to receive instructional and scientific guidance from the Program Director for initiating and completing a case-study report or other approved research project of interest. The culmination of the project will require that the student present the findings in an open seminar setting either in-house or at an approved scientific meeting to enhance the learning experience. The students will have the opportunity to participate in multiple discussions from the audience during their presentation.

#### **ASCP Certification Exam (no assigned credits)**

This exam is administered by the American Society for Clinical Pathologists (ASCP).

## **Faculty**

Richard Conran PhD, MD, JD, Chairman

Jolanta Kowalewska , MD, PhD, Associate Professor

Jorge L. Jacot, PhD, Associate Professor

Marta Agata Ambrozewicz , MD, PhD, Assistant Professor

Paul F. Aravich, PhD, Professor

Carrie Elzie , PhD, Associate Professor

Amy P. Fantaskey, MD, Assistant Professor

Earl W. Godfrey, PhD, Teacher

Craig W. Goodmurphy, PhD, Professor

Kerwin M. Kolheffer, MS, Assistant Professor

James H. Slusser, MS, Instructor

Laurie L. Wellman, PhD, Biorepository Director, Associate Professor





# Physician Assistant, MPA

## Admissions

Admission to the PA profession has become increasingly competitive over the years. EVMS evaluates applicants through four lenses: cognitive/academic, personal/non-cognitive, healthcare experience and community service.

Detailed information about admissions criteria for a competitive application can be found in our Admissions Guidebook. It is a comprehensive guide about our application requirements and the admissions process.

## Admission Requirements

Applicants to the program must be U.S. citizens or U.S. permanent residents and have:

- A bachelor's degree (or higher graduate degree) completed no later than July 1.
  - ◆ Official transcripts from the awarding institution must specify the date upon which the degree was issued.
  - ◆ If the bachelor's degree was issued by a U.S. college or university, as a general rule it should be from a regionally accredited institution. However, the PA program may grant exceptions on a case-by-case basis.
  - ◆ Applicants with foreign degrees may be considered on a case-by-case basis.
    - Specifics regarding foreign degree requirements, prerequisite expectations and eligibility are detailed in the Admissions Guidebook.
- A qualifying grade point average of 3.00 or better (on a 4.0 scale).
- All prerequisite coursework satisfactorily\* completed prior to March 1.
- Required courses include:
  - ◆ Anatomy+
  - ◆ Physiology+
  - ◆ General Chemistry
  - ◆ Organic Chemistry or Biochemistry+
  - ◆ Microbiology or Cell Biology+
  - ◆ Intro to Psychology
  - ◆ Additional Psychology+
  - ◆ Math, Statistics or Physics

\*Requires 3 semester credits minimum with a B- or better grade

+Must be completed within 10 years of application deadline

- Completed the CASPA application by March 1.
- Application requirements include:
  - CASPA application fee
  - Official transcript(s) from each university or college ever attended
  - TOEFL scores (if applicable)
  - 3 letters of reference
  - Other documents as directed by CASPA

- Completed the EVMS supplemental application online by March 1.
  - ◆ This may only be submitted once all 8 prerequisites have been satisfactorily completed.
  - ◆ Official transcripts for any outstanding prerequisites completed after CASPA verification must be submitted directly to EVMS:  
**EVMS Physician Assistant Program**  
**School of Health Professions**  
**ATTN: Admissions & Enrollment**  
**700 West Olney Road, Suite 1155**  
**Norfolk, VA 23501**
- Taken the CASPer test online by March 1.
  - ◆ Submitted application fee to CASPer

## Application Deadline

A complete application file includes a completed CASPA application, EVMS supplemental application, and CASPer test by March 1, 2019

If an application is not complete by the March 1 deadline, it will not be considered, regardless of the original CASPA submission date.

A CASPA application is considered complete when the following actions occur:

- All official transcripts are listed, each with a date received in your Status Menu under "Transcripts."
- At least two of your references are listed as "completed" with a date completed in your Status Menu under "Evaluations."
- Your payment is marked as received with a date received in your Status Menu.
- You have received email confirmation that you submitted the application.
- Your application Status Menu reads as "Materials Received > Verifying" for the PA programs to which you submitted.

## CASPer Test

The Computer-Based Assessment for Sampling Personal Characteristics (CASPer) Test is an online assessment for non-cognitive skills and interpersonal characteristics that we believe are important for successful students and graduates of our program as well as professional healthcare providers. This test is intended to complement the other tools that we use for applicant screening. In implementing CASPer, we are trying to further enhance fairness and objectivity in our selection process.

All applicants to the EVMS PA program are required to complete the online assessment to assist with our selection process. Successful completion of CASPer is mandatory in order to maintain admission eligibility.

In order to take CASPer, you will be responsible for securing access to a computer with audio capabilities, a webcam and a reliable internet connection on your selected test date. CASPer can be taken practically anywhere so long as you can satisfy the aforementioned requirements. No exceptions will be



provided for applicants unable to take CASPer online due to being located at sites where internet is not dependable due to technical or political factors.

Please sign up and reserve a test using your CASPA ID and a piece of government-issued photo ID. You will be provided with a limited number of testing dates and times. Please note that these are the only testing dates available for your CASPer test. There will be no additional tests scheduled. Please use an email address that you check regularly; there may be updates to the test schedule.

The CASPer test is comprised of 12 sections of video and written scenarios. Following each scenario, you will be required to answer a set of probing questions within a specified time limit. The test typically takes between 75-90 minutes to complete. Each response is graded by a different rater, giving a very robust and reliable view of personal and professional characteristics important to our program and profession. No studying is required for CASPer, although you may want to familiarize yourself with the test structure and ensure you have a quiet environment to take the test.

CASPer test results are valid for one admission cycle. Applicants who have already taken the test in previous years will therefore be expected to retake it.

## Early Assurance Program

The Early Assurance Program (EAP) exists to offer outstanding and qualified undergraduate students with firm interests in a career as a physician assistant and in attending EVMS the opportunity to gain early assurance of acceptance into the PA program at EVMS before beginning their final year of college.

By granting early assurance of acceptance into the program, students will be able to broaden their academic focus, engage in extracurricular leadership activities and pursue first-hand, direct patient care experience.

### Partner Institutions

- College of William & Mary
- Virginia Wesleyan College
- Christopher Newport University
- Randolph-Macon College

## Application & Admission

Each January, early assurance program advisers at each partner institution will forward names of eligible students who are interested in applying to the PA program through the Early Assurance Program to EVMS. Students interested in the program are required to maintain regular contact with the EAP adviser during their college career. Eligible students will receive an email containing the necessary links and instructions to apply.

Below are the main steps necessary to apply through the Early Assurance Program at EVMS.

- Meet with the EAP adviser at your institution as soon as possible.
- Establish a plan to complete prerequisites, certification and patient care experience prior to application

deadline.

- Complete the EVMS EAP application by May 30 during the spring semester of your junior year.
- Complete the Centralized Application Service for Physician Assistants (CASPA) application by June 15 of your junior year.
- Interview with the PA program admissions committee in July.
- Complete the undergraduate degree requirements and maintain EAP eligibility.

## Eligibility

To be eligible to apply for the Early Assurance Program, a student must meet the following criteria:

- Be an enrolled "career student" at a partner institution since your freshman year of college
  - ◆ This program is not available to students transferring into the institution.
- Be in their junior year at a partner institution
  - ◆ Applicants should have no more than 1 additional academic year to complete at the time of their interview session.
- Meet all institutional and degree requirements to continue as a student in good standing
- Have no academic or conduct code violations
- Be a U.S. citizen or permanent resident
- Maintaining an overall (cumulative) GPA of 3.25 or better (on a 4.0 scale) with consistent academic performance.
  - ◆ NOTE: The CASPA-calculated baccalaureate GPA reflects the cumulative undergraduate GPA we will be evaluating. CASPA uses a 4.0 scale when calculating their GPAs. More information, including a GPA calculator, is available online.
- Satisfactorily complete at least 7 of the 8 prerequisite courses
- Be able to accumulate 500 hours of patient care experience before acceptance into the program

## Maintaining Eligibility

Continuation in the EAP will require evidence of general academic progress consistent with past performance. It will also require significant progress toward achieving individually specified goals outlined in the application.

In addition, the following criteria must be maintained by the student to continue eligibility:

- Meet with EAP adviser each semester and maintain contact with the PA program after graduation (Advisor Meeting & Progress Form)
- Carry sufficient credit load during the remaining regular academic semesters to fulfill undergraduate degree requirements
- Maintaining an overall (cumulative) GPA of 3.25 or better (on a 4.0 scale) with consistent academic performance.

- ♦ NOTE: The CASPA-calculated baccalaureate GPA reflects the cumulative undergraduate GPA we will be evaluating. CASPA uses a 4.0 scale when calculating their GPAs. More information, including a GPA calculator, is available online.
- Make significant progress toward achieving the individually-specified goals outlined on the Healthcare Experience Plan of Completion:
  - ♦ To obtain strong, direct patient care experience, students should consider obtaining a certification as a healthcare provider (e.g., certified nursing assistant, emergency medical technician, paramedic, phlebotomist, etc.)
  - ♦ The goal is for the applicant to have at least 1,000 hours of patient care experience before matriculating in the PA program.
- Fulfill all institution and degree requirements to maintain status as a student in good standing (no academic or conduct code violations) and earn a bachelor's degree prior to matriculating in the PA program
- Complete the additional specific conditions set by the PA program at the time of acceptance notification (e.g., official transcripts confirming date of degree completion, a criminal background check, indication of ability to independently meet the and submission of all health requirements)
- Remain free of any actions or conduct that would cause the admissions committee to question a student's suitability to pursue a career in medicine.
  - ♦ These include, but are not limited to, misdemeanor or felony convictions, academic dishonesty, other code of conduct violations and/or unprofessional conduct in a healthcare or educational setting.

Failure to meet or maintain these eligibility standards will constitute grounds for dismissal from the program. However, dismissal from the EAP does not affect the student's ability to apply to the PA program through the conventional application process.

## Technical Standards

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) requires all Physician Assistant (PA) programs to publish technical standards for admission. These are defined as "physical, cognitive and behavioral abilities required for satisfactory completion of all aspects of the curriculum and for entry into the profession."

The technical standards for admission establish the expectations and abilities considered essential for students admitted to the EVMS PA program in order to achieve the level of competency required for graduation and the practice of medicine. Applicants to the program must possess independent ability, aptitude and skills in the following areas:

- Observation
- Communication
- Critical reasoning (intellectual)
- Motor and sensory functions

### ■ Behavioral and social attributes

It is expected in this age of technology that students also have sufficient computer skills and are comfortable with electronic communication and media to successfully and professionally function as a student physician assistant.

These standards will serve as prerequisites for entrance, continuation, promotion and graduation from the PA program; students must be prepared to indicate their ability to meet these standards as a condition of acceptance and during registration for each semester.

Note: The use of an intermediary (a person trained to perform essential skills on behalf of the student) is not permitted.

EVMS must maintain the integrity of the curriculum and preserve those elements deemed essential to the education of a physician assistant and cannot compromise the health and safety of other students or patients. PA program applicants must be prepared to meet the technical standards, with or without reasonable accommodation, in order to complete the program and indicate possession of such ability prior to their matriculation into the program.

Inquiry by the program faculty and staff regarding disability is strictly prohibited. The PA program, in accordance with EVMS policy and as delineated by federal and Virginia law, does not discriminate in admissions, educational programs or employment against any individual on the basis of that individual's disability. The PA program will make good faith efforts at providing reasonable accommodation as required. However, the program reserves the right not to admit or register students who cannot meet the technical standards or who would constitute a direct threat to the health and safety of others.

PA program applicants or students who may have questions regarding these technical standards or who believe they may need to request reasonable accommodation in order to meet the standards are encouraged to contact EVMS Disability Officer Morgan Russell, MS, at 757.446.7261 or russelml@evms.edu.

Revealing a disability is voluntary; however, such disclosure is necessary before any accommodations may be made in the learning environment or in the program's procedures. Information regarding disabilities is handled in a confidential manner.

### 1. Observational Skills

1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall and laboratory as well as at the patient's bedside and in outpatient settings.

1.2. Indicators include, but are not limited to, the following examples:

- Accurate observation and participation in the lecture hall, laboratory and clinic with patients at a distance and close at hand including non-verbal and verbal signals.
- Accurate identification of changes in color of fluids, skin and diagnostic media examinations.

- Accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and findings on X-ray and other imaging tests.

## 2. Communication Skills

2.1. Demonstrate effective verbal and nonverbal communication skills with other students, faculty, patients and healthcare providers from different social and cultural backgrounds, varying degrees and types of infirmities as well as varying cultures and personalities.

2.2. Indicators include but are not limited to the following examples:

- Clear, efficient and intelligible articulation of English language.
- Legible, efficient and intelligible written English language.
- Ability to prepare and communicate concise oral and written summaries of patient encounters
- Ability to provide appropriate patient counseling and instruction to patients.
- Record examination and diagnostic results clearly, accurately and efficiently.

## 3. Critical Reasoning Skills

3.1. Demonstrate critical reasoning skills required to undertake the full curriculum, achieve the level of competency required by the faculty and meet the demands of total patient care. These skills include, but are not limited to, intellectual, conceptual, integrative and quantitative abilities.

3.2. Indicators include, but are not limited to, these examples:

- Accurate and efficient reading skills (English language).
- Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
- Comprehend the spatial relationships of structures (e.g. three-dimensional relationships).
- Demonstrate ability to acquire, retain, assimilate and apply large amounts of complex, technical and detailed information.
- Demonstrate ability to synthesize and apply concepts and information from various disciplines in order to formulate diagnostic and therapeutic plans.
- Demonstrate appropriate judgment in patient assessment, diagnosis, monitoring, evaluation and intervention, including planning, time management and use of resources.

## 4. Motor and Sensory Function

4.1. Demonstrate sufficient motor and sensory function to perform typical functions of physician assistants including, but not limited to, physical examinations, treatment interventions and general care of patients.

4.2. Indicators include, but are not limited to, the

following examples:

- Functional and sufficient sensory capacity (visual, auditory and tactile) to adequately perform a complete physical examination and elicit information gained from proper use of examination tools and maneuvers (inspection, palpation, percussion and auscultation).
- Execute fine and gross motor movements with sufficient coordination, postural control, equilibrium and hand-eye coordination to safely participate in laboratory sessions, use standard medical/surgical instruments, assess patients, provide patient care and participate in basic diagnostic and therapeutic maneuvers and procedures.
- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, laboratories and clinical settings, including appropriate negotiation of self and patients in various patient care environments).
- Accurately discern and evaluate various components of the spoken voice (pitch, intensity and timbre), percussive notes and auscultatory findings.
- Physical stamina sufficient to complete the rigorous course of didactic and clinical study, which may include prolonged periods of sitting, standing and/or rapid ambulation.
- Coordination of motor skills necessary to respond to emergency situations quickly and appropriately.

## 5. Behavioral and Social Attributes

5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing professional physician assistant.

5.2. Indicators include, but are not limited to, the following examples:

- Possess personal qualities that facilitate effective therapeutic interactions (e.g., compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Possess the emotional health required for full use of mental faculties (including judgment, orientation, affect and cognition).
- Ability to establish rapport and develop mature and effective professional relationships with faculty, patients, the public and other members of the healthcare team.
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships. Communicate and care for, in a nonjudgmental way, persons who differ from oneself and one's beliefs in a variety of ways, including but not limited to gender, age, race, ethnicity, socioeconomic status, culture, creed, military status, sexual orientation and identity and religious or spiritual beliefs.
- Ability to monitor and react appropriately to one's own emotional needs and responses.

- Display appropriate flexibility, adaptability, composure and emotional stability during periods of high stress or uncertainty associated with didactic and clinical encounters and environments.
- Ability to accurately follow oral and written directions with prompt completion of all responsibilities in the classroom and clinical setting.
- Compliance with standards, policies and practices set forth in the program handbook.

## Curriculum

The PA program is divided into two phases, spanning 28 consecutive months over seven semesters.

Phase I, the 16-month pre-clinical year, spans four consecutive semesters (68 credit hours) and incorporates traditional classroom interaction with clinical skills development and simulated patient interaction through the Sentara Center for Simulation and Immersive Learning.

In Phase II (26 credit hours), students complete 8 clinical field experiences with supervised, direct patient care in various medical and surgical disciplines, which form the basis of the professional socialization process and adaptation to the role and functions of a physician assistant.

Most of the clinical sites are located throughout Hampton Roads. Opportunities exist for clinical placements outside the region and for students to initiate new rotation sites. However, international clinical placements are not an option.

Graduates are required to pass the Physician Assistant National Certifying Examination (PANCE) and meet state-specific regulations in order to practice clinically.

## Course Sequence

PA students are expected to complete the program curriculum in the order specified below. Each semester's coursework is to be considered prerequisite to the next semester. Students may not enter the program with advanced standing, regardless of educational or work experience, and no accelerated curriculum or course waivers are offered.

### Semester One - January to April

#### Pre-Clinical

- MPA 5001 Pathophysiology for Health Professions
- MPA 5061 Clinical Anatomy for Health Professions
- MPA 5081 Introduction to the PA Profession and the Business of Medicine
- MPA 5341 Legal and Ethical Issues in Medicine
- MPA 5142 Psychosocial Elements of Wellness
- MPA 5800 Foundations of Interprofessional Practice
- MPA 5002 Introduction to Medical Diagnostics

### Semester Two - April to August

#### Pre-Clinical

- MPA 5091 Clinical Assessment I

- MPA 5112 Clinical Pharmacology I
- MPA 5132 Clinical Skills and Therapeutics I
- MPA 5314 Patient Counseling and Education
- MPA 5162 Introduction to Clinical Medicine I
- MPA 5800 Foundations of Interprofessional Practice

### Semester Three - August to December

#### Pre-Clinical

- MPA 5192 Clinical Assessment II
- MPA 5213 Clinical Pharmacology II
- MPA 5234 Clinical Skills and Therapeutics II
- MPA 5253 Introduction to Epidemiology and Evidence-Based Medicine
- MPA 5263 Introduction to Clinical Medicine II
- MPA 5801 Practicum for Interprofessional Practice

### Semester Four - January to April

#### Pre-Clinical

- MPA 5284 Journal Review Seminar
- MPA 5294 Clinical Assessment III
- MPA 5304 Problem-Based Clinical Reasoning
- MPA 5333 Fundamentals of Surgical Patient Care
- MPA 5364 Introduction to Clinical Medicine III
- MPA 5801 Practicum for Interprofessional Practice

### Semester Five, Six, and Seven

Each semester is approximately four months in duration. The sequence of clinical rotations is subject to change based on the number, specialty and location of preceptor sites, and will vary from student to student.

#### Supervised Clinical Practice (SCP)

- MPA 5465 Introduction to Clinical Practice (Weeks 11-15)
- MPA 5705 SCP: Family Medicine (5 weeks)
- MPA 5715 SCP: Pediatric Medicine (5 weeks)
- MPA 5725 SCP: General Internal Medicine (5 weeks)
- MPA 5735 SCP: Emergency Medicine (5 weeks)
- MPA 5745 SCP: General Surgery (5 weeks)
- MPA 5755 SCP: Women's Health (5 weeks)
- MPA 5785 SCP: Psychiatry and Behavioral Health (5 weeks)
- MPA 5790 SCP: Elective I\*
  - ◆ This may consist of one 5-week elective in a chosen area of medicine.
- MPA 5795 SCP: Elective II\*
  - ◆ This may consist of one 5-week elective in a chosen area of medicine.
- MPA 5807 Service Learning Practicum
- MPA 5900 Senior Seminar
- MPA 5802 Interprofessional Practice



\*Clinical electives include Cardiology, Cardiothoracic Medicine, Dermatology, Endocrinology, Gastroenterology (adult and pediatric sites), Neonatology, Nephrology, Neurology (adult and pediatric sites), Orthopedics, Plastic Surgery and Trauma Surgery. Additional electives can be pre-arranged with proper planning on the part of the student.

## **Tuition and Fees**

For students matriculating in the Physician Assistant program after January 1, 2019, tuition and fees per semester are determined by the Virginia residency status as follows:

### **Tuition**

- In-state: \$11,894
- Out-of-state: \$14,352

State residency is determined after acceptance in the program and will be verified by the admissions staff.

Tuition and fees are subject to change without notice. EVMS typically announces the tuition and fee rates in July. Questions about tuition and fee charges on student accounts should be directed to EVMS Financial Services.

Financial aid is available to U.S. citizens and permanent residents. Visit EVMS Financial Aid for more information.

Students who decide to withdraw from the the program must follow policies and procedures set by EVMS Accounts Receivable and Student Billing for refunds of tuition and fees.

### **Incidental Costs**

- Mandatory fees: \$6,560
- Health insurance (EVMS-sponsored and optional): \$7,216
- Books, supplies and equipment: \$4,170

## **External Loan Repayment Opportunities**

The average PA student graduates with about \$100,000 in student debt (inclusive of all schooling debt accumulated prior to PA school). There are a number of external loan-repayment opportunities that can help students eliminate some or all of their school debt:

### **AmeriCorps**

This national program helps repay education loans in exchange for a year of service in designated areas across the United States.

### **Navy or Air Force Health Professions Scholarship Program**

These programs open slots for loan repayment based on need and are awarded on a rolling basis.

### **Indian Health Service (IHS)**

This national program seeks to place healthcare professionals, including PAs, in IHS health centers for a minimum of two years.

### **National Health Services Corp**

This program is for PAs who agree to practice in underserved communities as a primary care provider.

### **U.S. Army Program**

This three-year loan repayment program is available for those who serve as an Army PA.

## Projected Cost of Attendance

		Physician Assistant   Year 1	Physician Assistant   Year 2	Physician Assistant   Year 3
<b>Budget length</b>		8 mos.	12 mos.	9 mos.
<b>Tuition*</b>	<b>In-state</b>	\$23,788	\$35,449	\$23,555
	<b>Out-of-state</b>	\$28,704	\$42,504	\$28,152
<b>Fees*</b>	<b>Mandatory</b>	\$2,502	\$2,381	\$1,677
	<b>Health insurance</b>	\$1,616	\$2,800	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$27,906	\$40,630	\$28,032
	<b>Out-of-state</b>	\$32,822	\$47,685	\$32,629
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,789	\$2,141	\$672
	<b>Room, board and miscellaneous living expenses</b>	\$13,358	\$20,037	\$13,358
	<b>Personal expenses</b>	\$640	\$960	\$640
	<b>Transportation</b>	\$3,000	\$4,493	\$3,000
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$46,693	\$68,261	\$45,702
	<b>Out-of-state</b>	\$51,609	\$75,316	\$50,299
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$1,117	\$2,037	\$1,075
	<b>Grad PLUS – 4.264% out-of-state</b>	\$1,326	\$2,337	\$1,271
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$48,029	\$70,517	\$46,996
	<b>Out-of-state</b>	\$53,154	\$77,872	\$51,789

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are subject to change for loans first disbursed on or after October 1.



## Academic Calendar 2018-2019

### Semesters One and Two

	"Sem 1 and 2 (Class of 2021)"
<b>Orientation</b>	1/2/2019 - 1/3/2019
<b>Term I</b>	
<b>Start Date</b>	1/3/2019
<b>End Date</b>	4/19/2019
<b>Final Exams</b>	4/15/2019 - 4/19/2019
<b>Term II</b>	
<b>Start Date</b>	4/29/2019
<b>End Date</b>	8/16/2019
<b>Final Exams</b>	8/12/2019 - 8/16/2019
<b>Term III</b>	
<b>Start Date</b>	N/A
<b>End Date</b>	N/A

<b>Graduation Rehearsal</b>	5/14/2021
<b>Graduation</b>	5/15/2021

<b>HOLIDAYS AND BREAKS</b>	
<b>Labor Day</b>	9/3/2018
<b>Fall Break</b>	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	4/20/2019 - 4/28/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

### Semesters Three, Four, and Five

	"Sem 3, 4, and 5 (Class of 2020)"
<b>Orientation</b>	N/A
<b>Term I</b>	
<b>Start Date</b>	8/27/2018
<b>End Date</b>	12/14/2018
<b>Final Exams</b>	12/10/2018 - 12/14/2018
<b>Term II</b>	
<b>Start Date</b>	1/2/2019
<b>End Date</b>	4/19/2019
<b>Final Exams</b>	4/15/2019 - 4/19/2019
<b>Term III</b>	
<b>Start Date</b>	4/29/2019
<b>End Date</b>	8/23/2019

	"Sem 3, 4, and 5 (Class of 2020)"
<b>Graduation Rehearsal</b>	5/15/2020
<b>Graduation</b>	5/16/2020

<b>HOLIDAYS AND BREAKS</b>	
<b>Labor Day</b>	9/3/2018
<b>Fall Break</b>	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/15/2018 - 1/1/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	4/20/2019 - 4/28/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

### Semesters Five, Six, and Seven

	"Sem 6 and 7 (Class of 2019)"
<b>Orientation</b>	N/A
<b>Term I</b>	
<b>Start Date</b>	9/3/2018
<b>End Date</b>	12/21/2018
<b>Final Exams</b>	N/A
<b>Term II</b>	
<b>Start Date</b>	1/7/2019
<b>End Date</b>	5/10/2019
<b>Final Exams</b>	5/6/2019 - 5/10/2019
<b>Term III</b>	
<b>Start Date</b>	N/A
<b>End Date</b>	N/A

<b>Graduation Rehearsal</b>	5/17/2019
<b>Graduation</b>	5/18/2019

<b>HOLIDAYS AND BREAKS</b>	
<b>Labor Day</b>	9/3/2018
<b>Fall Break</b>	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/22/2018 - 12/1/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

## Course Descriptions

### **MPA 5001: Pathophysiology for Health Professions (5)**

A study of the cellular, organ and system changes associated with human disease processes and the physiologic responses associated with selected human pathologies.

### **MPA 5061: Clinical Anatomy for Health Professions (5)**

A study and exploration of the human cadaver through lecture, lab dissection and prosection.

### **MPA 5002: Introduction to Medical Diagnostics (.5)**

This course will introduce the fundamental skills of clinical ultrasonography.

### **MPA 5081: Introduction to the PA Profession and the Business of Medicine (2)**

This course explores the history, role, practice scope and professional policies of the physician assistant in healthcare. It also presents an interactive and strategic examination of the evolving American healthcare system, the issues and controversies relative to healthcare reforms and the growing impact of managed care.

### **MPA 5341: Legal and Medical Ethical Issues in Medicine (2)**

This course examines the relationships and impact of health law and medical ethics in healthcare by analyzing case studies of contemporary health issues.

### **MPA 5142: Psychosocial Elements of Wellness (2)**

The societal determinants of health, illness and disease are explored as a continuum of community care, a promotion of cultural sensitivity and an enrichment of the clinician-patient relationship.

### **MPA 5800: Foundations of Interprofessional Practice (0.5)**

Foundations of Interprofessional Practice introduces interprofessional roles in healthcare in order to enable effective collaboration for a safe, effective and value-driven healthcare delivery system by emphasizing teams of professionals working together in order to benefit patients and improve health outcomes. The course extends through semesters 1 and 2.

### **MPA 5091: Clinical Assessment I (3)**

Introduces the beginning practitioner to the skills of listening, communicating, data collecting and documenting patient encounters.

### **MPA 5112: Clinical Pharmacology I (3)**

This course provides preparation for appropriate administration/prescription of medicines, which is accomplished through a study of drug classifications, pharmacodynamic actions and rationale for therapeutic use of prescription and nonprescription medications.

### **MPA 5132: Clinical Skills and Therapeutics I (4)**

Clinical Skills and Therapeutics I introduces and assesses clinical competency of specified skills, diagnostic modalities and therapeutic interventions related to professional responsibilities and practices in patient care.

### **MPA 5314: Patient Counseling and Education (2)**

This course builds on knowledge gained in clinical science courses by providing the student with the skills necessary to educate patients about their disease processes, help patients become a partner in their own healthcare and guide patients toward health-promoting behavior.

### **MPA 5162: Introduction to Clinical Medicine I (5)**

This course is designed to lay the foundation for patient care through a comprehensive understanding of illness. This 3-course series in the medical sciences and related technologies addresses care of the adult, adolescent and pediatric patient beginning with common acute self-limited illnesses and progressing to more complex, well-defined chronic disorders.

### **MPA 5192: Clinical Assessment II (3)**

This course introduces the use of examination techniques and equipment used during a physical examination and emphasizes the relationship of the exam to the history to aid in developing competency and clinical judgment in clinical assessment. A systematic approach is used in studying the comprehensive and problem-oriented clinical assessment of the adult, newborn, pediatric, obstetric and geriatric patient.

### **MPA 5213: Clinical Pharmacology II (3)**

Preparation for appropriate administration/prescription of medicines is accomplished through a study of drug classifications, pharmacodynamic actions and rationale for therapeutic use of prescription and nonprescription medications.

### **MPA 5234: Clinical Skill and Therapeutics II (4)**

Clinical Skill and Therapeutics II introduces and assesses clinical competency of specified skills, diagnostic modalities and therapeutic interventions related to professional responsibilities and practices in patient care.

### **MPA 5253: Introduction to Epidemiology and Evidence-Based Medicine (2)**

This course introduces population epidemiology and decision-making theory, followed by an introduction to and application of the principles of evidence-based medicine to patient care.

### **MPA 5263: Introduction to Clinical Medicine II (5)**

Designed to lay the foundation for patient care through a comprehensive understanding of illness. This 3-course series in the medical sciences and related technologies addresses care of the adult, adolescent and pediatric patient beginning with common acute self-limited illnesses and progressing to more complex, well-defined chronic disorders.

### **MPA 5801: Practicum for Interprofessional Practice (0.5)**

Practicum for Interprofessional Practice introduces interprofessional roles in healthcare to enable effective collaboration for a safe, effective and value-driven healthcare delivery system by emphasizing teams of professionals working together in order to benefit patients and improve outcomes. This course is an interprofessional educational experience for both PA and MD students at EVMS. The course extends through semesters 3 and 4.

### **MPA 5284: Journal Review Seminar (2)**

(Weeks 1-10) The Journal Review Seminar explores the process of reviewing journal articles for practical application of new medical knowledge and clinical review articles appropriate for PAs. Students learn to evaluate a broad range of case reports and journal articles for quality and applicability to clinical practice.

### **MPA 5294: Clinical Assessment III (3)**

This course integrates the history-taking and physical examination skills presented in semesters 1 and 2. The course begins with the complete history and physical exam and then introduces the problem-focused history and physical exam. Formulating differential examination skills and communicating findings with preceptors rounds out the experience.

### **MPA 5304: Problem-Based Clinical Reasoning (4)**

This course promotes a working knowledge base for integrating information into decision-making, diagnosis hypothesis, clinical reasoning and data resolution skills through cooperative learning strategies and selected clinical topics.

### **MPA 5333: Fundamentals of Surgical Patient Care (3)**

Fundamentals of Surgical Patient Care introduces concepts and practices in preoperative, perioperative and postoperative patient care and promotes skill development and competency in selected surgical skills.

### **MPA 5364: Introduction to Clinical Medicine III (5)**

Designed to lay the foundation for patient care through a comprehensive understanding of illness. This 3-course series in the medical sciences and related technologies addresses care of the adult, adolescent and pediatric patient beginning with common acute self-limited illnesses and progressing to more complex, well-defined chronic disorders.

### **MPA 5465: Introduction to Clinical Practice – Seminar (1)**

This course will cover clinical year expectations and standards as well as reinforce the extensive medical knowledge base that was developed during the didactic portion of the MPA program. The primary focus is to prepare students for the clinical year by reinforcing clinical knowledge and emphasizing information needed to be successful in the clinical year.

### **MPA 5705: Supervised Clinical Practice: Family Medicine (3)**

The supervised clinical practice in Family Medicine is designed to prepare a student to function in an ambulatory setting in a role appropriate to a primary care physician assistant

(PA) [Standard B3.04]. Each student will experience patient encounters that are essential in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, acute, or chronic. [Standard B3.02]. Each student will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking medical care across the life span, including infants, children, adolescents, adults, and elderly [Standard B3.03]. Dependent on the patient population of the practice, the student may also encounter patients seeking care for conditions requiring surgical management, prenatal and gynecologic care, as well as care for behavioral and mental health conditions [Standard B3.03].

### **MPA 5715: Supervised Clinical Practice: Pediatric Medicine (3)**

The supervised clinical practice in Pediatric Medicine is designed to prepare a student to function in an ambulatory setting in a role appropriate to a primary care physician assistant (PA) [Standard B3.04]. Each student will experience patient encounters that are essential in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, emergent, acute, or chronic. [Standard B3.02]. Each student will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking medical care across the life span, including infants, children, and adolescents [Standard B3.03]. Dependent on the patient population of the practice, the student may also encounter patients seeking care for conditions requiring behavioral and mental health conditions [Standard B3.03].

### **MPA 5725: Supervised Clinical Practice: General Internal Medicine I (3)**

The supervised clinical practice experience in Internal Medicine is designed to prepare a student to function in an Internal Medicine setting in a role appropriate to a primary care physician assistant (PA). [Standard B3.04]. Each student will experience patient encounters that are essential in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, acute, or chronic. [Standard B3.02]. Each student will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking medical care across the life span, including infants, children, adolescents, adults, and elderly [Standard B3.03]. Dependent on the patient population of the practice, the student may also encounter patients seeking care for conditions requiring surgical management, prenatal and gynecologic care, as well as care for behavioral and mental health conditions [Standard B3.03].

### **MPA 5735: Supervised Clinical Practice: Emergency Medicine (3)**

The supervised clinical practice (SCP) experience in Emergency Medicine is designed to prepare a student to function in an emergency department setting in a role appropriate to a primary care physician assistant (PA) [Standard B3.04]. Each student will experience patient encounters that are essential

in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, emergent, acute, and/or chronic. [Standard B3.02]. Each student will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking medical care across the life span, including infants, children, adolescents, adults, and elderly [Standard B3.03]. Dependent on patient population, the student may also encounter patients seeking care for conditions requiring surgical management, prenatal and gynecologic care, as well as care for behavioral and mental health conditions [Standard B3.03].

#### **MPA 5745: Supervised Clinical Practice: General Surgery (3)**

The supervised clinical practice experience in Surgery is designed to prepare a student to function in an ambulatory or inpatient setting in a role appropriate to a physician assistant (PA) practicing in surgery. [Standard B3.04]. Each student will experience patient encounters that are essential in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, emergent, acute, or chronic. [Standard B3.02]. Each student will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking medical care across the life span, including infants, children, adolescents, adults, and elderly [Standard B3.03]. The student will encounter patients seeking care for conditions requiring surgical management [Standard B3.03].

#### **MPA 5755: Supervised Clinical Practice: Women's Health (3)**

The supervised clinical practice (SCP) in Women's Health is designed to prepare a student to function in an outpatient and/or inpatient setting in a role appropriate to a physician assistant (PA) practicing in women's health [Standard B3.04]. Each student will experience patient encounters that are essential in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, acute, or chronic. [Standard B3.02]. Each student will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking medical care across the life span, including adolescents, adults, and elderly [Standard B3.03]. Dependent on the patient population of the practice, the student may also encounter patients seeking care for conditions requiring surgical management, prenatal and gynecologic care, as well as care for behavioral and mental health conditions [Standard B3.03].

#### **MPA 5785: Supervised Clinical Practice: Psychiatry and Behavioral Health (3)**

The supervised clinical practice (SCP) in Psychiatry and Behavioral Health is designed to prepare a student to function in various clinical settings and gain exposure to behavioral health [Standard B3.04]. Each student will experience patient encounters that are essential in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, emergent, acute, or chronic. [Standard B3.02].

Each student will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking care for behavioral and mental health conditions across the life span (children, adolescents, adults, and/or elderly) [Standard B3.03]. Upon completion of this SCP students will have the skills necessary to evaluate and manage patients with a variety of psychiatric problems. The student will be familiar with the indications, contraindications, side effects and dosing guidelines for the medications commonly used in psychiatry and be able to use selected psychoactive pharmaceuticals appropriately. Additionally, students are expected to perform psychiatric interviews and mental status examinations. The student will learn and understand the role of psychiatrists, psychologists, social workers and nurses in the care of the psychiatric patient and learn when to make referrals for specialized psychiatric care to the appropriate specialists. The aim is to achieve a level of competency in psychiatry to be able safely carry out the duties of a PA in any domain of medicine, promulgate respect and understanding of psychiatry as a medical discipline and its importance to other medical specialties, and to dispel attitudes which result in stigmatization of patients with psychiatric disorders.

#### **MPA 5790: Supervised Clinical Practice: Elective I (3)**

The supervised clinical practice (SCP) experience in an elective aims to meet Program Expectations related to a student's chosen field of interest. This SCP is offered to provide the student with knowledge of the role of a practicing physician assistant (PA) in the setting of his/her choosing, including (but not limited to) outpatient, emergency department, inpatient, or operating room environments [Standard B3.04]. Each student will experience patient encounters that are essential in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, emergent, acute, chronic or cosmetic. [Standard B3.02]. Each student will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking medical care across the life span, including infants, children, adolescents, adults, and elderly [Standard B3.03]. Dependent on the particular area of interest, the student may also encounter patients seeking care for conditions requiring surgical management, prenatal and gynecologic care, as well as care for behavioral and mental health conditions [Standard B3.03].

#### **MPA 5795: Supervised Clinical Practice: Elective II (3)**

The supervised clinical practice (SCP) experience in an elective aims to meet Program Expectations related to a student's chosen field of interest. This SCP is offered to provide the student with knowledge of the role of a practicing physician assistant (PA) in the setting of his/her choosing, including (but not limited to) outpatient, emergency department, inpatient, or operating room environments [Standard B3.04]. Each student will experience patient encounters that are essential in preparation for entry into practice. Students will be able to evaluate/assess patients involving one or more of the following types of encounters: preventative, emergent, acute, chronic or cosmetic. [Standard B3.02]. Each student



will be given the opportunity to apply knowledge and skills learned in the didactic program as s/he is exposed to patients seeking medical care across the life span, including infants, children, adolescents, adults, and elderly [Standard B3.03]. Dependent on the particular area of interest, the student may also encounter patients seeking care for conditions requiring surgical management, prenatal and gynecologic care, as well as care for behavioral and mental health conditions [Standard B3.03].

#### **MPA 5807: Service Learning Practicum (1)**

This course provides an opportunity for students to spend at least 15 hours in a community, health-related agency during the clinical year of the program. The goal of the course is to reinforce the community orientation of the medical school and promote a commitment to service in our graduates. Projects are presented to peers prior to graduation.

#### **MPA 5900: Senior Seminar (5)**

The purpose of this course is to prepare the student for transition to a practicing PA through lectures, small group activities and oral presentations. Students will be required to participate in comprehensive board review sessions designed for certification. At the conclusion of the course, students will be required to pass a summative evaluation designed to assess overall performance and preparation for clinical practice.

#### **MPA 5802: Interprofessional Practice (1)**

This course focuses on the observation and application of interprofessional concepts within healthcare teams in clinical practice to enable effective collaboration for a safe, effective and value-driven healthcare delivery system. This is accomplished by emphasizing teams of professionals working together in order to benefit patients and improve health outcomes.

### **Faculty**

#### **Program Director**

Kimberly K. Dempsey MPA, PA-C, Associate Professor

#### **Medical Director**

Richard Conran PhD, MD, JD, Chairman

#### **Admissions Director**

Jason A. Grahame MPA, PA-C, Associate Professor

#### **Academic Director**

Angela J. Cerezo MPA, PA-C, Assistant Professor

#### **Clinical Director**

Angela M. Conrad MPA, PA-C, Associate Professor

#### **Core Faculty**

Courtney C. Anderson MPA, PA-C, Associate Professor

Bradford N. Boyette MBA, MPA, PA-C, Assistant Professor

Amy P. Fantasky, MD, Assistant Professor

Charles D. Frost DHSc, MPAS, PA-C, Assistant Professor

W. Travis Kirby MPAS, PA-C, Associate Professor

Shannon M. Morris MPA, PA-C, Assistant Professor

Jayne R. Penne MSPAS, PA-C, Assistant Professor

Arun M. Ram , MBBS, MD, Associate Professor

Dan T. Thibodeau MHP, PA-C, DFAAPA, Associate Professor

Jennifer M. Wohl DHSc, PA-C, Assistant Professor

#### **Additional Faculty**

Marta Agata Ambrozewicz , MD, PhD, Assistant Professor

Paul F. Aravich, PhD, Professor

Craig W. Goodmurphy, PhD, Professor

Senthil K. Rajasekaran, MD, FCCP, Associate Dean, Academic Affairs

#### **Administrative Staff**

Nancy D. Stromann, Program Administrator

Erin Suit, Didactic Support Coordinator

Elise E. DeWitt, Student Program Administrative Support Coordinator

Tiffany L. Smith, Student Program Administrative Support Coordinator

# Master of Public Health

## Admissions

Applicants are required to select a track on the admissions application.

### For U.S. Students

- No GRE required.
- Completion of all undergraduate degree requirements prior to matriculating in the MPH program, with a minimum grade point average (GPA) of 2.50 on a 4.0 scale
  - ◆ In the case where an applicant's cumulative GPA is below the minimum 2.50, reviewers may consider a replacement GPA computed from the most recent 40 semester credit hours of U.S. or Canadian coursework.
- Two (2) letters of reference
- Personal essay
- Official transcripts from all colleges/universities attended.
- Transcripts must be sent to GradCAS only. GradCAS only accepts electronic transcripts from Credentials Solutions, Parchment, and National Student Clearinghouse. If your school does not offer either of these services, your transcript must be sent via mail. Please use the information below to send your transcripts.
  - ◆ Credentials Solutions
  - ◆ Parchment
  - ◆ National Student Clearinghouse
- Sending transcripts to GradCAS by mail. Download a transcript request form after you enter each institution in GradCAS and send the transcript request form to the institution registrar to send transcript by mail to the address below:

**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

### For International Students

- No GRE required.
- Completion of all undergraduate degree requirements prior to matriculating in the MPH program, with a minimum cumulative grade point average (GPA) of 2.50 on a 4.0 scale
- Test of English as a Foreign Language (TOEFL) - Minimum scores: Paper 550, Computer 213, iBT 80 OR International English Language Testing System (IELTS) - Minimum scores: Total 6.5, Subscores: 6
- Two (2) letters of reference
- Personal essay
- Official transcripts from all colleges/universities attended
  - ◆ In cases where a non-U.S. grading system has been used, World Education Services verification must be provided.

- ◆ GradCAS will ONLY accept the evaluation report from the credentialing agency. Do not send your foreign transcript to GradCAS.
- ◆ All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:

**GradCAS Transcript Processing Center**  
**PO Box 9217**  
**Watertown, MA 02471**

### TOEFL School Code is B886

International students must abide by all U.S. Immigration laws throughout their enrollment in the EVMS-ODU MPH program. This includes, but is not limited to, qualifying and obtaining a proper visa prior to attendance. For further information, please contact EVMS Human Resources at 757.446.6043.

## Early Assurance Program

The Early Assurance Program (EAP) offers early acceptance to undergraduate students in their junior year at a participating institution. Applicants must have expressed interest in Public Health, are in good academic standing and enrolled at an accredited undergraduate institution. The following institutions are participating in the Early Assurance Program with the EVMS Master of Public Health Program:

- Hampton University
- Regent University
- Virginia Wesleyan University

## Application & Admission

Students interested in the program are required to maintain regular contact with the EAP adviser during their college career.

Below are the main steps necessary to apply through the Early Assurance Program at EVMS.

- Meet with the EAP adviser at your institution as soon as possible.
- Complete the EVMS EAP application by February 15th of your junior year.
- Complete the undergraduate degree requirements and maintain EAP eligibility.

## Eligibility

To be eligible for the Early Assurance Program (EAP), a student must:

- Be at least in their Junior year at University, having been enrolled as a "career student" at University from their Freshman year of college (this program is not available to students transferring into the institution) and with only one year left to complete in their undergraduate education. Interested students should meet with the University EAP Advisor during their freshman year to express interest in the EAP.
- Meet citizenship requirements of the Program.
- Meet all University institutional and degree requirements to continue as a student in good standing.



- Have an overall (cumulative) GPA of 3.00 or better.
- Have no academic or other code of conduct violations.

## Maintain Eligibility

The guarantee of admission through the EAP is contingent upon the student's continued eligibility in the EAP to include:

- Carrying a sufficient credit load during the remaining regular academic semesters to fulfill University undergraduate degree requirements by the graduation date specified in the student's application. Should a student be unable to complete their undergraduate degree in the original timeframe specified, the student would be dismissed from the EAP, but it would not affect eligibility to apply to the Program at a later time without early assurance consideration.
- Making significant progress towards achievement of the track specific pre-requisite requirements and/or the individually specified goals outlined on the Healthcare Experience Plan of Completion (HCE POC) submitted with the student's application.
- Maintaining contact each semester with the University EAP Advisor during the student's senior year and the Program after graduation.
- Maintaining an overall (cumulative) GPA of 3.00 or better with consistent academic performance.
- Completing any specific matriculation conditions set forth by the Program (e.g. official transcripts confirming date of degree completion, a criminal background check prior to matriculation, and submission of all health requirements).
- Remaining free of any actions or conduct that would cause the Admissions Committee to question a student's suitability to pursue a career in public health. These include, but are not limited to, misdemeanor or felony convictions, academic dishonesty or other code of conduct violations, and/or unprofessional conduct in a health care or educational setting.

## Technical Standards

The abilities and skills candidates and students must possess in order to complete the education and training associated with the Graduate Program in Public Health are referred to as technical standards. These abilities and skills are essential for entry into most professional practice settings associated with this degree program.

### 1. Observation Skills Technical Standard

- 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall and/or online settings. Indicators include, but are not limited to, accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.

### 2. Communication Skills Technical Standard

- 2.1. Students must be able to communicate with faculty, colleagues and the target audience with whom they work.

2.2. Indicators include, but are not limited to, these examples:

- Clear, efficient and intelligible articulation of verbal language.
- Legible, efficient and intelligible written English language.
- Accurate and efficient English language reading skills.
- Accurate and efficient expressive and receptive communication skills.
- Ability to accurately follow oral and written directions.

### 3. Critical Reasoning Skills Technical Standard

- 3.1. Abilities include measurement, calculation, reasoning, data analysis and synthesis.
- 3.2. Students must have the intellectual capability to improve their knowledge based upon standard textbooks, conferences, lectures, current scholarly literature and journals.
- 3.3. Demonstrated problem-solving and critical thinking skills are necessary.
- 3.4. Demonstrate ability to acquire, retain and apply new and learned information.
- 3.5. Indicators include, but are not limited to, these examples:
  - Demonstrate ability to evaluate the effectiveness of community health intervention programs.
  - Demonstrate ability to analyze and interpret data using basic statistical tests, measures of disease occurrence and association.

### 4. Motor and Sensory Function Technical Standard

- 4.1. Students should have sufficient motor functions to be able to execute movements reasonably required to complete their public health education.
- 4.2. Indicators include, but are not limited to, this example:
  - Physical stamina sufficient to complete the rigorous course of didactic and clinical study, which may include prolonged periods of sitting or standing.

### 5. Behavioral and Social Attributes Technical Standard

- 5.1. Students must possess the emotional health required for adequate utilization of intellectual abilities, the exercise of good judgment and evidence of mature and sensitive relationships with faculty, colleagues and the public.
- 5.2. Evidence of integrity, ethical standards and concern for others, as well as appropriate appearance and hygiene, interpersonal skills, interest and motivation are all personal qualities that will be assessed during the admission process and throughout the educational progression through the curriculum.
- 5.3. Indicators include, but are not limited to, these examples:

- a. Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- b. Ability to monitor and react appropriately to one's own emotional needs and responses.
- c. Display appropriate flexibility and adaptability in the face of stress or uncertainty.
- d. Compliance with standards, policies and practices set forth in the EVMS Institutional Handbook and the MPH Academic Student Handbook.

## Curriculum

The MPH program focuses on the following specialized tracks:

- Epidemiology Track
- Health Management & Policy Track
- MD/MPH Dual Degree

## Course Sequence

### Epidemiology Track

Epidemiologists are public health professionals that focus on the causes, patterns and control of diseases and injury in populations. Epidemiology is a fundamental science of public health and is essential to the reduction of risk and the occurrence of negative health outcomes. The epidemiology curriculum provides rigorous training in the knowledge and skills for analyzing community health problems, with emphasis on how to measure and describe the health of populations.

The educational program includes 43 total credit hours. Classes are taught in three terms per year (fall, spring, summer). Full-time students can complete this program in two years. Part-time students are required to complete the degree within 6 years of their start date. All students are paired with an academic adviser.

Classes are taught online and on campus in the evenings on the campuses of EVMS or ODU to accommodate working professionals. Online options are presented either in an asynchronous web-based or live video-streamed format.

### Recommended Prerequisites

Our faculty strongly recommend that students applying to the epidemiology track have a minimum of two college-level math courses at the level of algebra or above. A statistics course is acceptable for one of the math courses. It is also recommended that students have at least two college-level biology courses.

### Full-Time Course Sequence

#### Year 1 | Fall Semester | 10 Credits

- MPH 600 Introduction to Public Health
- MPH 611 Social and Behavioral Sciences for Public Health
- MPH 612 Statistical Reasoning for Public Health
- MPHE 615 Public Health Administration and Management

#### Year 1 | Spring Semester | 9 Credits

- MPH 613 Principles of Environmental Health Science
- MPH 614 Principles of Epidemiology
- MPH 779 Introduction to Research Methods

#### Year 1 | Summer Semester | 6 Credits

- MPHE 624 Data Management with SAS
- Elective\*

#### Year 2 | Fall Semester | 9 Credits

- MPHE 711 Epidemiologic Methods I
- MPHE 702 Biostatistics II
- Elective\*

#### Year 2 | Spring Semester | 9 Credits

- MPH 750 Community Practicum
- MPHE 737 Capstone Seminar
- MPH 770 Epidemiologic Methods II

### \*Electives

- MPHE 718 Current Issues in Epidemiology
- MPHE 715 Infectious & Chronic Disease Epidemiology
- \*Other courses approved by faculty adviser

### Health Management & Policy Track

Students in the Health Management and Policy track work to address the complex issues presented by today's dynamic healthcare sector. Students prepare to face the cost, access and quality challenges of the healthcare system, incorporating concepts and competencies from areas such as management, policy analysis and finance.

The educational program includes 43 total credit hours. Classes are taught in three terms per year (fall, spring, summer). Full-time students can complete this program in two years. Part-time students are required to complete the degree within 6 years of their start date. All students are paired with an academic adviser.

Classes are taught online and on campus in the evenings on the campuses of EVMS or ODU to accommodate working professionals. Online options are presented either in an asynchronous web-based or live video-streamed format.

### Recommended Prerequisites

There are no prerequisite courses for the Health Management and Policy Track. However, introductory courses in accounting and finance, macroeconomics and business finance may provide useful preparation for the courses included in the track.

### Full-Time Course Sequence

#### Year 1 | Fall Semester | 10 Credits

- MPH 600 Introduction to Public Health
- MPH 611 Social and Behavioral Sciences for Public Health
- MPH 612 Statistical Reasoning for Public Health

- MPHE 615 Public Health Administration and Management

#### **Year 1 | Spring Semester | 9 Credits**

- MPH 613 Principles of Environmental Health Science
- MPH 614 Principles of Epidemiology
- MPH 779 Introduction to Research Methods

#### **Year 1 | Summer Semester | 6 Credits**

- MPHE 727 Organizational Management
- Elective\*

#### **Year 2 | Fall Semester | 9 Credits**

- MPHE 721 Healthcare Strategy
- MPHE 723 Policy & Politics of Health
- MPH 733 Financing Healthcare

#### **Year 2 | Spring Semester | 9 Credits**

- MPHE 750 Community Practicum
- MPH 770 Capstone Seminar
- MPHE 736 Conflict Analysis & Negotiations

#### **\*Electives**

- MPH 772 International Health Exchange Program
- MPH 690 Leadership: Theories, Skills and Applications
- \*Other courses approved by faculty adviser

### **MD/MPH Dual Degree**

Eastern Virginia Medical School offers a five-year MD/MPH dual degree program for students who have been admitted to the EVMS MD Program. The dual degree program leads to both the Doctor of Medicine and the Master of Public Health degree in either of the specialized MPH program tracks:

- Epidemiology
- Health Management and Policy

The EVMS MD Program provides skills and knowledge to diagnose and treat individual patients. A Master of Public Health degree supplements that medical education by providing physicians with skills in population-based research, design and evaluation of health promotion and disease prevention programs and management of the healthcare delivery system.

In the first two years, students in the dual degree program register for MD program basic science courses and all MPH courses. At the end of the two years, students are awarded an MPH degree. At the conclusion of the succeeding three years of MD courses, students receive the Doctor of Medicine degree.

MPH classes are taught online and on campus on weekday evenings and do not conflict with medical school courses.

. Online learning options are presented either in an asynchronous web-based or live video-streamed format.

### **Tuition and Fees**

Tuition and fees for the Master of Public Health program are set annually in June by the Board of Visitors and are subject

to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### **Tuition**

- In-state: \$909 per credit hour
- Out-of-state: \$1,107 per credit hour

### **Mandatory Fees**

- Year 1: \$1,045
- Year 2: \$945

Students must show proof of major medical insurance coverage. Students who are eligible for coverage under the policy of a parent or spouse are urged to remain so and must waive the EVMS student health insurance plan in order to not be billed for student health insurance. As an alternative, EVMS offers a student health insurance plan. Visit EVMS Student Wellness for more information regarding student health insurance.

### **Tuition and Fees for Dual Degree**

In-state: Students pay the in-state medical school tuition yearly and pay standard per-credit-hour tuition rates for each MPH course taken.

Out-of-state: Students pay the out-of-state medical school tuition and pay standard per-credit-hour tuition rates for each MPH course taken.

## Projected Cost of Attendance

		Master of Public Health   Year 1	Master of Public Health   Year 2
<b>Budget length</b>		12 mos.	9 mos.
<b>Tuition*</b>	<b>In-state (\$909/credit)**</b>	\$22,725	\$16,362
	<b>Out-of-state (\$1,107/credit)**</b>	\$27,675	\$19,926
<b>Fees*</b>	<b>Mandatory</b>	\$1,045	\$945
	<b>Health Insurance</b>	\$2,800	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$26,570	\$20,107
	<b>Out-of-state</b>	\$31,520	\$23,671
<b>Other allowances</b>	<b>Books and equipment</b>	\$2,925	\$950
	<b>Room, board and miscellaneous living expenses</b>	\$19,644	\$14,733
	<b>Personal expenses</b>	\$960	\$720
	<b>Transportation</b>	\$2,478	\$1,839
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$52,024	\$37,922
	<b>Out-of-state</b>	\$56,349	\$41,036
<b>Loan fees***</b>	<b>Direct Unsubsidized-1.069%</b>	\$397	\$353
	<b>Grad PLUS – 4.276% in-state</b>	\$635	\$210
	<b>Grad PLUS – 4.276% out-of-state</b>	\$820	\$344
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$53,056	\$38,485
	<b>Out-of-state</b>	\$57,566	\$41,733

\*Tuition and fees are subject to change throughout the year.

\*\*The projected costs are based on an average 25 credits (3 terms) for year one and 18 credits (2 terms) for year two (43 credits total for program). The actual cost of attendance will be based on the number of credits listed on a student's online application or the revised educational plan and confirmed enrollment. Students must notify Financial Aid of all changes in number of credits.

\*\*\*Loan fees are subject to change for loans first disbursed on or after October 1.

For distance or hybrid programs, your aid will be released on the eighth day of the term (or next business day). All aid is released initially in as close to equal amounts as possible over the academic year to your student tuition account, subject to satisfactory academic progress.

## Academic Calendar 2018-2019

	Class of 2019	Class of 2020
<b>Orientation</b>	N/A	
<b>Term I</b>		
<b>Start Date</b>	8/25/2018	8/25/2018
<b>End Date</b>	12/14/2018	12/14/2018
<b>Final Exams</b>	12/8/2018 - 12/14/2018	12/8/2018 - 12/14/2018
<b>Term II</b>		
<b>Start Date</b>	1/12/2019	1/12/2019
<b>End Date</b>	5/8/2019	5/8/2019
<b>Final Exams</b>	5/1/2019 - 5/8/2019	5/1/2019 - 5/8/2019
<b>Term III</b>		
<b>Start Date</b>	5/20/2019	5/20/2019
<b>End Date</b>	8/10/2019	8/10/2019
<b>Final Exams</b>		
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	10/6/2018 - 10/9/2018	10/6/2018 - 10/9/2018
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/15/2018 - 1/11/2019	12/15/2018 - 1/11/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/16/2019	3/11/2019 - 3/16/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### MPH600: Introduction to Public Health (1)

This is an introduction to the multidisciplinary field of public health. The course will use a series of lectures, readings, discussions and interactive sessions to provide students with a framework for studies during the course of the program. This course emphasizes identifying ethical issues in public health practice through lectures, readings and group discussions.

### MPH611: Social and Behavioral Sciences for Public Health (3)

This course is a social and behavioral sciences core course for the MPH program. Psychological, social and cultural concepts and models relevant to health and disease in society are reviewed and critiqued. The course will enable students to describe core theoretical perspectives from each of the social science disciplines of psychology, sociology and anthropology. Students will learn how to select and apply appropriate social and behavioral models to the design of public health interventions and policies. The course will also cover existing social inequalities in health status related to race, social class

and gender, and the critical intersection between social risk factors, behavioral risk factors and the development and implementation of public health interventions. Social ecological models that influence population health at multiple levels are emphasized.

### MPH612: Statistical Reasoning for Public Health (3)

An introduction to the use of statistics in the health field. Emphasis is on descriptive statistics, estimation, linear regression and contingency tables. This course includes lectures, reading, demonstrations, experiential activities in a laboratory setting and written and oral assignments.

### MPH613: Principles of Environmental Health Science (3)

An introduction to the chemical, physical and biological factors affecting human health and disease. Emphasis is on the skills to detect environmental factors in health problems and to determine methods of control to prevent disease and maximize environmental quality. This course includes lectures, readings and required assignments.

### MPH614: Principles of Epidemiology (3)

An introduction to epidemiology as a body of knowledge and a method for analyzing community health problems. The course emphasizes how to measure and describe the health of populations, the natural history of diseases in population groups, standardization of rates, sources of data, study designs, measurements of risk, evaluation of screening tests, causal inferences and outbreak investigation. This course includes lectures, reading and individual and group assignments.

### MPHE615: Public Health Administration and Management (3)

An introduction to the understanding of the structure and functions of the American healthcare system, public health practice in the United States and basic managerial responsibilities. Emphasis is on management tasks and styles, structure and trends in the healthcare system, legal and regulatory framework for public health, organizational and community assessment, public health settings and services. This course consists of lectures, reading and written assignments.

### MPH779: Introduction to Research Methods (3)

The goal of this course is to provide practical, step-by-step guidance to the research process. The organizing framework used is the scientific method, which is applied to current health initiatives. Students develop a unique research design proposal.

### MPH750: Community Practicum (3)

An opportunity to apply knowledge and skills gained in academic courses in a working environment or community setting under the supervision of a preceptor. This course requires a written report to the preceptor and the course director as well as oral presentation.

### MPH770: Capstone Seminar (3)

A synthesis and integration of knowledge gained through the coursework and other learning experiences, with the



application of theory and principle to various public health issues. Students from all tracks will take this seminar.

### **MPHE624: Data Management with SAS (3)**

A beginner's course in data management, statistical programming and basic data analysis using the SAS system. The course will introduce the students to database construction, database management and statistical programming and analysis. This is a hands-on course that will be taught using demonstrations and experiential activities in the computer laboratory.

### **MPHE702: Biostatistics II (3)**

Topics from inferential statistics and probability modeling will be discussed and illustrated using data selected from real-life health-related applications. Data analysis emphasizing proper interpretation of results and familiarity with SAS software will be a key component of the course.

### **MPHE711: Epidemiologic Methods I (3)**

Introduces elements of study design, data analysis and inference in epidemiologic investigation. Prerequisite course: MPH 612

### **MPHE715: Current Issues in Epidemiology (3)**

Discussions with experts experienced in the diverse applications of epidemiology in current research and practice. Emphasis on emerging infectious diseases, environmental and occupational health, chronic diseases and community intervention trials. Lectures, discussions, class presentations and development of research project.

### **MPHE718: Epidemiologic Methods II (3)**

Coverage of statistical design and analysis concepts and methods in epidemiologic research.

### **MPHE737: Infectious & Chronic Disease Epidemiology (3)**

This course focuses on substantive areas in epidemiology with an emphasis on infectious disease epidemiology and chronic disease epidemiology. The course will also include projects focused on field epidemiology, with an emphasis on public health surveillance and outbreak investigation. These topics are important for epidemiologists and other health professionals in public health practice.

### **MPHE721: Healthcare Strategy (3)**

Examination of strategy-making issues for healthcare organizations, including analysis of economic incentives, financial strategies, development of mission and goals and formulation and implementation of long-range strategies to accomplish those goals.

### **MPHE723: Policy & Politics of Health (3)**

An introduction to the policy process, frameworks for understanding health policy issues, background research necessary for policy implementation and implementation strategies.

### **MPHE727: Organizational Management (3)**

This course examines issues and principles in the management of individuals, groups and organizations. Topics include motivation and reward systems, group dynamics and organizational design and change.

### **MPHE733: Financing Healthcare (3)**

Students examine financial evaluation of the healthcare industry, the source of funds and effects of changing patient policies. Other topics of interest will be financial strategies, budgets and capital outlay.

### **MPHE736: Conflict Analysis & Negotiations (3)**

This course examines issues and principles in the management of conflict and negotiation within organizations. Topics include resolution strategies and organizational design and change.

### **MPH772: International Health Exchange Program (3)**

This course exposes students to important issues in international public health and is unique in that it involves the analysis of health problems in the broad social, cultural, economic and political contexts that generate and sustain them.

### **MPH690: Leadership: Theories, Skills and Applications (3)**

The emphasis of this course is on the practice of leadership. The course will equip the student with the basic managerial background, fundamentals and theories which will be applicable at any level in management and in leadership positions. Students will be exposed to the interaction of leadership, change, communication and power as seen in the healthcare environment. This course will examine the traits of leading, developing leadership skill, creating a vision, managing conflicts and obstacles in an organization.

## **Faculty**

### **Program Director**

Brian C. Martin, PhD, MBA, Associate Dean, Administration

### **Administration**

C. Donald Combs, PhD, Vice President & Dean, School Health Professions

### **Faculty**

Robert Campbell, PhD, Assistant Professor

Nicole M. Holt, DrPH, Assistant Professor

Rajan Lamichhane, Assistant Professor

Glenn A. Yap, PhD MBA, MS, Assistant Professor

### **Adjunct Faculty Title**

Donald Sigmon Buckley PhD, MHA, Teacher

Benjamin David Dobrin MSW, PhD, Teacher

Ken McLennan PhD, Teacher



**Staff**

Rose Ann Arnaud, Supervisor, Public Health Program

Sterling M. Smith, Student Program Administrative Support  
Coordinator

Shirlwin E. Watkins M.S.Ed., Technical Support Analyst III

## Master of Surgical Assisting

The EVMS Surgical Assisting program is the only CAAHEP-accredited surgical assistant program that does not require its students to be trained as surgical technicians. Our graduates earn a Master of Surgical Assisting degree and become certified in 22 months.

Our mission is to train competent surgical assistants in a dynamic academic environment and nurture future educators and leaders of the profession.

### Admissions

Candidates must submit:

- an online application
- a nonrefundable \$60 application fee
- two (2) letters of recommendation
- a personal statement
- official transcripts of all college-level coursework

Applications will be accepted between September 1 and April 1.

Following the online instructions, applicants must contact every college or university attended and request transcripts to be sent directly to GradCAS. GradCAS only accepts electronic transcripts from:

- Credentials Solutions
- Parchment
- National Student Clearinghouse

To send transcripts to GradCAS by mail, download a transcript request form after you enter each institution in GradCAS. Send the transcript request form to the registrar at the institution and mail to:

**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

The EVMS SA program will not accept applications from practicing or retired physicians as these individuals can enter the surgical assistant profession by taking the Certified Surgical Assistant (CSA) Exam.

The application review process takes approximately eight weeks. The program director will send letters to all applicants indicating the determination of the admissions review committee. The program has a capacity to admit a maximum of 24 students a year. New classes are admitted in August, and students are enrolled for 22 consecutive months.

### Early Assurance Program

The Early Assurance Program (EAP) offers early acceptance to undergraduate students in their junior year at a participating institution. Applicants must have expressed interest in Surgical Assisting, are in good academic standing and are enrolled at an accredited undergraduate institution. The following institutions are participating in the Early Assurance Program with the EVMS Surgical Assisting Program:

- Hampton University

- Norfolk State University
- Regent University
- Virginia Wesleyan University

### Eligibility

To be eligible for the Early Assurance Program, a student must:

- Be at least in their Junior Year at participating institution, having been enrolled as a “career student” at the institution from Freshman year of college (this program is not available to students transferring into the institution) and with only one academic year left to complete in their undergraduate education. Interested students should meet with the institution EAP Advisor during their freshman year or within the first semester of coursework to express interest in the EAP.
- Meet citizenship requirements of the Program.
- Meet all undergraduate institutional and degree requirements to continue as a student in good standing.
- Maintain an overall (cumulative) GPA of 3.00 or better.
- Have satisfactorily completed, by the time of application, 4 or 5 prerequisite courses at the institution as indicated on the Program’s EAP website and not having withdrawn from or repeated any course(s) used to satisfy the prerequisites.
- Have no academic or other code of conduct violations.

### Technical Standards

The abilities and skills students must possess in order to complete the education and training associated with surgical assistant education are referred to as technical standards. These abilities and skills are essential for clinical practice as a surgical assistant. These technical standards reflect five categorical areas – observation, communication, critical reasoning (intellectual), motor and sensory, and behavioral and social – and represent minimum competency levels.

Students must attest that they meet these technical standards prior to or at the time of matriculation into the surgical assisting program. Students found to be in violation of technical standards are at risk for dismissal from the program. Each standard is defined and includes examples of indicators of minimum competence in that area.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, laboratory and the operating room and or clinical settings.
  - 1.2. Indicators include, but are not limited to, these examples:
    - Accurate identification of changes in color of fluids, skin and culture media.
    - Accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and findings on X-ray and other imaging texts.
2. Communication Skills Technical Standard
  - 2.1. Demonstrate effective communication skills

with healthcare professionals and with people of varying cultures, ethnicities and personalities.

2.2. Indicators include, but are not limited to, these examples:

- Clear, efficient and intelligible articulation of verbal language.
- Legible, efficient and intelligible written English language.
- Accurate and efficient English language reading skills.
- Accurate and efficient expressive and receptive communication skills.
- Ability to accurately follow oral and written directions.

### 3. Critical Reasoning Skills Technical Standard

3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.

3.2. Indicators include, but are not limited to, these examples:

- Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
- Demonstrate ability to acquire, retain and apply new and learned information.

### 4. Motor and Sensory Function Technical Standard

4.1. Demonstrate sufficient motor and sensory function to perform typical surgical assistant duties.

4.2. Indicators include, but are not limited to, these examples:

- Functional and sufficient sensory capacity (visual, auditory and tactile) to use surgical tools and perform procedures.
- Execute motor movements that demonstrate safety and efficiency in the various learning settings, (i.e., classroom, laboratories and clinical settings) including appropriate negotiation of self and patient's in-patient care environments.
- Proper use of clinical instruments and devices for clinical intervention including, but not limited to, suturing needles, catheters, retractors, etc.
- Ability to lift over 50 lbs. with good body mechanics or 25-50 lbs. with improper body mechanics.
- Physical stamina sufficient to complete the rigorous course of didactic and clinical study, which may include prolonged periods of sitting, standing, rapid ambulation and/or wearing personal protective equipment, such as lead aprons, for extended periods of time.

### 5. Behavioral and Social Attributes Technical Standard

5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing professional surgical assistant.

5.2. Indicators include, but are not limited to, these examples:

- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
- Ability to develop mature and effective professional relationships with faculty, patients, the public and other members of the healthcare team.
- Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with clinical encounters and clinical environments.
- Compliance with standards, policies and practices set forth in the EVMS Student Handbook and the SA Academic Student Handbook.

## Curriculum

Our 70-credit-hour program includes 36 credits of training in our 10-month didactic phase and 34 credits of clinical practice in the second year.

### Didactic Phase

Our immersive experience allows for direct observation and active participation with the surgical team to develop the critical clinical skills surgical assistants need. Students are exposed to surgical services, including perioperative, intraoperative and postoperative patient care, and ancillary surgical services, such as central sterile services and pathology.

This training complements the hands-on instruction students receive in the surgical environment. Our students enter the clinical phase of the program with practical experience in the operating room and a strong foundation of surgical knowledge.

### Clinical Phase

In contrast to other accredited programs, our program manages and assigns students' clinical placements. At the end of the clinical phase, students:

- Have completed eight clinical rotations.
- Have performed the duties of and served in the role of the surgical assistant in at least 240 cases.
- Have the equivalent competencies expected of a junior surgical resident.
- Are eligible to sit for a national certification exam.

## Course Sequence

### Semester One (August-December)

- MSA502 Medical Terminology
- MSA503 Surgical Microbiology with lab
- MSA504 Advanced Topics of Surgical Assisting I
- MSA506 Operative Practices and Clinical Reasoning
- MSA515 Surgical Physiology
- MSA517 Principles of Surgical Assisting I
- MSA518 Principles of Surgical Assisting II Lab

### Semester Two (January-May)

- MSA505 Advanced Topics of Surgical Assisting II
- MSA507 Surgical Rounds
- MSA508 Clinical Anatomy for Health Professions
- MSA510 Advanced Surgical Pharmacology
- MSA513 Minimally Invasive Surgery and Simulation Skills Lab
- MSA519 Principles of Surgical Assisting II Lecture
- MSA520 Principles of Surgical Assisting II Lab

### Clinical Year (May-May)

- MSAR700#’s Eight 6-week Surgical Rotations
- MSA600 Trauma
- MSA601 Business of Surgical Assisting Services
- MSA602 Medical Ethics of Surgical Assisting
- MSA603 Capstone Project

## Tuition and Fees

EVMS' Surgical Assisting tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services. Students may apply for Financial Aid.

### Tuition

- In-state: \$15,983
- Out-of-state: \$19,443

### Mandatory Fees

- Year 1: \$2,469
- Year 2: \$3,897

## Projected Cost of Attendance

		Master of Surgical Assisting   Year 1	Master of Surgical Assisting   Year 2
<b>Budget length</b>		9 mos.	9 mos.
<b>Tuition*</b>	<b>In-state</b>	\$15,983	\$15,983
	<b>Out-of-state</b>	\$19,443	\$19,443
<b>Fees*</b>	<b>Mandatory</b>	\$2,469	\$3,897
	<b>Health insurance</b>	\$2,800	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$21,252	\$22,680
	<b>Out-of-state</b>	\$24,712	\$26,140
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,040	\$788
	<b>Room, board and miscellaneous living expenses</b>	\$15,028	\$20,037
	<b>Personal expenses</b>	\$720	\$960
	<b>Transportation</b>	\$3,704	\$4,827
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$41,744	\$49,292
	<b>Out-of-state</b>	\$45,204	\$52,752
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$905	\$1,228
	<b>Grad PLUS – 4.264% out-of-state</b>	\$1,053	\$1,375
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$42,868	\$50,739
	<b>Out-of-state</b>	\$46,476	\$54,346

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

Year 1 has two equal disbursements at the beginning of each term; year 2 has three equal disbursements at the beginning of each term.

## Academic Calendar 2018-2019

	Class of 2019	Class of 2020
<b>Orientation</b>	N/A	8/20/2018
<b>Term I</b>	<b>Summer 2018</b>	<b>Fall 2018</b>
<b>Start Date</b>	5/21/2018	8/20/2018
<b>End Date</b>	8/10/2018	12/7/2018
<b>Final Exams</b>	N/A	12/3/2018 - 12/7/2018
<b>Term II</b>	<b>Fall 2018</b>	<b>Spring 2019</b>
<b>Start Date</b>	8/13/2018	1/2/2019
<b>End Date</b>	12/14/2018	4/19/2019
<b>Final Exams</b>	N/A	4/15/2019 - 4/19/2019
<b>Term III</b>	<b>Spring 2019</b>	
<b>Start Date</b>	1/2/2019	
<b>End Date</b>	5/10/2019	

<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020

HOLIDAYS AND BREAKS		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	N/A	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/17/2018 - 1/1/2019	12/10/2018 - 1/1/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/24/2019 - 3/29/2019	
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions (Credit Hour)

### MSA502: Medical Terminology (2)

The medical terminology class is an intense, three-week course taught at the beginning of the surgical assisting student's first year. The course employs a body systems-oriented, word-analysis approach to learning medical terminology. The goal of the class is to prepare students for the terminology they might encounter in their subsequent coursework, in their clinical rotations and ultimately in their roles as healthcare professionals.

### MSA503: Surgical Microbiology with lab (4)

Surgical Microbiology reviews the infectious processes and organisms, immune responses, risks to operating-room patients and personnel and universal precautions.

### MSA504: Advanced Topics of Surgical Assisting I (1)

Advanced Topics of Surgical Assisting is a monthly journal club that investigates topics addressed in the core curriculum classes as well as current issues impacting the surgical assisting

profession. Course readings will be provided by program faculty and surgical assistant professional organizations.

### MSA505: Advanced Topics of Surgical Assisting II (1)

Advanced Topics of Surgical Assisting is a monthly journal club that investigates topics addressed in the core curriculum classes as well as current issues impacting the surgical assisting profession. Course readings will be provided by program faculty and surgical assistant professional organizations.

### MSA506: Operative Practices and Clinical Reasoning (2)

Lecture series is a seminar course that explores the details of topics such as attitude and etiquette in the OR, casting and splinting, stress management, ethics, surgical technique, OR conduct and patient interaction, back-table setup and the SA, trauma, sterile technique, gowning and gloving review. The seminars are conducted by program alumni and other medical professionals.

### MSA515: Surgical Physiology (4)

Surgical Physiology is a course provided by the biophysiology and applied surgical pathology for the advancement of knowledge application in the surgical environment designed for Surgical Assistant students. Topics including cell injury, inflammation and wound healing are covered.

### MSA517: Principles of Surgical Assisting I (2)

Principles of Surgical Assisting is a two-part course that teaches fundamental skills: Placement of monitoring devices, review of bladder catheterization, surgical positioning, application of tourniquets, prepping and draping, operative instrumentation, visualization techniques, hemostasis, suturing and knot tying techniques, dressings and drainage systems, post-operative pain control methods and the use of special equipment.

### MSA520: Principles of Surgical Assisting I (2)

Principles of Surgical Assisting is a two-part course that teaches fundamental skills: Placement of monitoring devices, review of bladder catheterization, surgical positioning, application of tourniquets, prepping and draping, operative instrumentation, visualization techniques, hemostasis, suturing and knot tying techniques, dressings and drainage systems, post-operative pain control methods and the use of special equipment.

### MSA507: Surgical Rounds (3)

Surgical Rounds is a hands-on clinical training experience lead by surgical residents to complement the student's didactic experience through active participation as part of a surgical team to develop the critical clinical skills needed for a surgical assistant.

### MSA508: Clinical Anatomy for Health Professions (5)

Gross Anatomy is a regional study of anatomy related to surgical procedures with cadaver lab. It also includes review of physiology relevant to survey and an introduction to basic embryology, histology and pathology.



### **MSA510: Advanced Surgical Pharmacology (2)**

Advanced Pharmacology is a biophysical science based course which examines drugs used in surgery and emergency drugs, reviewing anaphylactic and toxicity reactions. The course also addresses anesthesia methods and agents and their methods of administration, describing how the surgical procedure may be affected by the agents used.

### **MSA513: Minimally Invasive Surgery and Simulation Skills Lab (4)**

This course is designed to give the surgical assistant student a broad look into minimally invasive surgery while introducing the techniques involved. Numerous subspecialties, how minimally invasive techniques are utilized, and the history of these techniques will be discussed. Students will engage in hands-on learning to help facilitate the learning curve once they are in their clinical year.

### **MSAR700#’s: Surgical Clinical Rotations (24)**

Eight six-week surgical clinical rotations (3 credits each): 1,920 hours of clinical experience with up to 25% of training in surgical specialty such as orthopedics, plastics, cardiac, vascular and neurological.

### **MSA600: Trauma Surgery Rotation (2)**

The Trauma Surgery Rotation is designed to expose surgical assistant students to the specialty dedicated to the care of the individual who has been injured, whatever the mechanism. Students will complete two 25-hour rotations with teams at specific clinical training sites.

### **MSA601: Business of Surgical Assisting Services (3)**

This course presents an in-depth overview of the business of surgical assisting. The student is exposed to all aspects of the surgical assisting business to help them make informed career decisions.

### **MSA602: Medical Ethics of Surgical Assisting (2)**

This course explores a variety of ethical and legal issues facing healthcare professionals and the Surgical Assisting profession.

### **MSA603: Capstone Project (3)**

This is an applied science and practice application course. Students develop an educational resource product in their area of surgical specialty concentration for contribution to the program’s resource library.

## **Faculty**

### **Program Director**

R. Clinton Crews, MPH, Assistant Dean, Admissions

### **Clinical Coordinator**

Karen Owen, CSA, Instructor

### **Faculty**

Jennifer M. Wohl DHSc, PA-C, Assistant Professor

David B. Jennette CSA, LSA, RSA, Teacher

Daniel D. Baird CSA, MSc, MBA, Teacher

Jessica A. Wilhelm CSA, Instructor, Administrative

Cynthia D. Ferguson, PA-C, Assistant Professor

Michael J. Solhaug, MD, Vice Chair and Professor

### **Staff**

Jennifer J. Land, Office Coordinator

## **Surgical Assisting Bridge**

The EVMS Surgical Assisting program strives to be a leader in the training of surgical assistants. In anticipation of the need for skilled assistants working in the surgical field and in the healthcare system, EVMS offers a master’s bridge program to help current practicing surgical assistants, who have received a surgical assistant certificate from EVMS but not a master’s degree, advance their careers.

Our 12-month distance learning program begins in January and consists of 8 credit hours of directed study. The program is designed to allow participants to continue their daily professional practice while completing additional coursework to earn a Master in Surgical Assisting (MSA).

At this time, the program is only open to EVMS graduates of the Surgical Assistant certificate program.

## **Admissions**

The Bridge Program is offered to individuals who meet the following criteria for admission:

- Have completed the EVMS Surgical Assistant certificate program
- Hold a bachelor’s degree
- Hold a current surgical assisting certification
- Provide documentation of 72 hours of laparoscopic case experience

## **Application Procedure**

All candidates must submit the following:

- Completed online application form
- Nonrefundable \$60 application fee
- Laparoscopic Case Experience Form reflecting a minimum of 72 hours
- Official transcripts confirming bachelor’s degree

The Admissions Committee reviews all applications, and the program director extends invitations of admission to successful applicants. Candidates who accept must submit a \$300 deposit, which will be applied to first-semester tuition, to reserve their position in the program.

## **Curriculum**

- MSA601 Business of Surgical Assisting Services
- MSA602 Medical Ethics of Surgical Assisting
- MSA603 Capstone Project

Prior to the start of classes, incoming students will receive an email with their EVMS email and login instructions to access myPortal and complete the required pre-matriculation modules. From MyPortal, students can access Blackboard, an online learning platform which will include course syllabi, lectures, assignments and other information. Incoming students should also review the Computer Standards.

Students will complete the program in three consecutive terms over a 12-month period.

## Tuition and Fees

EVMS' Surgical Assisting Master's Bridge program tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state: \$865 per credit hour
- Out-of-state: \$882 per credit hour

### Mandatory Fees

- Year 1: \$110

### Books

Textbook cost is estimated to be \$320 for the program.

### Graduation

Individuals who complete the MSA Bridge program will be eligible to participate in EVMS graduation activities at an additional charge. Individuals must contact the program to obtain information about these fees.

### Financial Aid

Individuals enrolled in the MSA Bridge program will not be eligible for federal aid because their student status will be less than half-time for the duration of the program. Individuals may seek private loan assistance but not federal loans.

## Academic Calendar 2018-2019

	Class of 2019
<b>Orientation</b>	N/A
<b>Term I</b>	<b>Spring 2019</b>
<b>Start Date</b>	1/2/2019
<b>End Date</b>	4/19/2019
<b>Final Exams</b>	N/A
<b>Term II</b>	<b>Summer 2019</b>
<b>Start Date</b>	5/20/2019
<b>End Date</b>	8/9/2019
<b>Final Exams</b>	N/A
<b>Term III</b>	<b>Fall 2019</b>
<b>Start Date</b>	8/12/2019
<b>End Date</b>	12/14/2019

	Class of 2019
<b>Graduation Rehearsal</b>	5/17/2019
<b>Graduation</b>	5/18/2019
<b>HOLIDAYS AND BREAKS</b>	
<b>Labor Day</b>	9/3/2018
<b>Fall Break</b>	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	3/24/2019 - 3/29/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

## Course Descriptions

### MSA601: Business of Surgical Assisting Services (3)

This course presents an in-depth overview of the business of surgical assisting. The student is exposed to all aspects of the surgical assisting business to help them make informed career decisions.

### MSA602: Medical Ethics of Surgical Assisting (2)

This course explores a variety of ethical and legal issues facing healthcare professionals and the Surgical Assisting profession.

### MSA603: Capstone Project (3)

This is an applied science and practice application course. Students develop an educational resource product in their area of surgical specialty concentration for contribution to the program's resource library.

## Faculty

### Program Director

R. Clinton Crews, MPH, Assistant Dean, Admissions

### Clinical Coordinator

Karen Owen, CSA, Instructor

### Faculty

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Cynthia D. Ferguson, PA-C, Assistant Professor

Michael J. Solhaug, MD, Vice Chair and Professor

### Staff

Jennifer J. Land, Office Coordinator



# Reproductive Clinical Science, MS

## Admissions

Candidates must have completed all undergraduate degree requirements and have been issued a bachelor's degree prior to matriculating as an EVMS student. If the bachelor's degree was issued by a U.S. college or university, as a general rule, it should be from a regionally accredited institution. However, the program may grant exceptions on a case-by-case basis. Official transcripts from the awarding institution must specify the date upon which the degree was issued. Graduate level course transfer credits will be considered on a case-by-case basis.

- Early Admissions due date: November 15
- Regular Admission due date: February 1

Applicants must:

- Have a grade point average of 2.75 (B-) or better.
- Have successfully completed two semesters of college-level biology and chemistry with lab.
- Submit two letters of recommendation (submitted by the reference electronically) from individuals who are acquainted with you academically and/or professionally. References from close friends and family members are unacceptable.
- Submit a personal essay. Complete essay instructions are available inside the online application portal.

If you are applying as an experienced embryologist or andrologist, you must:

- Currently work or have worked in clinical IVF or basic reproductive research as an embryologist, andrologist, nurse, physician or research scientist.
- Complete a Reproductive Clinical Science MS Degree Program Skills Report Form and submit to the RCS program after application submission.

If you are applying with no experience, you must:

- Shadow at an IVF facility and obtain a letter that lists what was observed.
- Contact the program for more details and assistance.

International students, or applicants whose native language is not English, must take the TOEFL and receive a score equal to or greater than 550 for the paper-based test, 213 for the computer-based test or 80 for the iBT exam.

## Technical Standards

The abilities and skills candidates and students must possess in order to complete the education and training associated with the master's in Reproductive Clinical Science are referred to as technical standards. These abilities and skills are essential for clinical laboratory practice as an embryologist and/or andrologist.

### 1. Observation Skills Technical Standard

- 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, laboratory and/or online settings. Indicators include, but are not limited to, accurate

visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.

### 2. Communication Skills Technical Standard

- 2.1. Demonstrate effective communication skills with healthcare professionals and with people of varying cultures, ethnicities and personalities.
- 2.2. Indicators include, but are not limited to, these examples:
  - Clear, efficient and intelligible articulation of spoken English language.
  - Legible, efficient and intelligible written English language.
  - Accurate and efficient English language reading skills.
  - Accurate and efficient, expressive and receptive communication skills.
  - Ability to accurately follow directions (oral and written).

### 3. Critical Reasoning Skills Technical Standard

- 3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.
- 3.2. Indicators include, but are not limited to, these examples:
  - Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
  - Demonstrate ability to acquire, retain and apply new and learned information.

### 4. Motor And Sensory Function Technical Standard

- 4.1. Demonstrate sufficient motor and sensory function to perform typical clinical laboratory duties.
- 4.2. Indicators include, but are not limited to, these examples:
  - Functional and sufficient sensory capacity (visual, auditory and tactile) to use laboratory equipment and perform procedures.
  - Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, online and laboratories).
  - Physical stamina sufficient to complete the online didactic and some laboratory study, which will include prolonged periods of sitting.

### 5. Behavioral And Social Attributes Technical Standard

- 5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing laboratory professional.
- 5.2. Indicators include, but are not limited to, these examples:
  - Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).

- Ability to develop mature and effective professional relationships with faculty, patients, the public and other members of the healthcare team.
- Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with clinical encounters and clinical environments.
- Compliance with standards, policies and practices set forth in the EVMS Student Handbook and the program handbook.

## Curriculum

The 24-month program provides coursework and research opportunities that give students general and specialized biomedical sciences training. The program is designed to be completed in six semesters at an average of two to three courses per semester for a total of 16 online courses (36 credits). Those entering the program with no experience will be required to take elective internship courses in their second year to gain clinical IVF experience.

Students must attend two residential courses at Eastern Virginia Medical School's campus in Norfolk, Va. First-year students' five-day session is in the third week of July; second-year students take their seven-day course in the third week of June.

## Course Sequence

### Semester One

- RCS-700 Biochemistry & Molecular Cell Biology
- RCS-701 Introduction IVF, Laboratory Tech and Skills Development

### Semester Two

- RCS-702 Molecular Biology & Genetics
- RCS-703 Female Reproductive Endocrinology & Infertility
- RCS-704 Current Topics in IVF - Journal Club

### Semester Three

- RCS-705 In Vitro Fertilization Technology
- RCS-706 Gametes & Embryos
- RCS-707 Research Methods Capstone Thesis: Project & Statistics

### Semester Four

- RCS-708 Advanced IVF, Laboratory Tech and Skills Development
- RCS-709 Research Methods Capstone Thesis: Project Proposal

### Semester Five

- RCS-710 Genetics of Reproduction & Infertility
- RCS-711 Research Methods Capstone Thesis: Master's Project
- RCS-712 Male Reproductive Function & Dysfunction

### Semester Six

- RCS-713 Research Methods Capstone Thesis: Scientific Writing
- RCS-714 Cryopreservation
- RCS-715 Ethics, Society & ART
- RCS-717 IVF Clinical Internship\*

## Tuition and Fees

EVMS' Reproductive Clinical Science tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state: \$1,086 per credit hour
- Out-of-state: \$1,272 per credit hour

### Mandatory Fees

- Year 1: \$395
- Year 2: \$510

### Full-Time Status

A student must maintain a full-time workload of 6 course credits (fall and spring terms) or 3 course credits (summer term) to receive financial aid.

## Projected Cost of Attendance

		Reproductive Clinical Science, MS   Year 1	Reproductive Clinical Science, MS   Year 2
<b>Budget length</b>		12 mos.	12 mos.
<b>Tuition*</b>	<b>In-state (\$1,086/credit)</b>	\$21,720	\$20,634
	<b>Out-of-state (\$1,272/credit)</b>	\$25,440	\$24,168
<b>Fees*</b>	<b>Mandatory</b>	\$413	\$528
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$22,133	\$21,162
	<b>Out-of-state</b>	\$25,853	\$24,696
<b>Other allowances</b>	<b>Books and article packet</b>	\$2,771	\$100
	<b>Room, board and miscellaneous living expenses</b>	\$13,825	\$13,825
	<b>Personal expenses</b>	\$960	\$960
	<b>Transportation</b>	\$2,076	\$2,076
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$41,765	\$38,123
	<b>Out-of-state</b>	\$45,485	\$41,657
<b>Loan fees**</b>	<b>Direct unsubsidized - 1.066%</b>	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$907	\$751
	<b>Grad PLUS – 4.264% out-of-state</b>	\$1,065	\$902
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$42,891	\$39,093
	<b>Out-of-state</b>	\$46,769	\$42,778

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum \$20,500 Direct Stafford Loan for graduate students and balance of projected cost of attendance in Grad PLUS, if applicable with approved credit. Loan fees will be adjusted for those students with scholarships or outside assistance to reflect accurate fee amounts.

The Reproductive Clinical Science Master's Program covers 36 credits over a 24-month period. The first year consists of 20 credits per academic year. The second year is 19 credits per academic year.

For distance or hybrid programs, your aid will be released on the eighth day of the term (or the next business day). All aid is released initially in as close to equal amounts as possible over the academic year to your student tuition account, subject to satisfactory academic progress.



## Academic Calendar 2018-2019

	Class of 2019	Class of 2020
<b>Orientation</b>	N/A	4/23/2018 - 5/20/2018
<b>Term I</b>	<b>Semester Four - Summer</b>	<b>Semester One - Summer</b>
<b>Start Date</b>	5/21/2018	5/21/2018
<b>End Date</b>	7/29/2018	7/29/2018
<b>Term II</b>	Semester Five - Fall	Semester Two - Fall
<b>Start Date</b>	8/20/2018	8/20/2018
<b>End Date</b>	12/9/2018	12/9/2018
<b>Term III</b>	<b>Semester Six - Spring</b>	<b>Semester Three - Spring</b>
<b>Start Date</b>	1/14/2019	1/14/2019
<b>End Date</b>	5/12/2019	5/12/2019
<b>Graduation Rehearsal</b>	5/17/2019	5/15/2020
<b>Graduation</b>	5/18/2019	5/16/2020

### HOLIDAYS AND BREAKS

<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	10/6/2018 - 10/9/2018	10/6/2018 - 10/9/2018
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/15/2018 - 1/11/2019	12/15/2018 - 1/11/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/16/2019	3/11/2019 - 3/16/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### RCS700: Biochemistry & Molecular Cell Biology (2)

This course presents the basic principles of cellular structure and function, which are the infrastructure for understanding clinical endocrinology and embryo metabolism. This 4-module course examines the structure of biological components and their roles in biochemical processes - metabolism, molecular feedback through hormones, signal transduction, cellular physiology and molecular biology. Case study discussion boards and current journal article discussions connect the basic science content to IVF.

### RCS701: Introduction IVF, Laboratory Tech and Skills Development (3)

Laboratory science and technology are at the foundation of the Clinical Embryology Laboratory, and ART success rates are largely dependent on the quality of the laboratory environment and the knowledge and skill of laboratory personnel. This course covers the basic laboratory skills and techniques used in the IVF and andrology laboratories. A required, on-campus component includes hands-on training and skills evaluation.

### RCS702: Molecular Biology & Genetics (3)

This course includes an introduction to molecular biology with an emphasis on the structure and function of both DNA and RNA and their roles in protein synthesis. Aspects of gene structure-function and regulation will also be discussed in this course, including a section on mitochondrial DNA. Research in this area includes the use of molecular techniques, which will be illustrated. This course also provides instruction in the fundamentals of human cytogenetics with discussions of chromosomal structure and cell division, as well as both genetic and epigenetic mechanisms of inheritance and different types of mutations and aneuploidies. This course will also introduce basic molecular biological techniques that are used in current molecular biological research including DNA, RNA isolation and analysis, protein isolation and analysis, genetic engineering, cloning and sequencing, gene expression analysis, PCR and quantitative real-time RCR.

### RCS703: Female Reproductive Endocrinology & Infertility (3)

This course provides an introduction to endocrinology, female reproductive anatomy and the latest information in basic reproductive physiology of the female at all life stages, including puberty, mid-reproductive life and menopause. Chronic reproductive abnormalities will be discussed in detail using the current literature, including hypothalamic amenorrhea, polycystic ovarian syndrome and premature menopause. The role of gonadotropin hormone therapy in ovulation induction and controlled ovarian stimulation along with complications, such as ovarian hyperstimulation and multiple births, will also be discussed. The use of agonists and antagonists in ART and stimulation protocols for difficult cases, such as the poor responder and hyper-responder, will be covered, along with donor egg and surrogacy and ethics.

### RCS704: Current Topics In IVF (1)

This course is a journal club format designed to give basic instruction for reading the literature as students prepare to take courses in the following semesters that depend on journal articles as a supplement to or the sole source of reading. Another purpose for this course is to introduce current topics in IVF prior to thesis topic selection in the second semester. The students will work in groups to present papers selected by the program faculty. The online meeting format will be used to present and record the sessions; these sessions can be attended synchronously or asynchronously. Discussion boards will also be used to review and critique the presentations.

### RCS705: In Vitro Fertilization Technology (3)

In vitro fertilization has given its name to the field of reproductive medicine. This course presents a historic overview of the field of IVF and all current techniques and regulatory issues including: how to collect, recover, assess, prepare, fertilize and maintain gametes and embryos; the basic protocols for IVF, ICSI, GIFT, ZIFT, TET and ET; the types of culture media and culture systems used in IVF; how to design and maintain a quality IVF laboratory; the principles and application of Quality Assurance (QC, proficiency testing) and laboratory safety (security, fire, electrical, patient issues, staff issues); the operation and maintenance of common lab equipment,

recordkeeping, personnel issues and standards of good practice; how to troubleshoot problems that may arise in the IVF lab; and topical subjects, such as derivation of embryo stem cells from blastocysts and cloning. Assigned asynchronous discussions with faculty and students connect students with current topics allowing them to present their own experiences and to review the current literature for changes in the field.

### **RCS706 - Gametes & Embryos (3)**

The objective of this course is to present the recent understanding of the development of gametes and embryos to connect the participants with the molecular principles behind IVF laboratory practice. Using the historic and current literature, this course covers the molecular aspects of the origin of germ cells, oogenesis, spermatogenesis, meiosis, fertilization and preimplantation, development, implantation of embryos, gamete pathology and aging. The students are taught how to evaluate a current journal article and write a research paper to discuss their findings.

### **RCS707: Research Methods and Capstone/Thesis: Project & Statistics (2)**

Statistics and research study design are essential tools in any scientific endeavor. Developing a thesis research study design and understanding the background literature needed to create a capstone review or practice improvement project requires a rudimentary knowledge of basic statistics. In this course, students will receive training in biostatistics, which is the study of statistics used in medical and basic biological research. Students will: learn the fundamental principles of biostatistics, study applications of biostatistics in clinical medicine, participate in statistical problem-solving and learn the fundamental components of a research study design.

### **RCS708: Advanced IVF, Laboratory Tech and Skills Development (2)**

Laboratory science and technology are at the foundation of the Clinical Embryology Laboratory, and ART success rates are largely dependent on the quality of the laboratory environment and the knowledge and skill of laboratory personnel. This course covers advanced laboratory skills and techniques used in the IVF and andrology laboratories. A required, on-campus component includes hands-on training and skills evaluation.

### **RCS709: Research Methods Capstone/Thesis: Project Proposal (1)**

The master's project must be an original project of scholarship or research on a relevant topic in reproductive biology or medicine resulting in a paper. Students select either the review, QC/QI or research track. In all cases, an EVMS and possibly local advisers are selected to help determine the proper approach to the project. Depending on the track selected, a detailed capstone research or QC/QI study design is developed. To aid in capstone writing, a section of the courses have been developed to give the students an outline of the steps for writing their project. Basic elements of the capstone project for the three different tracks are covered: development of a thesis statement, data commentary, introduction, background, discussion and

conclusion; specific to the research thesis, materials/methods and results. A major concern in publication today is plagiarism; this topic is also covered in detail. All students in this program are required to take IRB, bloodborne pathogens and HIPAA for research training during this course.

### **RCS710: Genetics of Reproduction and Infertility (3)**

Many aspects of medicine, including reproductive medicine, are beginning to revolve around underlying genetic causes or predispositions. This course covers many important areas of genetics including: the basis of sex determination with functional anomalies of the reproductive system, the origin of aneuploidy and other chromosomal abnormalities in oocytes, sperm and embryos, the epidemiology and genetic basis of pregnancy wastage, the current status of preimplantation/prenatal genetic diagnosis and its applications and the molecular techniques that are available for PGD and prenatal diagnosis. Current journal article critiques and PGD design projects are used to connect with recent developments in the field.

### **RCS711: Research Methods Capstone/Thesis: Master's Project (1)**

The master's project must be an original project of scholarship or research on a relevant topic in reproductive biology or medicine resulting in a paper. Students select either the review, QC/QI or research track. In all cases, an EVMS and possibly local advisers are selected to help determine the proper approach to the project. Depending on the track selected, a detailed capstone research or QC/QI study design is developed. To aid in capstone writing, a section of the courses have been developed to give the students an outline of the steps for writing their project. Basic elements of the capstone project for the three different tracks are covered: development of a thesis statement, data commentary, introduction, background, discussion and conclusion; specific to the research thesis, materials/methods and results. A major concern in publication today is plagiarism; this topic is also covered in detail. All students in this program are required to take IRB, bloodborne pathogens and HIPAA for research training during this course.

### **RCS712: Male Reproductive Function and Dysfunction (3)**

The emphasis of this course will be on the physiology and pathology of the male reproductive system in the context of evaluations for male infertility. Knowledge of reproductive function by reviewing recent discoveries about the physiology and dysfunction of the male reproductive system will be presented using current articles and techniques. Relevant areas include: normal and abnormal spermatogenesis, reviewing slides prepared from testicular biopsies, basic semen analysis, standard tests of sperm function using microscopy and specialized functional and "non-functional" sperm evaluating assays. Also covered are disorders like testicular cancer, benign and malignant prostate and genetic causes of male infertility, male contraception and gender pre-selection using sperm. Additionally students will be challenged with the evaluation of case studies in andrology.

### **RCS713: Research Methods Capstone/Thesis: Scientific Writing (3)**

The master's project must be an original project of scholarship or research on a relevant topic in reproductive biology or medicine resulting in a paper. Students select either the review, QC/QI or research track. In all cases, an EVMS and possibly local advisers are selected to help determine the proper approach to the project. Depending on the track selected, a detailed capstone research or QC/QI study design is developed. To aid in capstone writing, a section of the courses have been developed to give the students an outline of the steps for writing their project. Basic elements of the capstone project for the three different tracks are covered: development of a thesis statement, data commentary, introduction, background, discussion and conclusion; specific to the research thesis, materials/methods and results. A major concern in publication today is plagiarism; this topic is also covered in detail. All students in this program are required to take IRB, bloodborne pathogens and HIPAA for research training during this course.

### **RCS714: Cryopreservation (2)**

The goals of cryopreservation are to preserve viable gametes, embryos, tissues and even whole organs for future fertility options and to enable augmented pregnancy rates for IVF. In this course, the biological effects of cooling and freezing will be covered in detail. Additionally, the discussion will include the following: principles of cryopreservation using conventional, equilibrium cooling methods, vitrification as an alternative to conventional freeze-thawing, applications and adaptations of low temperature banking for different cell and tissue type as well as safeguards for quality assurance. Assigned asynchronous discussion groups between faculty and students are used to have students present their own experience in the lab or to review current literature to discuss recent changes in techniques.

### **RCS715: Ethics, Society and ART (1)**

The objective of this course is to provide the student with a historical background of various traditional beliefs about reproduction, as well as the comments of moral theologians, ethicists, philosophers, sociologists and others about these same beliefs. The student will gain considerable understanding to be prepared to discuss these sensitive subjects with patients. Specifically, the course will provide a limited amount of background material but will refer the student to original sources, as well as to selected commentaries. At the practical level, the student will be presented with clinical case histories and will be expected to discuss the pros and cons of each case and offer a realistic resolution to the ethical or moral dilemma. Grades in this course will be determined by the students' evaluation of these case studies and a take-home exam.

### **RCS717: IVF Clinical Internship (3)**

During the second year of the program, those entering with no or limited experience will be placed in internships at various clinics and at the EVMS training facility. These experiences will give students additional hands-on skills in andrology and embryology that will broaden their knowledge in best practices in the field of IVF.

## **Faculty**

Jacob Mayer, PhD, Director/Professor

Helena Russell, MS, Associate Director/Assistant Professor

Alfred Z. Abuhamad, MD, Chairman

Silvina Bocca, MD, PhD, HCLD, Professor

Frank J. Castora, PhD, Professor

Eva Forgacs-Lonart, PhD, Associate Professor

Craig W. Goodmurphy, PhD, Professor

Mahmood S. Morshedi, PhD, Professor

Laurel A. Stadtmauer, MD, PhD, Professor

Liang Yu, PhD, Assistant Professor

## Doctoral Degrees

### Biomedical Science Research, PhD

#### Admissions

The Biomedical Sciences, PhD program is now participating in the Graduate Centralized Application Service (GradCAS).

Applicants to the program must have:

- A bachelor's degree prior to matriculating as an EVMS student.
  - ◆ If the bachelor's degree was issued by a U.S. college or university, as a general rule it should be from a regionally accredited institution. However, the program may grant exceptions on a case-by-case basis.
  - ◆ Official transcripts from the awarding institution must specify the date upon which the degree was issued.
- An overall grade point average (GPA) of 3.0 or higher (undergraduate and graduate GPA combined).
  - ◆ Admission is competitive; most accepted applicants have a cumulative GPA of 3.3 or higher.
- Competitive scores on the Graduate Record Examination (GRE)
  - ◆ This requirement will no longer be necessary as of September 1, 2018.
- Completed the Test of English as a Foreign Language (TOEFL)
  - ◆ This applies to international applicants only.
- Successfully completed the following courses:
  - ◆ General Biology (1 semester with lab)
  - ◆ Additional Biology (1 semester with lab)
  - ◆ Calculus and/or statistics (1 year)
  - ◆ General Chemistry (1 year with lab)
  - ◆ Organic Chemistry I (1 semester with lab)
  - ◆ Organic Chemistry II or Biochemistry (1 semester, lab not required)
  - ◆ Physics (one semester; one year preferred)
- An additional course in mathematics, computer science or chemistry may substitute for the second semester of physics.

Applicants must also have previous laboratory research experience, and we recommend that they take additional courses in biology, chemistry, and physics.

#### Transfer Credit Policy

Transfer of credit may be allowed for courses comparable to those offered in our program. Courses must have been taken at an accredited biomedical or biological sciences graduate program in the U.S. Grades of B or higher or a passing grade in a pass/fail course are required. The Biomedical Sciences PhD program may accept up to 12 transfer credits. Transfer credit will be determined by the program director in consultation with program faculty after matriculation of a student into the program.

Official transcripts must be sent to GradCAS. Test scores and supportive application documents should be electronically submitted or mailed to EVMS Admissions and Enrollment for Health Professions.

#### Technical Standards

The abilities and skills candidates and students must possess in order to complete the education and training of the Biomedical Sciences PhD program are referred to as technical standards. These abilities and skills are essential for entry into most professional practice settings associated with these degree programs.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, laboratory and/or online settings.
  - 1.2. Indicators include, but are not limited to, this example:
    - Accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.
2. Communication Skills Technical Standard
  - 2.1. Demonstrate effective communication skills with other students, faculty members, laboratory staff members and scientific colleagues.
  - 2.2. Indicators include, but are not limited to, these examples:
    - Clear, efficient and intelligible articulation of verbal language.
    - Legible, efficient and intelligible written English language.
    - Accurate and efficient English language reading skills.
    - Accurate and efficient expressive and receptive communication skills.
    - Ability to accurately follow oral and written directions.
3. Critical Reasoning Skills Technical Standard
  - 3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.
  - 3.2. Indicators include, but are not limited to, these examples:
    - Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
    - Demonstrate ability to acquire, retain and apply new and learned information.
    - Demonstrate ability to pursue a course of independent research in a laboratory setting, including the ability to plan and execute experiments.
4. Motor And Sensory Function Technical Standard
  - 4.1. Demonstrate sufficient motor and sensory function to perform typical research laboratory



duties.

4.2. Indicators include, but are not limited to, these examples:

- Functional and sufficient sensory capacity (visual, auditory and tactile) to use laboratory equipment and perform experiments.
- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom and laboratories).
- Physical stamina sufficient to complete the didactic and laboratory requirements, including prolonged periods of sitting or standing.

5. Behavioral And Social Attributes Technical Standard

5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing laboratory professional.

5.2. Indicators include, but are not limited to, these examples:

- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
- Ability to develop mature and effective professional relationships with faculty, students and other members of the research team.
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with technical difficulties in research or scientific review (e.g., criticism of ideas shared in written or oral presentations, manuscripts, etc.).
- Compliance with standards, policies and practices set forth in the EVMS Student Handbook and the program handbook.

## Curriculum

The Biomedical Sciences PhD program curriculum contains multidisciplinary training that prepares students for careers in research. Core coursework and lab rotations provide students with a broad background in the biomedical sciences, while advanced training is individualized depending on the student's interests. Fields of study focus on the molecular, cellular or organismal basis of human diseases, including cancer biology, cardiovascular physiology, endocrinology, infectious disease, neurobiology and reproduction.

Our program aims to develop graduates who will pursue careers as independent investigators with an appreciation for both basic and clinical aspects of biomedical research.

## Course Sequence

### First-Year Core Curriculum

#### Fall Semester

- Molecules to Cells
- Molecular and Cellular Techniques
- Introduction to the Laboratory
- Cell Communication and Signaling
- Molecular Genetics
- Lab Rotation 1
- Cell Energetics and Organ Function

#### Spring Semester

- Methods in Cell Energetics and Organ Function
- Lab Rotation 2
- Lab Rotation 3 (optional)
- Oral Communication Forum
- Applied Bioinformatics and Biostatistics

#### Summer Session

- Research

### Second Year

#### Fall Semester

- Methods & Logic in Translational Biology
- Oral Communication Forum
- Electives
- Responsible Conduct in Science
- Research
- Scientific Writing and Research Design

#### Spring Semester

- Oral Communication Forum
- Electives
- Research

#### Summer Session

- Research

### Third and Subsequent Years

This part of the curriculum consists of original dissertation research, writing of the dissertation and the oral defense of the dissertation.

- Fall semesters: Oral Communication Forum, Research
- Spring semesters: Oral Communication Forum, Research
- Summer sessions: Research

## Advanced Electives

This listing is a sample of advanced electives that may be chosen. Additional electives are developed based on the interests of students.

- Introduction to Genomics and Bioinformatics (ODU)
- Computational Biology (ODU)
- Principles of Epidemiology
- Advanced Bioinformatics (ODU)
- Practical Computing for Biology (ODU)
- Data Management with SAS
- Chromosome Biology and Human Disease
- Writing Elective
- Infectious and Chronic Disease Epidemiology
- Comparative Anatomy and Physiology (Online)
- Developmental Biology (Online)
- Instructional Methods
- Teaching Elective
- Organizational Management
- Introduction of Bioinformatics (ODU)
- Advanced Molecular and Cellular Techniques\*
- Genomics and Microarray Technology\*
- Proteomics\*

\*Biotechnology master's laboratory courses. Additional fee will apply.

Not all courses are available each year. Please inquire with the program.



## Tuition and Fees

Biomedical Sciences PhD students receive annual stipends (\$29,705 for 2018-2019). Fees are paid by the program. Annual program costs include books and living expenses. Health insurance is available for matriculated students.

### Tuition

Full-time students receive full tuition waivers.

### Financial Aid

Financial aid may be available for students in this program. Please visit Financial Aid for more information.

### Projected Cost of Attendance

		Biomedical Sciences, PhD	Biomedical Sciences, PhD
<b>Budget length</b>		12 mos.	12 mos.
<b>Tuition*</b>	<b>In-state (\$220/credit)**</b>	\$5,940	\$5,280
	<b>Out-of-state (\$287/credit)**</b>	\$7,749	\$6,888
<b>Fees*</b>	<b>Mandatory</b>	977	977
	<b>Health insurance</b>	2,697	2,697
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$9,614	\$8,954
	<b>Out-of-state</b>	\$11,423	\$10,562
<b>Other allowances</b>	<b>Books and article packet</b>	200	200
	<b>Room, board and miscellaneous living expenses</b>	19,644	19,644
	<b>Personal expenses</b>	960	960
	<b>Transportation</b>	4,784	4,784
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$35,202	\$34,542
	<b>Out-of-state</b>	\$37,011	\$36,150
<b>Loan fees ***</b>	<b>Direct unsubsidized - 1.069%</b>	\$219	\$219
	<b>Grad PLUS – 4.276% in-state</b>	\$629	\$600
	<b>Grad PLUS – 4.276% out-of-state</b>	\$706	\$669
<b>Total cost of attendance</b>			
<b>including loan fees</b>	<b>In-state</b>	\$36,050	\$35,361
	<b>Out-of-state</b>	\$37,936	\$37,038

\*Tuition and fees are subject to change throughout the year.

\*\*Cost of attendance projection for the first year is based on 27 credits (11 in fall, 12 in spring and 4 in summer). The second year is based on 24 credits (9 in fall, 9 in spring and 6 in summer). The actual cost of attendance is based on the education plan, which must be updated for any changes during the academic year. Please view the sample curriculum for second through fourth years to identify number of credit hours.

\*\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

Year 1 disbursements: Two equal installments in fall and spring.

Year 2 disbursements: Three equal installments in fall, spring and summer.

## Academic Calendar 2018-2019

	1st and 2nd Years
<b>Orientation</b>	8/9/2018-8/11/2018*
	<b>Term I</b>
<b>Start Date</b>	"First Year: 8/13/2018 All Others: 8/6/2018"
<b>End Date</b>	12/14/2018
<b>Final Exams</b>	"12/11/2018 -12/14/2018"
	<b>Term II</b>
<b>Start Date</b>	1/2/2019
<b>End Date</b>	5/10/2019
<b>Final Exams</b>	"5/6/2019 -5/10/2019"
	<b>Term III</b>
<b>Start Date</b>	5/20/2019
<b>End Date</b>	8/2/2019
<b>Final Exams</b>	
<b>Graduation Rehearsal</b>	5/17/2019
<b>Graduation</b>	5/18/2019
	<b>HOLIDAYS AND BREAKS</b>
<b>Labor Day</b>	9/3/2018
<b>Fall Break</b>	11/21/2018 - 11/23/2018
<b>Thanksgiving</b>	11/22/2018
<b>Winter Break</b>	"12/14/2018 -1/1/2019"
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/15/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

\*PhD Orientation for First Year Students Only.

## Course Descriptions

### BP700: Molecules to Cells (2)

The Molecules to Cells course presents the basic cellular functions and processes. This course is divided into three modules which study genome and gene expression, biochemistry of the cell, cell organelles, the cytoskeleton and protein trafficking.

### BP701: Molecular and Cellular Techniques (2)

This course provides an opportunity for students to gain an understanding of research techniques commonly employed in research laboratories.

### BP703: Cell Communication and Signaling (3)

This is a foundational course covering basic cell membrane functions, cell signaling, cell specialization and immunology.

### BP718: Introduction to the Laboratory (2)

This intensive laboratory course introduces students to basic research techniques, including DNA purification, subcloning, polymerase chain reaction and cell culture methods.

### BP704: Molecular Genetics (1.5)

Molecular Genetics will teach students the key aspects of molecular genetics including the important concept of genetic dissection as well as mutational analysis of gene and pathway function.

### BP719 or BP819; BP720 or BP820; BP721 or BP821: Biomedical Sciences Lab Rotation I, II, III (2 each)

Students get hands-on laboratory experience in these lab rotations, with help from a pre-designated faculty member. These courses are designed for students to sample different types of research models, techniques and subject matter.

### BP706: Cell Energetics and Organ Function (4)

This course integrates elements of cellular metabolism with organ system physiology. Students will gain an understanding of and critically discuss the cellular metabolic pathways required for normal function and the systemic organ function with a focus on human physiology.

### BP707: Methods in Cell Energetics and Organ Function (1)

This course introduces students to various approaches to measure cell energetics, metabolism and basic organ function.

### BP709: Scientific Writing and Research Design (3)

Students learn how to design and write a realistic research proposal and gain a general understanding of how different techniques can be used to address a wide range of research questions. Students gain experience in small group presentation, evaluation and discussion of current scientific literature.

### BP710: Oral Communication Forum (1)

Students host seminar presentations in various research areas such as tumor biology, infectious diseases, immunology, molecular cell biology, cardiovascular and reproductive physiology, endocrinology and neuroscience. Journal articles describing major scientific advances are discussed and critiqued. This course is offered each year during the fall and spring semesters.

### BP771: Methods and Logic in Translational Biology (4)

This is an advanced course that will emphasize the key elements required to successfully design and conduct translational projects. The course will serve as a bridge between basic research and the clinical manifestations of disease, and it will cover therapies of the future that are still under development.

### BP773: Responsible Conduct in Science (1)

This course features a series of lectures that expose graduate students to moral and ethical dilemmas in biomedical sciences.

The course will also expose students to peer review processes related to submission of grants and manuscripts.

#### **BP798: Research (1-6)**

Laboratory research for Research Master's students in both thesis and non-thesis options.

#### **BP799: Thesis (1-6)**

Review of the student's literature and written presentation of research.

#### **BP895: Special Topics in Biomedical Sciences (1-3)**

Guided readings and discussions of current research topics in a specialized area. Prerequisite: instructor approval.

#### **The following courses can be taken as part of the Virginia Tidewater Consortium:**

##### **Introduction to Genomics and Bioinformatics (ODU)**

##### **Computational Biology (ODU)**

##### **MPH614: Principles of Epidemiology (3)**

An introduction to epidemiology as a body of knowledge and a method for analyzing community health problems. The course emphasizes how to measure and describe the health of populations, the natural history of diseases in population groups, standardization of rates, sources of data, study designs, measurements of risk, evaluation of screening tests, causal inferences and outbreak investigation. This course includes lectures, reading and individual and group assignments.

##### **Advanced Bioinformatics (ODU)**

This course is designed to teach students the various steps involved in analyzing nextgeneration sequencing data for gene expression profiling and polymorphism identification and analyses. The class will be analyzing a publication worthy dataset in hopes of generating publishable analyses that will be of sufficient quality to withstand peer-review. The class will follow a workshop setting with a combination of lectures, paper discussions, and instructor and student lead programming sessions.

##### **BIOL701: Practical Computing for Biology (ODU) (3)**

This hands-on training course emphasizes the use of general computing tools to work more effectively in the biological sciences. It integrates a broad range of powerful and flexible tools that are applicable to ecologists, molecular biologists, physiologists, and anyone who has struggled analyzing large or complex data sets. Text file manipulation with regular expressions, basic shell scripting, programming in Python and R, interaction with remote devices, and basic graphical concepts will be reviewed.

##### **MPHE624: Data Management with SAS (3)**

SAS is a collection of modules that are being used widely in many areas of research and industry. It is a powerful integrated system that enables the users to process and analyze data. This course introduces students to the main features of

SAS programming, including basic data management, programming tools, and some simple statistical procedures.

#### **Chromosome Biology and Human Disease (ODU) (**

#### **BP780: Writing Elective (1)**

#### **MPH737: Infectious and Chronic Disease Epidemiology (3)**

This 3-credit hour course is offered to Epidemiology Track students as a required course and to Masters of Public Health students in the remaining tracks as an elective course. This course is focused on substantive areas in epidemiology with an emphasis on 'infectious disease epidemiology' and 'chronic disease epidemiology'. The course gives the introductory scientific and biomedical theories of modern public health problems and explores mechanisms and models of the major categories of disease.

#### **Comparative Anatomy and Physiology (Online)**

#### **Developmental Biology (Online)**

#### **MHPE501: Instructional Methods (3)**

This course prepares students with theoretic foundations and practical techniques to plan, apply and design appropriate instructional methods to enhance learner achievement. It introduces a wide range of instructional methods including, team-based, problem-based, interprofessional, outcome-based, experiential, and indirect and interactive learning in various medical and health professions education settings. These educational settings may include small- and large-groups, clinical, bedside, ambulatory, community, rural and distance. This course also explores best practices surrounding the planning, implementation and evaluation of various instructional methods.

#### **MHPE727: Organizational Management (3)**

A study of management theory and organizational management as related to leadership, organizational design, culture, workforce strategy and change management with an emphasis on the application of management theory and research to organizational management. This course provides an opportunity to explore conceptual frameworks addressing organizational development, leadership, strategy and management of change.

#### **CS723/823: Introduction of Bioinformatics (ODU) (X)**

In order to solve biological problems computationally, one must realize the complex nature in biological systems. This course is designed to provide fundamental knowledge and skills in bioinformatics research. Students will be guided towards the process of computational development for biological data such as genomic sequences and proteins.

#### **Advanced Molecular and Cellular Techniques\***

#### **Genomics and Microarray Technology\***

#### **Proteomics\***

## **Faculty**

Jerry L. Nadler, MD, FAHA, MACP, Internal Medicine Chairman & Vice Dean of Research

Maggie Morris-Biomedical Sciences PhD

Margaret A. Morris, PhD, Associate Professor

### **EVMS Microbiology & Molecular Cell Biology**

Julie A. Kerry, PhD Chair, Department of Microbiology and Molecular Cell Biology, Chairman

Richard P. Ciavarra, Professor

Dianne C. Daniel, PhD, Associate Professor

Elena Galkina - EVMS Microbiology

Elena V. Galkina, PhD, FAHA, Professor

Edward M. M. Johnson, PhD, Professor Emeritus

Aurora Fe E. Kerscher, PhD, Associate Professor

Woong-Ki Kim, PhD, Associate Professor

Neel K. Krishna, PhD, Professor

Patric Sven J. Lundberg, PhD, Associate Professor

David Mu, Professor

Julius O. Nyalwidhe, PhD, Associate Professor

O. John Semmes, PhD, Associate Dean

Amy H. Tang, Professor

David A. Taylor Fishwick, PhD, Professor

Julia A. Sharp, PhD, Assistant Professor

### **EVMS Pathology & Anatomy**

Paul F. Aravich, PhD, Professor

Earl W. Godfrey, PhD, Teacher

Gyorgy Lonart, PhD, Professor

Larry D. Sanford, PhD, Professor

### **EVMS Obstetrics & Gynecology**

Silvina Bocca, MD, PhD, HCLD, Professor

Gustavo F. Doncel, MD, PhD, Professor

Irina A. Zalenskaya, PhD, Assistant Professor

### **EVMS Physiological Sciences**

Gerald J. Pepe, PhD, Chair and Professor

Frank J. Castora, PhD, Professor

Anca D. Dobrian, PhD, FAHA, Professor

Diane M. Duffy, PhD Vice Chair (Research), Professor

Eva Forgacs-Lonart, PhD, Associate Professor

Frank A. Lattanzio, PhD, Professor

Howard D. White, PhD, Professor

## **EVMS Radiation Oncology**

Richard A. Britten, PhD



## Clinical Psychology

The mission of the Virginia Consortium Program is to graduate clinical psychologists who are prepared to pursue research and clinical careers. The Program's aim is to provide balanced training in both science and practice. We strive to graduate ethical clinical psychologists who are competent in individual and cultural diversity, educated in the basic subjects and methods of psychological science, capable of generating and critically assimilating new knowledge, proficient in the delivery and evaluation of psychological services, and able to assume leadership positions in academic or health service delivery systems.

### Educational Philosophy and Training Model

We believe clinical psychologists are best educated as scientist-practitioners. Scientific knowledge and methods form the foundation for effective clinical practice which, in turn, informs future research. Thus, it is essential to develop skills to design and conduct research as well as implement empirically-based techniques in practice. Our faculty believes that extensive exposure to theory, research, and practice is key in training clinical psychologists. Regardless of whether a student decides to pursue an academic career, a clinical career, or some combination of both, the practice of clinical psychology involves articulating current problems and issues, formulating creative solutions to those problems, and testing hypotheses by systematically gathering empirical evidence. The clinical psychologist encounters diverse client populations and human problems. Implementation of effective services and programs requires an understanding of the complex array of biological, psychological, and socio-cultural factors affecting human behavior. One of our primary goals is for students to become proficient at integrating theory, research, and practice. Toward this end, we employ a variety of educational tools including classroom instruction, supervised clinical experiences, regular evaluation and feedback, and early and ongoing involvement in producing empirical research. The Virginia Consortium emphasizes the following areas in its training model:

- Ethics
- Multiculturalism
- Research
- Assessment
- Intervention
- Consultation, Supervision, and Leadership

### Admissions

The Virginia Consortium Program is a unified program offered jointly by three schools: Eastern Virginia Medical School, Norfolk State University, and Old Dominion University. THE VIRGINIA CONSORTIUM PSYD PROGRAM IS NO LONGER ACCEPTING STUDENTS. At our request, the American Psychological Association placed the Psy.D. program on "accredited, inactive" status for 2015-2016 to enable students in the Psy.D. program to complete their studies.

## Curriculum

### Foundational Research Project

Students must complete a Foundational Research Project under the guidance of their research mentor. Students who are approved to earn a master's degree at Old Dominion University and who complete a master's thesis will meet this requirement. Details on this requirement are found below under "Research Training."

### Coursework Hours

Students are required to complete a minimum of 123 credit hours. A minimum of 12 semesters and 72 semester hours in residence (excluding internship, dissertation, and transfer credits) are required for the degree.

### Comprehensive Examination

Students take oral and written comprehensive exams in their 3rd year of the Program. Details of these examinations are found in "Comprehensive Examinations" below.

### Advancement to Candidacy

Successful completion of the first three years in the Program, passing all sections of the comprehensive exams, and fulfilling the fundamental research project requirement will result in Advancement to Candidacy. This must be accomplished before October 1st of the year in which the student applies for internship.

### Doctoral Dissertation

All students must complete an empirical dissertation. Details on the process and requirements for the dissertation are found in the Program's Dissertation Guide.

### Predoctoral Internship

Completion of an APA or APPIC accredited internship is a degree requirement. Details related to internship will be made available during the year prior to internship.

### Academic Standards/GPA Requirements

- GPA: Students are required to have a GPA of 3.00 or better to be awarded the degree. If a student's GPA falls below a 3.00 at any point in the program, he or she is placed on academic probation. Students must increase the cumulative GPA to 3.00 within 12 credits after having been placed on academic probation.
- Coursework: Students must earn a B- or better in required classes. Students who do not earn a B- or better in a required course will need to repeat the course. Students may retake up to 9 credits in courses in which a grade of B- or better is not earned in required courses.





# Health Sciences, DHSc

## Admissions

Effective August 29, 2018, the Doctor of Health Sciences program is now participating in the Graduate Centralized Application Service (GradCAS).

### Requirements for Admission

- A master's or doctoral degree awarded by a regionally accredited institution in the field of healthcare, education, management, or related disciplines.
- Qualifying grade point average (GPA) of 3.0 or better (on a 4-point scale), taken from the highest of the following three possible calculations:
  - ◆ Completed Undergraduate GPA (foreign degrees considered on a case by case basis)
  - ◆ Completed U.S. graduate degree GPA
- Two letters of recommendation from individuals who can reasonably assess the applicant's ability to successfully complete our doctoral program. Make sure your recommenders submit this form through the GradCAS Evaluator portal.
- Personal essay of approximately 300-500 words describing how the Doctor of Health Sciences program will enhance the applicant's academic and/or professional career goals.
- Current resume/CV documenting professional experience and educational achievements.
- Applicants must report all institutions attended and send all official transcripts to GradCAS. If you do not list or send official transcripts for all institutions attended, processing of your application may be delayed.
- Following the online instructions, applicants must contact every college or university attended and request transcripts be sent directly to GradCAS.
  - ◆ GradCAS accepts electronic transcripts from:
    - Credential Solutions
    - Parchment
    - National Student Clearinghouse
- Sending transcripts to GradCAS by mail
- Download a transcript request form after you enter each institution in GradCAS
- Send the transcript request form to the institution registrar to send transcript by mail to the address below:

**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

### Additional requirements for international applicants

English Proficiency Exams -- Competitive applicants should achieve or surpass the following scores for the Test of English as a Foreign Language (TOEFL):

- 80 for the iBT (preferred),
- 213 for CBT or

- 550 for the PBT.

Scores must have been obtained within two years of the application date. This requirement will be waived for applicants who have completed an undergraduate or graduate degree from a regionally accredited institution in the United States.

In addition to official transcripts, applicants must provide both a transcript evaluation and translation, including a course-by-course evaluation and an overall GPA calculation:

- World Education Services
- Educational Credential Evaluators
- Sending International Transcripts to GradCAS:

GradCAS will ONLY accept the evaluation report from the credentialing agency. DO NOT SEND your foreign transcript to GradCAS.

All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:

**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

**TOEFL School Code: B886**

### Applicant Help Center

- Having trouble accessing the application? The preferred browsers are Google Chrome or Firefox
- Applicant Help Center
- If you have questions about your application status, please contact your GradCAS Customer Service Representative at 857.304.2086 or GradCASinfo@liaisonedu.com.

## Technical Standards

The essential abilities and skills that candidates and students must possess in order to complete the education and training associated with the Doctor of Health Sciences program are referred to as technical standards.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, in clinical and educational settings and online.
  - 1.2. Indicators include, but are not limited to, this example:
    - Accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.
2. Communication Skills Technical Standard
  - 2.1. Demonstrate effective communication skills with professionals of varying cultures, ethnicities and personalities.
  - 2.2. Indicators include, but are not limited to, these examples:
    - Clear, efficient and intelligible articulation of spoken English language.

- Legible, efficient and intelligible written English language.
  - Accurate and efficient English language reading skills.
  - Accurate and efficient, expressive and receptive communication skills.
  - Ability to accurately follow directions (oral and written).
3. Critical Reasoning Skills Technical Standard
- 3.1. Demonstrate critical reasoning skills, including but not limited to intellectual, conceptual, integrative and quantitative abilities.
- 3.2. Indicators include but are not limited to these examples:
- Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
  - Demonstrate ability to acquire, retain and apply new and learned information.
4. Motor and Sensory Function Technical Standard
- 4.1. Demonstrate sufficient motor and sensory function.
- 4.2. Indicators include, but are not limited to, these examples:
- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, online).
  - Physical stamina sufficient to complete online didactic study, which will include prolonged periods of sitting.
5. Behavioral and Social Attributes Technical Standard
- 5.1. Demonstrate the behavioral and social attributes vital to participation in a graduate-level academic program.
- 5.2. Indicators include, but are not limited to, these examples:
- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
  - Ability to develop mature and effective professional relationships with faculty and other members of the educational and healthcare team.
  - Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
  - Demonstrate impartial motives, attitudes, and values in roles, functions and relationships.
  - Ability to monitor and react appropriately to one's own emotional needs and responses.
  - Display appropriate flexibility and adaptability in the face of stress or uncertainty in teaching and learning environments.
  - Compliance with standards, policies and practices set forth in the program handbook.

## Curriculum

The program consists of 14 courses for a total of 42 credit hours, delivered in eight consecutive semesters via online, asynchronous instruction. The online format allows students anywhere to earn the degree while balancing work and other responsibilities.

## Course Sequence

### Year 1- Fall

- DHSC 700: Strategic Communication (3 Credits)
- DHSC 701: Management of Organizational Change (3 Credits)

### Year 1- Spring

- DHSC 702: Healthcare Delivery Systems (3 Credits)
- DHSC 703: Conflict Analysis & Negotiations (3 Credits)

### Year 1- Summer

- DHSC 802: Learning Engineering (3 Credits)

### Year 2- Fall

- DHSC 800: Essentials of Financial Management (3 Credits)
- DHSC 704: Introduction to Healthcare Analytics (3 Credits)

### Year 2- Spring

- DHSC 801: Leveraging Data for Evidence-Based Decision-Making (3 Credits)
- DHSC 803: Program Evaluation (3 Credits)

### Year 2- Summer

- DHSC 804: Leadership and Professionalism (3 Credits)

### Year 3- Fall

- DHSC 900: Policy & Politics of Healthcare (3 Credits)
- DHSC 901: Healthcare Strategy (3 Credits)

### Year 3- Spring

- DHSC 902: Simulation in Healthcare (3 Credits)
- DHSC 903: Leading Innovation (3 Credits)

## Tuition and Fees

Tuition and fees for the Doctor of Health Sciences program are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state and out-of-state: \$919 per credit hour

### Mandatory Fees

- Year 1: \$93
- Year 2: \$18
- Year 3: \$83

Employees of EVMS and Sentara receive a 5% tuition discount.

## Projected Cost of Attendance

		Health Sciences, DHSc   Year 1	Health Sciences, DHSc   Year 2	Health Sciences, DHSc   Year 3
<b>Budget length</b>		12 mos.	12 mos.	9 mos.
<b>Tuition*</b>	<b>In-state (\$901/credit)</b>	\$13,515	\$13,515	\$10,812
	<b>Out-of-state (\$901/credit)</b>	\$13,515	\$13,515	\$10,812
<b>Fees*</b>	<b>Mandatory</b>	\$75		\$60
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$13,590	\$13,515	\$10,872
	<b>Out-of-state</b>	\$13,590	\$13,515	\$10,872
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,900	\$650	\$650
	<b>Room, board and miscellaneous living expenses</b>	\$13,554	\$13,554	\$10,166
	<b>Personal expenses</b>	\$960	\$960	\$720
	<b>Transportation</b>	\$1,595	\$1,595	\$1,196
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$31,599	\$30,274	\$23,604
	<b>Out-of-state</b>	\$31,599	\$30,274	\$23,604
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.069%***</b>	\$219	\$219	\$219
	<b>Grad PLUS – 4.276% in-state***</b>	\$475	\$418	\$133
	<b>Grad PLUS – 4.276% out-of-state***</b>	\$475	\$418	\$133
<b>Total cost of attendance including loan fees</b>				
	<b>In-state</b>	\$32,293	\$30,911	\$23,956
	<b>Out-of-state</b>	\$32,293	\$30,911	\$23,956

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

First-year students will enroll in 15 credit hours over three terms. Second-year students will enroll in 15 credit hours over three terms. Third-year students will enroll in 12 credit hours over two terms. Students who transfer credits into or within the program may have an amended cost of attendance.

Funds will be released in equal disbursements on the eighth day each term (or next business day) subject to continued satisfactory academic progress.

## Academic Calendar 2018-2019

	Class of 2020	Class of 2021
<b>Orientation</b>	N/A	
<b>Term I</b>		
<b>Start Date</b>	8/25/2018	8/25/2018
<b>End Date</b>	12/14/2018	12/14/2018
<b>Final Exams</b>	12/8/2018 - 12/14/2018	12/8/2018 - 12/14/2018
<b>Term II</b>		
<b>Start Date</b>	1/12/2019	1/12/2019
<b>End Date</b>	5/8/2019	5/8/2019
<b>Final Exams</b>	5/1/2019 - 5/8/2019	5/1/2019 - 5/8/2019
<b>Term III</b>		
<b>Start Date</b>	5/20/2019	5/20/2019
<b>End Date</b>	8/10/2019	8/10/2019
<b>Final Exams</b>		
<b>Graduation Rehearsal</b>	5/15/2020	5/20/2021
<b>Graduation</b>	5/16/2020	5/21/2021
<b>HOLIDAYS AND BREAKS</b>		
<b>Labor Day</b>	9/3/2018	9/3/2018
<b>Fall Break</b>	10/6/2018 - 10/9/2018	10/6/2018 - 10/9/2018
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/15/2018 - 1/11/2019	12/15/2018 - 1/11/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/16/2019	3/11/2019 - 3/16/2019
<b>Memorial Day</b>	5/27/2019	5/27/2019
<b>Fourth of July</b>	7/4/2019	7/4/2019

## Course Descriptions

### DSHC700: Strategic Communication (3)

Communication skills have never been more important than in the 21st century, where professionals must balance verbal and written interactions. Strategic communication must align the message, the medium and the audience to help organizations achieve their goals. This course will explore those concepts and help students improve their communication skills, including topics such as professional writing, development of effective PowerPoint presentations, importance of active listening and evolving use of social media.

### DSHC701: Management of Organizational Change (3)

Study organizational management theory and organizational models in a variety of settings as related to culture, mission, performance and change management with an emphasis on the application of management theory and research. This course provides an opportunity to explore conceptual frameworks addressing organizational development, leadership, decision-making and the stages of change

management.

### DSHC702: Healthcare Delivery Systems (3)

This course focuses on the identification and analysis of factors and interrelationships which influence the operation of health services organizations with specific attention to local health departments, hospitals, multi-institutional systems, integrated health systems and strategic alliances. These organizations will be viewed and discussed comparatively with other types of health service agencies.

### DSHC703: Conflict Analysis and Negotiations (3)

Examine issues and principles in the management of conflict and negotiation within organizations. Topics include resolution strategies and organizational design and change. Students will examine case studies and develop a conflict scenario that applies concepts learned throughout the course.

### DSHC802: Learning Engineering (3)

Within the science of learning framework, this course will examine how the science of learning, instruction and assessment weave together. Participants will apply learning design thinking to systematically structure effective learning experiences regardless of how instruction is delivered, and will learn how to reach a wide variety of learners in different contexts. Technology-enabled learning solutions will be explored.

### DSHC800: Essentials of Financial Management (3)

This course covers financial management in healthcare organizations including, but not limited to, financial decision-making using accounting information, operation of business units, principles of economics and capital budgeting processes and budgetary and financial controls. Financial performance will be analyzed along with revenue determination and profitability. General accounting foundations and terminology will be covered. Students will analyze real-life cases to apply cost allocation, marginal cost pricing, breakeven, budget variance, capital investment and financial analysis skills. Students will also identify and explore a healthcare finance-related topic, and will prepare a research paper.

### DSHC704: Introduction to Healthcare Analytics (3)

The course introduces basic concepts in healthcare analytics. Students will develop data analysis skills with an emphasis on statistical reasoning. The course is designed to teach students how to use data to make informed decisions. This process includes reviewing the data, exploring all the underlying assumptions, summarizing and analyzing the data and finally translating the results. Discussions and assignments will focus on honing data interpretation and the ability to strategically apply analysis results to improve health outcomes.

### DSHC801: Leveraging Data for Evidenced-Based Decision-Making (3)

This course integrates topic areas such as biostatistics, epidemiology and evidence-based medicine. The course explains how peer-reviewed literature, relevant data and

findings from healthcare research can be used to make well-informed decisions within healthcare organizations. Students will be provided with techniques and tools to identify and use this information for decision-making. Additional topics include research questions and study hypotheses, study design and systematic review.

### **DHSC803: Program Evaluation (3)**

To ensure student learning and program quality, address accreditation standards and satisfy institutional initiatives, formative and summative program evaluation methods will be examined in depth. Formative evaluation topics include needs assessment, evaluability assessment, structured conceptualization, implementation evaluation and process evaluation. Summative evaluation topics include outcome evaluations, impact evaluation, cost-effectiveness and cost-benefit analysis, secondary analysis and meta-analysis. Strategies for establishing an evaluation culture within an educational institution will be discussed. Learners will apply this knowledge to their actual working environment through a series of practical exercises.

### **DHSC804: Leadership and Professionalism (3)**

This course will expose learners to effective leadership approaches and skill sets. Topics will include fundamentals of leadership, leadership and professionalism self-assessment, leadership philosophy, professionalism, essential leadership and professionalism skills, modeling best leadership practices and behaviors, ethics in leadership, institutional and program accreditation, handling conflict and emerging issues. Learners will apply this learning to their professional life through a series of practical exercises.

### **DHSC900: Policy & Politics of Healthcare (3)**

This course is an introduction to the policy process, frameworks for understanding health policy issues, background research necessary for policy implementation and implementation strategies.

### **DHSC901: Healthcare Strategy (3)**

Examination of strategy-making issues for healthcare organizations, including analysis of economic incentives, financial strategies, development of mission and goals and formulation and implementation of long-range strategies to accomplish those goals.

### **DHSC902: Simulation in Healthcare (3)**

As the educational environment introduces and implements greater amounts of technology, faculties must be prepared to maximize these tools to promote effective learning. This course will explore the application of simulation and distance (distributed) learning as instructional and assessment tools of the modern educator.

### **DHSC903: Leading Innovation (3)**

Increasingly complex environments require a commitment to develop innovative solutions to address changing systems and evolving needs. This course will examine concepts and

case studies of innovation in a variety of organizations, along with the tools and strategies necessary to promote effective change through discovery and networking. Students will apply information learned throughout the program to develop an innovative proposal for their place of employment or for an organization they aspire to work for.

## **Faculty**

### **Program Director**

Brian C. Martin, PhD, MBA, Associate Dean, Administration

### **Faculty**

C. Donald Combs, PhD, Vice President & Dean, School Health Professions

Tina D. Cunningham, PhD, Associate Professor

Maureen Boshier, LPD, MBA, MS, FACHE, Adjunct Associate Professor

Tim A. White DHSc, MBA, Instructor

Vincent A. Rhodes, PhD, APR, Assistant Vice President of Marketing and Communications





## Medical & Health Professions Education, PhD or EdD

The doctoral program in medical and health professions education (PhD or EdD) strives to contribute to the EVMS mission of achieving excellence in medical and health professions education by developing in our graduates the skills necessary to be successful medical and health professions educator scholars in the 21st century.

Graduates of the doctoral program in MHPE are prepared to be contemporary scholars who are:

Knowledgeable educators as evidenced by

- successfully passing the candidacy exam upon completion of all core and concentration coursework.

Effective scholarly collaborators as evidenced by

- being one of multiple principle investigators on a grant proposal prepared for submission in year 2.
- co-authoring a publication while enrolled.
- co-developing a curriculum component (e.g., needs analysis, assessment of evidence-based instructional methods, development of assessment tool) in year 1.
- co-teaching in an MHPE environment in year 1.
- being a contributing member of an EVMS group (e.g., Educational Scholarship Day planning committee, Academy of Educators, Community of Practice for Educational Scholarship) while enrolled.

Skilled communicators as evidenced by

- producing a coherent and convincing written research proposal at the end of the second summer semester.
- disseminating work in a scholarly forum outside of EVMS within 12 months of completion of work.
- communicating to the lay public by preparing a project outcomes report summary of work for publication on EVMS-affiliated media in year 3.
- presenting oral summation of work at EVMS Educational Scholarship Day in year 3.

Leading contributors to MHPE as evidenced by

- adherence to legal and ethical practices at all times.
- leading MHPE journal club sessions in year 1.
- student membership in one or more MHPE-related professional organizations.
- a record of voluntary service to an MHPE-related professional organization in years 2 and 3.
- service on an EVMS committee while enrolled.

Reflective life-long learners as evidenced by

- compilation of a doctoral portfolio comprising scholarly artifacts aligned to workforce requirements of the student's self-identified professional path.

### Admissions

The Doctoral Program in Medical and Health Professions Education (DMHPE) evaluates applicants using a variety of items submitted by the applicant. All components of

an application are reviewed prior to making an admission decision.

- A master's degree from a regionally accredited institution with a cumulative grade point average of 3.00 or better prior to matriculating at EVMS
  - ♦ For those applying to the Anatomical Sciences Education concentration, the master's degree must be comprised of a minimum of 30 graduate-level credits and should include Clinical Gross Anatomy, Embryology and Histology at the master's level. Cadaver dissection as part of the master's coursework is required.
- Completed a master's-level Research Methods course with a grade of B or better or Program Director approved equivalent
- Personal essay explaining how the program fits with the applicant's professional goals
- Curriculum vitae and/or resume
- Two letters of recommendation from academic reference

### Additional Requirements for International Applicants

Requirements for admission include:

- English proficiency exams (may be waived)
  - ♦ TOEFL Minimum Scores: Paper 550, Computer 213, iBT 80
  - ♦ IELTS Minimum Scores: Total 6.5, Subscores 6
- A transcript evaluation and translation
  - ♦ Please refer to Educational Credential Evaluators or World Education Services.
  - ♦ Applicants must supply a course-by-course evaluation and an overall GPA calculation
- GradCAS will ONLY accept the evaluation report from the credentialing agency. Do not send your foreign transcript to GradCAS.
  - ♦ All other foreign transcript evaluations from the credentialing agency must be sent directly to GradCAS to the following address:  
**GradCAS Transcript Processing Center**  
**P.O. Box 9217**  
**Watertown, MA 02471**

TOEFL School Code is B886

### Technical Standards

The essential abilities and skills that candidates and students must possess in order to complete the education and training associated with this program are referred to as Technical Standards.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, in clinical and educational settings and online. Indicators include but are not limited to accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.

## 2. Communication Skills Technical Standard

2.1. Demonstrate effective communication skills with professionals of varying cultures, ethnicities and personalities.

2.2. Indicators include, but are not limited to, these examples:

- Clear, efficient and intelligible articulation of spoken English language.
- Legible, efficient and intelligible written English language.
- Accurate and efficient English language reading skills.
- Accurate and efficient, expressive and receptive communication skills.
- Ability to accurately follow directions (oral and written).

## 3. Critical Reasoning Skills Technical Standard

3.1. Demonstrate critical reasoning skills, including but not limited to intellectual, conceptual, integrative and quantitative abilities.

3.2. Indicators include but are not limited to these examples:

- Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
- Demonstrate ability to acquire, retain and apply new and learned information.

## 4. Motor and Sensory Function Technical Standard

4.1. Demonstrate sufficient motor and sensory function.

4.2. Indicators include but are not limited to these examples:

- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, online).
- Physical stamina sufficient to complete online didactic study, which will include prolonged periods of sitting.

## 5. Behavioral and Social Attributes Technical Standard

5.1. Demonstrate the behavioral and social attributes vital to participation in a graduate-level academic program.

5.2. Indicators include but are not limited to these examples:

- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
- Ability to develop mature and effective professional relationships with faculty and other members of the educational and healthcare team.
- Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.

- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty in teaching and learning environments.
- Compliance with standards, policies and practices set forth in the program handbook.

## Curriculum

- Three major components:
  - ◆ MHPE core (12 credits)
  - ◆ Concentration (18 credits)
  - ◆ Research (theoretical or applied – 18 credits)
- Eight- and sixteen-week courses
- Individualized practicum-related credits tailored to the student's career needs emphasizing teaching, scholarship, or leadership gaps and conducted at EVMS (unless otherwise approved and executed with a signed Memorandum of Understanding)
- Successful completion of the candidacy exam is required upon completion of the core and concentration coursework completed in the first five semesters and prior to continuance to the research phase
- Full- and part-time study are available for this doctoral program
- Students may transfer or attain equivalence credits for up to 9-12 credits assessed on a case-by-case basis for transfer or documented professional equivalence from work experience
- Each student receives individual mentoring to produce an academic plan and timeline for completion based on identified needs and offerings
- Student learning outcomes will be developed for cross-listed courses (500/800) based on doctoral level expectations
- Students will participate in May graduation upon successful completion of all required program components

## Course Sequence

- MHPE 800 Applied Learning Theories
- MHPE 801 Instructional Methods
- Concentration Course 1
- MHPE 804 Educational Scholarship Seminar

### TERM 2 | SPRING - YEAR ONE

- MHPE 802 Curriculum Development
- MHPE 803 Assessment of Learning
- Concentration Course 2
- MHPE 804 Educational Scholarship Seminar

### TERM 3 | SUMMER - YEAR ONE

- MHPE 805 Applied Statistics
- MHPE 707 Practicum (Higher Education Concentration)  
- or -

- CHAE 708 Residential Practicum
- USIE 708 Residential Practicum
- MHPE 804 Educational Scholarship Seminar

#### **TERM 4 | FALL - YEAR TWO**

- MHPE 806 Mixed Methods Research Designs
- MHPE 702 Program Evaluation (EdD)
- Concentration Course 3

#### **TERM 5 | SPRING - YEAR TWO**

- MHPE 807 Emergent Research Methods (PhD)
- Concentration Course 4
- MHPE 830 Candidacy Seminar

#### **TERM 6 | SUMMER - YEAR TWO**

- MHPE/CHAE/USIE 900 Research I
- CHAE 709 Residential Practicum
- USIE 709 Residential Practicum

#### **TERM 7 | FALL - YEAR THREE**

- MHPE/CHAE/USIE 901 Research II

#### **TERM 8 | SPRING - YEAR THREE**

- MHPE/CHAE/USIE 902 Research III

### **Concentration Courses**

#### **Higher Education (PhD or EdD)**

##### **Fall 1**

- MHPE 815 Current Issues in Higher Education

##### **Spring 1**

- MHPE 710 Organization and Management in Higher Education

##### **Fall 2**

- MHPE 820 Diversity in Higher Education

##### **Spring 2**

- MHPE 825 Data Science in Higher Education

#### **Contemporary Human Anatomy Education (PhD)**

##### **Fall 1**

- CHAE 800 Advanced Anatomical Sciences

##### **Spring 1**

- CHAE 801 Advanced Medical Imaging in the Digital Environment

##### **Fall 2**

- CHAE 802 Course Directing & Management Practicum

##### **Spring 2**

- CHAE 803 Advanced Dissection & Preservation Methods OR

- CHAE 804 Advanced Neuroscience

#### **Ultrasound & Imaging Education (PhD or EdD)**

##### **Fall 1**

- USIE 800 Advanced Imaging, Physics & Instrumentation

##### **Spring 1**

- USIE 801 Advanced Clinical Ultrasound Scanning I

##### **Fall 2**

- USIE 802 Course Directing & Management Practicum

##### **Spring 2**

- USIE 803 Advanced Clinical Ultrasound II

## Tuition and Fees

EVMS' Medical and Health Professions Education tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state and out-of-state: \$919 per credit hour

### Mandatory Fees

- Year 1: \$93
- Year 2: \$83

Employees of EVMS and Sentara receive a 5% tuition discount.

### Projected Cost of Attendance

		DMHPE1
<b>Budget length</b>		12 mos.
<b>Tuition*</b>	<b>In-state (\$919/credit)**</b>	\$24,813
	<b>Out-of-state (\$919/credit)**</b>	\$24,813
<b>Fees*</b>	<b>Mandatory</b>	\$75
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$24,888
	<b>Out-of-state</b>	\$24,888
<b>Other allowances</b>	<b>Books and article packet</b>	\$2,433
	<b>Room, board and miscellaneous living expenses</b>	\$13,825
	<b>Personal expenses</b>	\$960
	<b>Transportation</b>	\$1,595
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$43,701
	<b>Out-of-state</b>	\$43,701
<b>Loan fees ***</b>	<b>Direct unsubsidized - 1.069%</b>	\$218
	<b>Grad PLUS – 4.276% in-state</b>	\$986
	<b>Grad PLUS – 4.276% out-of-state</b>	\$986
<b>Total cost of attendance</b>		
<b>including loan fees</b>	<b>In-state</b>	\$44,905
	<b>Out-of-state</b>	\$44,905

The DMHPE Program consists of 54 credits total. First year students will enroll in 27 credit hours. Second year students will enroll in 23 credit hours. Third year students will enroll in 4 credit hours, which may not qualify for federal aid.

\*\*Loan fees are based on maximum Direct Unsubsidized for graduate program and balance of projected Cost of Attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

Funds will be released in equal disbursements on the 8th day each term subject to continued satisfactory academic progress.  
OFFICE OF FINANCIAL AID PROJECTED STUDENT COST OF ATTENDANCE 2018-2019

Federal methodology requires that all need determinations be based on a single student budget for a program. If you demonstrate unusual expenses, see the OFA website for guidelines and form to request a budget increase. All requests will be considered on a case-by-case basis within federal regulations.

## Academic Calendar 2018-2019

	Class of 2021
<b>Orientation</b>	"Complete Online: July 2020 Prior to start of classes"
	Term I
<b>Start Date</b>	"First 8 Weeks: 8/13/2018 Second 8 Weeks: 10/8/2018"
<b>End Date</b>	"First 8 Weeks: 10/7/18 Second 8 Weeks: 12/7/18"
	Term II
<b>Start Date</b>	"First 8 Weeks: 1/7/2019 Second 8 Weeks: 3/11/2019"
<b>End Date</b>	"First 8 Weeks: 3/3/2019 Second 8 Weeks: 4/5/2019"
	Term III
<b>Start Date</b>	6/4/2018
<b>End Date</b>	7/28/2018
<b>Graduation Rehearsal</b>	5/17/2019
<b>Graduation</b>	5/18/2019
<b>HOLIDAYS AND BREAKS</b>	
<b>Labor Day</b>	9/3/2018
<b>Fall Break</b>	N/A
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	3/4/2019 - 3/10/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

## Course Descriptions

### MHPE800: Applied Learning Theories (3)

This course is an exploration of adult learning theory. Application of principles to medical and health professions education is expected. Learners successfully completing this course will explore major theorists in the field of adult learning and create an educational philosophy. Learners will create artifacts in an electronic portfolio to exemplify the application of seven areas of learning theory: assessment of prior knowledge, encoding and retrieval and knowledge, motivation for learning, mastery of learning, feedback and practice, course climate, and self-directed learning.

### MHPE801: Instructional Methods (3)

This course prepares students with theoretic foundations and best practices to plan, apply, design, and evaluate appropriate instructional methods to enhance learner achievement. Application of principles to medical and health professions education is expected. Learners analyze a wide range of instructional methods including team-based, problem-based,

inter-professional, outcome-based, experiential, indirect, and interactive in a variety of educational settings including small- and large-groups, clinical, bedside, ambulatory, community, rural, and distance.

### MHPE802: Curriculum Development (3)

This course teaches a systematic curriculum development approach. Application of principles to medical and health professions education is expected. Educators and curriculum leaders will gain knowledge, skills, and experiences in multiple facets of curriculum development including curricula planning, design, development, implementation, evaluation, and improvement/revision. Learners will also explore the benefits and challenges related to the collaborative nature of curriculum development through practical examples and application of curricular planning models.

### MHPE803: Assessment of Learning (3)

This course prepares learners to design evidence-based assessment strategies to improve instructional effectiveness for faculty and learning outcomes for students. Application of principles to medical and health professions education is expected. A wide array of formative and summative assessment instruments and techniques will be explored and applied through practical application.

### MHPE804: Educational Scholarship Seminar

(1 credit; repeated for a total of 3 credits)

The goals of the educational scholarship seminar are to explore opportunities for educational scholarship within medical and health professions education and to provide the student the opportunity to strengthen foundational skills necessary to achieve candidacy and subsequent successful completion of a contemporary scholarly project. Proposal writing, IRB, manuscript preparation and options, publication in scholarly journals, educator portfolios, and grant preparation are core topics. The course will be repeated for a total of three credits.

### MHPE707: Practicum (3)

The practicum provides students with an in-depth supervised opportunity to apply knowledge and skills gained in the four MHPE core teaching courses – Applied Learning Theories, Instructional Methods, Curriculum Development, and Assessment of Learning. Working as part of a simulated faculty team, students will completely develop all components of an online course. This is a virtual practicum.

### CHAE 708 Residential Practicum (1.5)

The practicum provides students with an in-depth supervised opportunity to apply knowledge and skills gained in Term 1 and Term 2 courses. This is a residential practicum where students will travel to Norfolk, VA to EVMS to participate in the residency week-long training program.

### CHAE 709 Residential Practicum (1.5)

The practicum provides students with an in-depth supervised opportunity to apply knowledge and skills gained in Term 4 and Term 5 courses. This is a residential practicum where



students will travel to Norfolk, VA to EVMS to participate in the residency week-long training program.

### **USIE 708 Residential Practicum (1.5)**

The practicum provides students with an in-depth supervised opportunity to apply knowledge and skills gained in Term 1 and Term 2 courses. This is a residential practicum where students will travel to Norfolk, VA to EVMS to participate in the residency week-long training program.

### **USIE 709 Residential Practicum (1.5)**

The practicum provides students with an in-depth supervised opportunity to apply knowledge and skills gained in Term 4 and Term 5 courses. This is a residential practicum where students will travel to Norfolk, VA to EVMS to participate in the residency week-long training program.

### **MHPE805: Applied Statistics (3)**

Learners will gain an understanding of the statistical tests used in medical and health professions education research. The focus is on understanding why a particular test is used and how to interpret and apply results obtained from each test. Utilizing SPSS statistical analysis software, learners will perform all statistical procedures related to descriptive statistics and inferential statistics such as t-tests, one-way analysis of variance, correlation, regression, and chi-square. Visual representation of data will also be covered.

### **MHPE806: Mixed Methods Research Designs (3)**

Learners will explore general qualitative/quantitative research methods used in medical and health professions education research. The course will include investigation of quantitative and qualitative research approaches, sampling techniques, validity, and ethical considerations. The goal of the course is acquisition of skills needed to understand, plan, manage, analyze and interpret studies where data is mixed (qualitative and quantitative).

### **MHPE702: Program Evaluation (3)**

This introductory course in program evaluation takes the learner from the beginnings of program evaluation as an academic discipline through current Logic Model-based evaluation that encompasses the ethical, political, and social landscapes within which an evaluation resides. Students will have an opportunity to design each step of an educational program evaluation beginning with an evaluability assessment. Diverse models focused on different stakeholder audiences and program goals will be implemented to evaluate real-life, ongoing educational programs selected by each student. Students will develop Logic Models to guide evaluation planning and implementation. Data collection and analysis plans will include quantitative, qualitative and mixed methods approaches. The course will culminate in presentation of an evaluation report based on data from actual educational programs.

### **MHPE807: Emergent Research Methods (PhD) (3)**

Learners will explore emerging research methods in an effort to answer new research questions brought on by the increasingly globalized world and rapidly changing health care industry. Learners will identify emergent qualitative and quantitative research designs used in medical and health professions education research e.g. document research, ethnography, arts based research, structural equation modeling, and internet research. Learners will gain the skills and knowledge needed to design and conduct research studies that examine complex issues in a rapidly changing world.

### **MHPE710: Organization and Management in Higher Education (3)**

Learners will research and understand higher education organizational structures and issues of oversight and will develop an understanding of how colleges and universities are governed. Who are the key decision makers at these institutions? What roles do various constituents such as board members, presidents, deans, faculty, staff, and students play? Learners will explore how organizational structures, culture, context, and characteristics influence institutional governance and decision making. Learners will become knowledgeable about the history of and current trends in the management and operations of higher education institutions with a focus on academic health centers. This course will make use of case studies, debates, and discussion of current events as a means to better understand higher education organization and management.

### **MHPE815: Current Issues in Higher Education (3)**

Learners will explore issues of contemporary concern among higher education practitioners, faculty, and administrators. The course utilizes a historical perspective to establish the background for the discussion of the issues influencing higher education today. Topics related to academic and student affairs in academic health centers will be identified and examined. Coursework and readings provide a nuanced understanding of differing perspectives on complex issues. Learners will utilize higher education research to examine issues, identify pros and cons, and challenge assumptions. Doctoral-level writing is emphasized.

### **MHPE820: Diversity in Higher Education (3)**

Learners will reflect upon and articulate an understanding of representation of individuals (primarily students and faculty) from diverse backgrounds in institutions of higher education. Application of principles to medical and health professions education is expected. Learners will research and determine ways to address issues such as equity, unconscious bias, and access to high quality education and develop effective teaching strategies illustrating best practices in establishing ideal learning environments.

### **MHPE825: Data Science in Higher Education (3)**

Learners will gain a perspective on institutional research and data-driven decision making by exploring real-world institutional problems. The goal of the course is to help the

learner acquire skills in asking data-driven questions, collecting and preparing data, mining data for patterns, developing institutional knowledge, and creating real predictive models.

### **MHPE830: Candidacy Seminar (3)**

This course is designed to thoroughly evaluate the learner's knowledge of medical and health professions education and their concentration using combined written and oral evaluation strategies and an evaluation of the learner's educator portfolio. A preliminary research proposal must be presented and approved and dissemination outlet identified. Learners must successfully complete this course before moving on to complete their research.

### **MHPE900: Research I (Proposal) (2)**

(Cross-listed with CHAE 900 and USIE 900)

Advisor approval required. The goal of this course is submission of the doctoral candidate's research proposal to IRB and receiving approval to collect data. A thorough review of the literature is expected.

### **MHPE901: Research II (Data Collection & Writing) (2)**

(Cross-listed with CHAE 901 and USIE 901)

Advisor approval required. Doctoral candidates will collect and analyze their data and write the final product.

### **MHPE902: Research III (Defense) (2)**

(Cross-listed with CHAE 902 and USIE 902)

Advisor approval required. Doctoral candidates will successfully present their work.

## **Contemporary Human Anatomy Education Concentration Courses**

### **CHAE800: Advanced Anatomical Sciences (3)**

This course will provide exposure to the four cardinal anatomical sciences. Gross Anatomy, Micro Anatomy, Embryology & Neuroanatomy. There will be a dedicated dissection of the whole body, online histology and embryology and multiple neuroanatomy labs and online lecture components to ensure students are well versed in each of the specialties.

### **CHAE801: Advanced Medical Imaging in the Digital Environment (3)**

The Advanced Medical Imaging course is a high level imaging course in which the students will have online components, live presentations in the radiology residency program and some shadowing experience in the clinical environment. Students will be expected to reflect on these experiences in a journal on how they would be employed in a teaching environment. Each will be required to produce an imaging teaching module and assessments around an area of imaging interest or assignment.

### **CHAE802: Course Directing and Management Practicum (3)**

This course is cross numbered for both concentrations in Anatomy Education and Ultrasound Education. It is designed

to provide students a purposeful and mentored experience as a junior course director. Each student is assigned a mentor and a course so they can assist, shadow and learn from an experienced course director. This is especially valuable in the management and logistics of courses that involve laboratories, donor materials/Standardized patients and the governing rules and regulations that are associated.

### **CHAE803: Advanced Dissection and Preservation Methods (3)**

This course is designed to provide students exploration into the world of anatomical preservation and preparation. Students will be introduced to polyester slices, cold and room temperature plastination including the phases of dissection, dehydration, impregnation and polymerization. Students will have projects to design, develop and dissect a teaching tool using these techniques.

### **CHAE804: Advanced Neuroscience (3)**

This is an integrated neuroscience course that includes molecular, cellular, developmental, anatomical, metabolic, physiologic, pathologic, immunologic, neurologic and psychiatric concepts. An underlying theme is the localization of neural function and pathology in a clinically relevant manner that emphasizes networks rather than centers. Sequential building blocks are used to divide the nervous system into manageable parts, with each part being considered at several levels of clinical complexity. Course availability varies.

### **CHAE900: Research I (Proposal) (2)**

(Cross-listed with MHPE 900 and USIE 900)

Advisor approval required. The goal of this course is submission of the doctoral candidate's research proposal to IRB and receiving approval to collect data. A thorough review of the literature is expected.

### **CHAE901: Research II (Data Collection & Writing) (2)**

(Cross-listed with MHPE 901 and USIE 901)

Advisor approval required. Doctoral candidates will collect and analyze their data and write the final product.

### **CHAE902: Research III (Defense) (2)**

(Cross-listed with MHPE 902 and USIE 902)

Advisor approval required. Doctoral candidates will successfully present their work.

## **Ultrasound/Imaging Education Concentration Courses**

### **USIE800: Advanced Imaging, Physics and Instrumentation (3)**

This course is designed as an online offering for students to improve their understanding of imaging mechanics, physics and instrumentation. Each student must successfully pass a practice SPI examination to complete the course successfully. For those that have not achieved a passing grade in the national SPI (Sonographic Physics and Instrumentation) examination they will attain eligibility status to sit the SPI exam. In addition to preparing students for the SPI examination

students will develop an online module and prepare a series of relevant assessments for the module. This will also involve taking part in imaging modalities lectures through the radiology residency program and shadowing at the hospital with other imaging modalities. Each student will prepare and deliver a live lecture for faculty focused on an area imaging demonstrating their understanding of imaging physics and instrumentation and its application to ultrasound and imaging education.

### **USIE801: Advanced Clinical Ultrasound Scanning I (3)**

The Advanced Clinical US scanning I and II are each three credits and are longitudinal for up to 1 year of clinically based scanning opportunities providing students the ability to build a scanning portfolio to attain ARDMS (Registered Diagnostic Medical Sonographer) accreditation standing in one of the specialties such as Vascular, Musculoskeletal, Abdomen, Obstetrics and Gynecology, Pediatric, Breast, Cardiac

### **USIE802: Course Directing and Management Practicum (3)**

This course is cross numbered for both concentrations in Anatomy Education and Ultrasound Education. It is designed to provide students a purposeful and mentored experience as a junior course director. Each student is assigned a mentor and a course so they can assist, shadow and learn from an experienced course director. This is especially valuable in the management and logistics of courses that involve laboratories, donor materials/Standardized patients and the governing rules and regulations that are associated.

### **USIE803: Advanced Clinical Ultrasound Scanning II (3)**

The Advanced Clinical US scanning I and II are each three credits and are longitudinal for up to 1 year of clinically based scanning opportunities providing students the ability to build a scanning portfolio to attain ARDMS (Registered Diagnostic Medical Sonographer) accreditation standing in one of the specialties such as Vascular, Musculoskeletal, Abdomen, Obstetrics and Gynecology, Pediatric, Breast, or Cardiac.

### **USIE900: Research I (Proposal) (2)**

(Cross-listed with MHPE 900 and CHAE 900)

Advisor approval required. The goal of this course is submission of the doctoral candidate's research proposal to IRB and receiving approval to collect data. A thorough review of the literature is expected.

### **USIE901: Research II (Data Collection & Writing) (2)**

(Cross-listed with MHPE 901 and CHAE 901)

Advisor approval required. Doctoral candidates will collect and analyze their data and write the final product.

### **USIE902: Research III (Defense) (2)**

(Cross-listed with MHPE 902 and CHAE 902)

Advisor approval required. Doctoral candidates will successfully present their work.

## **Faculty**

### **Program Director**

Cynthia Cadieux , PhD, RDN, FAND, Associate Dean, Education Assessment & Evaluation

### **Associate Program Director and Higher Education Concentration Director**

Peggy Gesing, PhD

### **Contemporary Human Anatomy Education Concentration Director**

György Lonart, PhD

### **Ultrasound and Imaging Concentration Director**

Craig Goodmurphy, PhD

# Reproductive Clinical Science, PhD

## Admissions

Candidates must have completed all master's degree requirements and have been issued a master's degree prior to matriculating as an EVMS student. If the master's degree was issued by a U.S. college or university, as a general rule it should be from a regionally accredited institution. However, the program may grant exceptions on a case-by-case basis. Official transcripts from the awarding institution must specify the date upon which the degree was issued. Graduate-level transfer credits will be considered on a case-by-case basis.

Listed below are the requirements for application and admission into the RCS PhD program. If you have any questions or concerns about these requirements, please contact the program.

Applicants must:

- Have a Master of Science degree in one of the following areas: Clinical Embryology, Biology, Molecular Biology, Developmental Biology, Reproductive Sciences or Biochemistry. Other Master of Science Degrees may be acceptable; contact the program to inquire.
- Have a grade point average (GPA) of 3.0 (B) or higher in the master's degree.
- Prerequisites: Have successfully completed a master's in Clinical Embryology and Andrology or in an acceptable master's with one semester of each of the following:
  - ◆ Biochemistry
  - ◆ Introductory Biostatistics
  - ◆ Molecular Cellular Biology
  - ◆ Genetics or Developmental Biology
- Be an established clinical embryologist/andrologist with at least three years of embryology experience. Submit letters of support from employers indicating level of experience and willingness to allow applicant to perform research projects in their current position.
- Submit three letters of recommendation (submitted by the reference electronically) from individuals who are acquainted with you academically and/or professionally. References from close friends and family members are not acceptable.
- Submit GRE scores
- Letters of Support to Conduct Research
  - ◆ Submit a letter of support from your employer, lab director or medical director stating that you will be allowed to conduct research where you work as part of the PhD in RCS.
  - ◆ This letter is a separate letter from the letters of Recommendation.
- Submit a personal essay that will persuade the faculty that your past experiences will provide the foundation for success in graduate school. The statement will also be reviewed as an example of your ability to communicate effectively.

International students, or applicants whose native language is not English, must take the TOEFL exam.

## Technical Standards

The abilities and skills candidates and students must possess in order to complete the education and training associated with Reproductive Clinical Science PhD program are referred to as technical standards. These abilities and skills are essential for clinical laboratory practice as an embryologist and/or andrologist.

1. Observation Skills Technical Standard
  - 1.1. Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, laboratory and/or online settings. Indicators include, but are not limited to, accurate visualization and discrimination of text, numbers, patterns, graphic illustrations and other imaging texts.
2. Communication Skills Technical Standard
  - 2.1. Demonstrate effective communication skills with healthcare professionals and with people of varying cultures, ethnicities and personalities.
  - 2.2. Indicators include, but are not limited to, these examples:
    - Clear, efficient and intelligible articulation of spoken English language.
    - Legible, efficient and intelligible written English language.
    - Accurate and efficient English language reading skills.
    - Accurate and efficient, expressive and receptive communication skills.
    - Ability to accurately follow directions (oral and written).
3. Critical Reasoning Skills Technical Standard
  - 3.1. Demonstrate critical reasoning skills, including, but not limited to, intellectual, conceptual, integrative and quantitative abilities.
  - 3.2. Indicators include, but are not limited to, these examples:
    - Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
    - Demonstrate ability to acquire, retain and apply new and learned information.
4. Motor And Sensory Function Technical Standard
  - 4.1. Demonstrate sufficient motor and sensory function to perform typical clinical laboratory duties.
  - 4.2. Indicators include, but are not limited to, these examples:
    - Functional and sufficient sensory capacity (visual, auditory and tactile) to use laboratory equipment and perform procedures.
    - Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, online and



- laboratories).
- Physical stamina sufficient to complete the online didactic and some laboratory study, which will include prolonged periods of sitting.

## 5. Behavioral And Social Attributes Technical Standard

5.1. Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing laboratory professional.

5.2. Indicators include, but are not limited to, these examples:

- Possess the emotional health required for full utilization of mental faculties (judgment, orientation, affect and cognition).
- Ability to develop mature and effective professional relationships with faculty, patients, the public and other members of the healthcare team.
- Possess personal qualities that facilitate effective therapeutic interactions (compassion, empathy, integrity, honesty, benevolence, confidentiality).
- Demonstrate impartial motives, attitudes and values in roles, functions and relationships.
- Ability to monitor and react appropriately to one's own emotional needs and responses.
- Display appropriate flexibility and adaptability in the face of stress or uncertainty associated with clinical encounters and clinical environments.
- Compliance with standards, policies and practices set forth in the EVMS Student Handbook and the program handbook.

- RCS-803 Comparative Anatomy and Physiology of Reproduction

## Year One | Spring

- RCS-804 Experimental Design
- RCS-805 Advanced Topics IVF
- RCS-806 Developmental Biology

## Year One | Summer

- RCS-815 Dissertation Research Proposal Development

## Year Two | Fall

- RCS-809 Toxicology and Infertility
- RCS-810 Research Literature Review
- RCS-811 Advanced Topics Male Infertility Research Literature

## Year Two | Spring

- RCS-812 Clinical Laboratory Management
- RCS-816 Dissertation Research
- RCS-814 ART and Genetics

## Year Two | Summer

- RCS-816 Dissertation Research

## Year Three | Fall

- RCS-816 Dissertation Research
- RCS-819 The Business of IVF

## Year Three | Spring

- RCS-816 Dissertation Research

## Tuition and Fees

EVMS' Reproductive Clinical Science tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

## Tuition

- In-state: \$1,314 per credit hour
- Out-of-state: \$1,366 per credit hour

## Mandatory Fees

- Year 1: \$163
- Year 2: \$88
- Year 3: \$100

## Full-Time Status

A student must maintain a coursework load considered full-time - 7 credit hours per semester for this program - to continue receiving financial aid previously awarded.

## Curriculum

This is an online program that has been designed for adult learners and working professionals who are in the workforce while they are enrolled in this program, with the exception of one on-campus course during the program. This 49 credit-hour program is projected to be completed in 32 months; however, due to the nature of independent research, more time may be needed.

The program starts in the fall. Students take 2 years of graduate-level didactic and research development courses and must pass a comprehensive qualifying exam at the end of their third semester to advance to candidacy. The final year of the program focuses on dissertation research. During the final semester, the students will prepare and defend their dissertation projects. Six students are accepted each year to this three-year online program.

## Course Sequence

### Year One | Fall

- RCS-801 Advanced Statistics
- RCS-802 Assisted Reproduction Evidence-Based Practice Journal Club

## Projected Cost of Attendance

		Reproductive Clinical Science, PhD   Year 1	Reproductive Clinical Science, PhD   Year 2	Reproductive Clinical Science, PhD   Year 3
<b>Budget length</b>		12 mos.	12 mos.	8 mos.
<b>Tuition*</b>	<b>In-state (\$1,314/credit)</b>	\$23,652	\$22,338	\$18,396
	<b>Out-of-state (\$1,366/credit)</b>	\$24,588	\$23,222	\$19,124
<b>Fees*</b>	<b>Mandatory</b>	\$163	\$88	\$100
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$23,815	\$22,426	\$18,496
	<b>Out-of-state</b>	\$24,751	\$23,310	\$19,224
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,925	\$900	\$900
	<b>Room, board and miscellaneous living expenses</b>	\$13,825	\$13,825	\$9,216
	<b>Personal expenses</b>	\$960	\$960	\$640
	<b>Transportation</b>	\$1,595	\$1,595	\$1,064
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$42,120	\$39,706	\$30,316
	<b>Out-of-state</b>	\$43,056	\$40,590	\$31,044
<b>Loan fees**</b>	<b>Direct unsubsidized – 1.066%</b>	\$219	\$219	\$219
	<b>Grad PLUS – 4.264% in-state</b>	\$922	\$819	\$419
	<b>Grad PLUS – 4.264% out-of-state</b>	\$962	\$857	\$450
<b>Total cost of attendance including loan fees</b>	<b>In-state</b>	\$43,261	\$40,744	\$30,954
	<b>Out-of-state</b>	\$44,237	\$41,666	\$31,713

\*Tuition and fees are subject to change throughout the year.

\*\*Loan fees are subject to change for loans first disbursed on or after October 1.



## Academic Calendar 2018-2019

### First Year

	Class of 2021
<b>Orientation</b>	7/23/2018 - 8/19/2018
<b>Term I</b>	<b>Semester One - Fall</b>
<b>Start Date</b>	8/20/2018
<b>End Date</b>	12/9/2018
<b>Term II</b>	<b>Semester Two - Spring</b>
<b>Start Date</b>	1/14/2019
<b>End Date</b>	5/12/2019
<b>Term III</b>	<b>Semester Three - Summer</b>
<b>Start Date</b>	5/27/2019
<b>End Date</b>	7/28/2019
<b>Graduation Rehearsal</b>	5/20/2021
<b>Graduation</b>	5/21/2021

#### HOLIDAYS AND BREAKS

<b>Labor Day</b>	9/3/2018
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/15/2018 - 1/11/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/16/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

### Second Year

	Class of 2020
<b>Orientation</b>	N/A
<b>Term I</b>	<b>Semester Four - Fall</b>
<b>Start Date</b>	8/20/2018
<b>End Date</b>	12/9/2018
<b>Term II</b>	<b>Semester Five - Spring</b>
<b>Start Date</b>	1/14/2019
<b>End Date</b>	5/12/2019
<b>Term III</b>	<b>Semester Six - Summer</b>
<b>Start Date</b>	5/27/2019
<b>End Date</b>	7/28/2019
<b>Graduation Rehearsal</b>	5/15/2020
<b>Graduation</b>	5/15/2020

#### HOLIDAYS AND BREAKS

<b>Labor Day</b>	9/3/2018
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018

#### Class of 2020

<b>Winter Break</b>	12/15/2018 - 1/11/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/16/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

### Third Year

	Class of 2019
<b>Orientation</b>	N/A
<b>Term I</b>	<b>Semester Seven - Fall</b>
<b>Start Date</b>	8/20/2018
<b>End Date</b>	12/9/2018
<b>Term II</b>	<b>Semester Eight - Spring</b>
<b>Start Date</b>	1/14/2019
<b>End Date</b>	5/12/2019
<b>Term III</b>	
<b>Start Date</b>	
<b>End Date</b>	

<b>Graduation Rehearsal</b>	5/17/2019
<b>Graduation</b>	5/18/2019

#### HOLIDAYS AND BREAKS

<b>Labor Day</b>	9/3/2018
<b>Thanksgiving Break</b>	11/22/2018 - 11/23/2018
<b>Winter Break</b>	12/15/2018 - 1/11/2019
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	3/11/2019 - 3/16/2019
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	7/4/2019

## Course Descriptions (Credit Hours)

### RCS801: Advanced Statistics (3)

Advanced Statistics explores the use of statistics in basic and clinical science research. Learn what types, when and how to use different analysis tools for qualitative and quantitative statistics and quality assurance calculations. Particular attention will be focused on clinical and laboratory applications as well as basic science research.

### RCS802: Assisted Reproduction Evidence-Based Practice Journal Club (1)

Using the best evidence from literature, learn how to interpret and formulate best practices in IVF. This course will utilize the principles of evidence-based medical practice and adapt them to the clinical IVF environment.

### RCS803: Comparative Anatomy and Physiology of Reproduction (3)

Knowing which type of animal models and how they may be used in research is an essential component of interpreting and applying study outcomes to humans. This course will illustrate the uses and limitations of these animal models in the study of human reproduction.

#### **RCS804: Experimental Design (3)**

Essential skills for a researcher are how to design a study and how to apply advanced experimental modeling techniques. These are both combined here, leading to best practices development in experimental design.

#### **RCS805: Advanced Topics IVF (1)**

Using the literature, students will present current topic areas in IVF, laboratory and clinical research. How to conduct research in this area will also be covered in this course.

#### **RCS806: Developmental Biology (3)**

Study the origin and development of form and patterns in organisms. Recent investigations and recent research methodology on the processes of growth and differentiation are stressed.

#### **RCS815: Dissertation Research Proposal Development (4)**

This course gives students an opportunity to structure their research projects and write a proposal for their dissertation.

#### **RCS809: Toxicology and Infertility (3)**

Environmental factors influence fertility during development, gametogenesis, fertilization and embryogenesis. This course explores the current technology, theories and research surrounding toxins and fertility.

#### **RCS810: Research Literature Review (3)**

During this course, students learn the best techniques for reviewing the literature, summarizing previous data and writing a review of a topic area. Students will produce their own topic literature review by the end of this course.

#### **RCS811: Advanced Topics Male Infertility Research Literature (1)**

Using the literature, students will present current topic areas in male infertility, treatment and research. How to conduct research in this area will also be covered in this course.

#### **RCS812: Clinical Laboratory Management (3)**

All aspects of the management of a clinical lab will be presented in this course. Students will develop new protocols, write risk management reports, develop QC guidelines and design and justify the design of an IVF facility as a portfolio project.

#### **RCS814: ART and Genetics (1)**

Using literature, students will present current topics in ART and genetics. How to conduct research in this area will also be covered in this course.

#### **RCS816A: Research Project Presentation (3)**

The objective of this course is to follow the dissertation research plan and track progress of dissertation research.

#### **RCS816B: Research Project Presentation (3)**

The objective of this course is to follow the dissertation research plan and track progress of dissertation research.

#### **RCS816C: Research Project Presentation (6)**

The objective of this course is to follow the dissertation research plan and track progress of dissertation research.

#### **RCS816D: Research Project Presentation (7)**

The objective of this course is to follow the dissertation research plan and track progress of dissertation research.

#### **RCS816E: Research Project Presentation (1)**

The objective of this course is to follow the dissertation research plan and track progress of dissertation research.

#### **RCS819: The Business of IVF (1)**

Management of the IVF facility from the business perspective is the main goal of this course. Students will construct an analysis of a laboratory business plan and propose phased changes to make improvements.

### **Faculty**

Jacob Mayer, PhD, Director/Professor

Helena Russell, MS, Associate Director/Assistant Professor

Silvina Bocca, MD, PhD, HCLD, Professor

Liang Yu, PhD, Assistant Professor

Gerald Pepe, PhD

Kimball Pomeroy, Ph.D.

Earl W. Godfrey, PhD



# Medical Degrees

## Doctor of Medicine

### Admission

As a medical school dedicated since its inception to the healthcare needs of eastern Virginia, EVMS shows preference to applicants from the Commonwealth of Virginia, especially legal residents of Hampton Roads. For an applicant to be considered as an in-state Virginia resident for tuition purposes, the applicant must have legally domiciled in the Commonwealth of Virginia for a least one year prior to matriculation and must fulfill other requirements to confirm Virginia residency.

Applications from out-of-state students who have strong academic credentials and the personal traits valued by EVMS are also encouraged to apply. Applicants from rural or other underserved regions and those who have been disadvantaged or underrepresented for economic, racial or social reasons, and who possess the motivation and aptitude required for the study of medicine, are also strongly encouraged to apply.

Applicants who are enrolled or are planning to enroll in a degree-seeking graduate program must fulfill the degree requirements for that program prior to matriculating at EVMS.

Applicants must have taken the MCAT and completed a minimum of 100 semester hours, including the below required prerequisite courses, at an accredited university in the United States or Canada. (Online/internet-based courses are not acceptable.)

### Prerequisite courses

- Biology (with labs) 1 year
- General chemistry (with labs) 1 year
- Organic chemistry (with labs) 1 year
- Physics (with labs) 1 year

(Biochemistry is highly recommended.)

Applicants must have grades of C or better in all required courses. Credits earned through advanced placement programs or CLEP are acceptable. Applicants may enhance their chances of acceptance by taking graduate course work in the natural sciences. In recent years, students matriculating at EVMS have had a mean GPA of 3.50 and a mean MCAT of 31 (510).

### MCAT

The Medical College Admissions Test (MCAT) is a computer-based exam which is offered multiple times throughout the year and must be taken by the prospective student before the application can be processed.

EVMS will only consider MCAT scores from exams taken within two years prior to the application date. The MCAT tests academic competencies in the natural sciences, reasoning and analysis skills, and concepts from psychology, sociology and biology that provide the foundation for learning in medical school about the behavioral and socio-cultural determinants of health, according to the AAMC. An applicant may wish to take the MCAT more than once to ensure the best possible performance. If an applicant intends to take the MCAT for the

first time in the fall, review of his or her application will not take place until the score has been received. Information and registration may be accessed online.

### International students

Only U.S. citizens or permanent residents of the U.S. will be considered for admission into the MD program at Eastern Virginia Medical School.

### Initial application

EVMS is highly competitive, and each year, the medical school receives more than 6,500 applications from which approximately 150 students are selected. The admissions process begins on June 1 and ends in August of the following year. Initial applications are received through the American Medical College Application Service (AMCAS) of the Association of American Medical Colleges.

The MD admissions process begins after a completed application is received from the American Medical College Application Service (AMCAS). Electronic applications and the instructions for completing the AMCAS application can be accessed through the Association of American Medical Colleges (AAMC) website.

This application contains information about the applicant, including a personal comments section and a record of the applicant's academic performance. In addition to academic information, the application should include other life experiences such as previous healthcare work, volunteerism and employment history.

### Supplemental application

Once the prospective student's AMCAS application has been received by EVMS, MD Admissions may request that a secondary application be completed. This will be sent to the applicant via the email address supplied to AMCAS when the primary application was submitted.

Veterans are eligible for reimbursement of these fees through the Veterans I-SERVED Program.

### Letters of recommendation

- If your school has a premedical advisory committee, we strongly urge you to have a letter sent by that committee. Otherwise, you may submit three individual letters, including: two letters from natural and physical sciences faculty and one letter from a non-science faculty (courses in Mathematics will be considered in the realm of a non-science letter).
- Applicants currently or previously enrolled in a graduate program must submit another letter of recommendation from their thesis or graduate advisor. (Do not duplicate letters. You should have a minimum of four separate letters, including undergraduate letters listed above, if you are required to submit a graduate letter of reference).
- You may submit additional letters other than the required minimum listed above.

- If you have just begun or are planning to begin a one-year master's degree program this fall, you are required to submit a letter from your program adviser verifying your enrollment and the program completion date. (A letter of your progress in the program will be requested at a later date.)

## Transfer applicants

Applicants who wish to transfer into the second or third year at EVMS should review our transfer applicant guidelines and submit a completed transfer application to MD Admissions by March 1.

## Acceptance protocol for Eastern Virginia Medical School

Assigned Dates	Protocol Procedures
<b>Feb. 19-April 15</b>	Accepted applicants may select the "Plan to Enroll" option in AMCAS.
<b>April 15 - April 30</b>	Accepted applicants should narrow their offers of acceptance to three medical schools.
<b>April 30 - July 17</b>	Accepted applicants may select the "Commit to Enroll" option in AMCAS. This selection indicates that you are withdrawing your application from consideration at other medical schools.
<b>July 18</b>	Accepted students are required to select the "Commit to Enroll" option in AMCAS. If commit to enroll is not selected by July 18, your offer of acceptance may be rescinded.

## Application deadline

Applications for regular admission may be submitted to EVMS through AMCAS between June 1 and Nov. 15, although applicants are strongly encouraged to submit all application materials as early as possible.

## Early Decision Program

EVMS participates in the Early Decision Program (EDP) with the Association of American Medical Colleges. The application period is June 1 through August 1, with applicants being notified of a decision no later than October 1. Early decision or not, all applicants are encouraged to submit materials to AMCAS and EVMS as early as possible. Applicants are strongly urged to contact Admissions prior to applying to the Early Decision Program.

## Notifications of acceptance

Applicants applying through the Early Decision Program (EDP) are notified as soon as possible but no later than Oct. 1. General pool applicants are notified on a rolling basis beginning Oct. 15.

Applicants offered positions must respond to the letter from the dean within two weeks of acceptance. This time may be shortened as the starting date for classes approaches. An applicant accepting a position at EVMS must sign and return the Conditions of Acceptance form and a \$100 acceptance deposit (which will be applied toward tuition) to hold a place in the class. The acceptance deposit is refundable prior to May 1.

## Non-discrimination policy

Eastern Virginia Medical School does not discriminate in the recruitment and admission of students on the basis of race, color, national origin, gender, age, sexual orientation, citizenship, religion, political affiliation or handicap as required by Title VI, Title IX and Section 504.

## Interview Day

We are excited to have you visit EVMS. The interview provides an important opportunity to assess an applicant's compassion and dedication. The purpose of the personal interview is to evaluate your motivation, sensitivity and interpersonal skills. The interview is also designed to help us develop an understanding of how you view the physician's role. Review our FAQs for more details on the interview process.

If you require any accommodations to participate in the interview process, please contact the Student Disability Officer by email at [StudentDisability@EVMS.edu](mailto:StudentDisability@EVMS.edu) or by phone at 757.446.7261 at least two weeks prior to your interview date.

## Interview day schedule

You may leave travel bags at Lewis Hall, Admissions Office, Suite 1166.

Time	Protocol Procedures
<b>9:30 am</b>	Meet the Admissions staff in the Student Commons area by the EVMS bookstore on the first floor of Lewis Hall, followed by a welcome presentation with Thomas Kimble, MD, Associate Dean for Admissions and Enrollment
<b>10:10 am</b>	Presentation by the Sentara Center for Simulation and Immersive Learning
<b>11:15 am</b>	<b>Hospital tours</b> Wednesday: Sentara Norfolk General Hospital Friday: Children's Hospital of the King's Daughters Noon: Tour of Lewis Hall and Harry T. Lester Education/Research Building
<b>12:45 pm</b>	Accepted students are required to select the "Commit to Enroll" option in AMCAS. If commit to enroll is not selected by July 18, your offer of acceptance may be rescinded.
<b>2:00 pm</b>	Interviews begin on the second floor of the Edward E. Brickell Medical Sciences Library; interviews are scheduled at 2:00, 2:45 and 3:30 p.m. <b>Parking</b> Parking is available at your expense in the visitor parking garage across the street from Lewis Hall. <b>Hotel information</b> We encourage visiting candidates for EVMS to ask these hotels about a discount.

## Unified Competency Objectives For The MD Degree

### Preamble

The civic and medical leaders who founded the Eastern Virginia Medical School envisioned an institution that would champion improving the health of the region. Decades later the school celebrates its record of training physicians who are committed



to knowledge and skill and doubly committed to the service of others.

Distinctive characteristics of the institution have evolved over its lifetime:

- Education is central to its mission, not peripheral to the research and clinical enterprises.
- Principles of humanism in medicine and the biopsychosocial model of disease and health are emphasized, promoting the values of altruism and duty.
- An ethic of community service moves students beyond formalized educational settings.
- The learning atmosphere emphasizes cooperation among students, faculty, other health care professionals, local and international care providers and policy makers.
- Lifelong learning and the practice of evidence based medicine are accepted as professional responsibilities.
- The environment promotes collaboration, creativity, leadership and service.

Within the context of this institutional philosophy and culture, the faculty have articulated the following Unified Competency Objectives as the goals and objectives of the curriculum.

1. Patient Care: Provide patient-centered care that is compassionate, appropriate and effective for the treatment of health problems and the promotion of health.
  - 1.1. Information Gathering: Gather the information necessary for care of a patient in a manner which is patient-centered, efficient and effective.
  - 1.2. Assessment and Management: Formulate an appropriate assessment and develop an appropriate management plan for each patient.
  - 1.3. Procedures: Perform specified common procedures, demonstrating a knowledge of the indications, risks and benefits of the procedures in explanations to patients while appropriately obtaining informed consent.
  - 1.4. Specific Patient Groups: Recognize when a patient is in a specific at-risk group and provide appropriate treatment and preventive measures.
  - 1.5. Patient Safety: Recognize patient safety issues and describe measures for preventing errors that may harm patients.
2. Medical Knowledge: Demonstrate knowledge about established and evolving biomedical, clinical and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge in patient care.
  - 2.1. Foundational Knowledge: Demonstrate an understanding of the basic and clinical sciences necessary for medical practice.
  - 2.2. Research: Demonstrate a basic understanding of medical research principles.
3. Practice-Based Learning and Improvement: Monitor

and enhance the appraisal and assimilation of scientific evidence and application of such to improve practice.

4. Interpersonal and Communication Skills: Use interpersonal and communication skills that result in effective information exchange and teaming with patients, their families and other health professionals.
  - 4.1. Communication with Patients: Demonstrate effective interpersonal and communication skills with patients and their families.
  - 4.2. Communication with Other Care Providers: Present to other health care providers a concise, orderly and coherent oral and written communication of the patient's unique clinical presentation in a manner appropriate to the clinical context.
5. Professionalism: Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles and sensitivity to a diverse patient population.
  - 5.1. Professionalism in Patient Care: Demonstrate an ethical and professional attitude toward patients and their care.
  - 5.2. Teamwork: Function effectively as a member of the health care team, respecting the roles and skills of other team members, communicating appropriately and working effectively within the team.
  - 5.3. Recognition of Limitations: Demonstrate a recognition of one's own limitations and a commitment to professional growth.
6. Systems-Based Practice: Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.
  - 6.1. Coordination of Resource Use: Identify and recruit family or community resources and/or services of other members of the health care team for optimal patient care.
  - 6.2. Health Care System Issues: Discuss important issues in the health care system beyond the practice site.
  - 6.3. Service Learning: Participate in and learn the value of service learning opportunities.

## Technical Standards

Students who graduate from the EVMS Doctor of Medicine program must be prepared for entry into the practice of medicine within post-graduate medical education training programs. As such, in addition to meeting academic criteria, each applicant to and student in the EVMS Doctor of Medicine program must demonstrate that they possess independent ability, aptitude, and skills to meet the non-academic criteria. These Technical Standards must be met with or without accommodation and are essential for admission to, promotion within and graduation from the EVMS Doctor of Medicine program.



## Observation Skills Technical Standard

Demonstrate sufficient attention and accuracy in observation skills (visual, auditory and tactile) in the lecture hall, laboratory, patient's bedside and outpatient settings.

Indicators include, but are not limited to, the following examples:

1. Accurate observation and participation in the lecture hall, laboratory and clinic with patients at a distance and close at hand, including nonverbal and verbal signals.
2. Accurate identification of changes in color of fluids, skin and diagnostic media examinations (including microscopy).
3. Accurate visualization, discrimination and interpretation of text, numbers, patterns, graphic illustrations and findings on all imaging modalities and diagnostic procedures.

## Communication Skills Technical Standard

Demonstrate effective verbal and non-verbal communication skills with other students, faculty, patients and healthcare providers from different social and cultural backgrounds, varying degrees and types of infirmities and varying cultures and personalities.

Indicators include, but are not limited to, the following examples:

1. Clear, efficient and intelligible articulation of English language.
2. Legible, efficient and intelligible written English language.
3. Ability to prepare and communicate concise oral and written summaries of patient encounters.
4. Ability to provide appropriate patient counseling and instruction to patients.
5. Record examination and diagnostic results clearly, accurately and efficiently.

## Critical Reasoning Skills Technical Standard

Demonstrate critical reasoning skills required to undertake the full curriculum, achieve the level of competency required by the faculty and meet the demands of total patient care in a timeframe appropriate to the clinical or educational situation. These skills include, but are not limited to, intellectual, conceptual, integrative and quantitative abilities.

Indicators include, but are not limited to, these examples:

1. Accurate and efficient reading skills (English language).
2. Ability to utilize computer technology to access and complete instructional modules and to perform patient care.
3. Demonstrate ability to measure, calculate, reason, analyze, integrate and synthesize information.
4. Comprehend the spatial relationships of structures (e.g. three-dimensional relationships).
5. Demonstrate ability to acquire, retain, assimilate

and apply large amounts of complex, technical and detailed information.

6. Demonstrate ability to synthesize and apply concepts and information from various disciplines in order to formulate diagnostic and therapeutic plans.
7. Demonstrate appropriate judgment in patient assessment, diagnosis, monitoring, evaluation and intervention, including planning, time management and use of resources.

## Motor and Sensory Function Technical Standard

Demonstrate sufficient motor and sensory function to perform typical functions of physicians, including, but not limited to, physical examinations, treatment interventions and general care of patients.

Indicators include, but are not limited to, the following examples:

- Functional and sufficient sensory capacity (visual, auditory and tactile) to adequately perform a complete physical examination and elicit information gained from proper use of examination tools and maneuvers (inspection, palpation, percussion and auscultation).
- Execute fine and gross motor movements with sufficient coordination, postural control and hand-eye coordination to safely participate in foundation sciences laboratory sessions, use standard medical/surgical instruments, assess patients, provide patient care and participate in basic diagnostic and therapeutic maneuvers and procedures.
- Execute motor movements that demonstrate safety and efficiency in the various learning settings (i.e., classroom, laboratories and clinical settings, including appropriate negotiation of self and patients in various patient care environments).
- Accurately discern and evaluate various components of the spoken voice (pitch, intensity and timbre), percussive notes and auscultatory findings.
- Physical stamina sufficient to complete the rigorous course of didactic and clinical study, which may include prolonged periods of sitting, standing and/or rapid ambulation.
- Coordination of motor skills necessary to respond to emergency situations quickly and appropriately.

Ability to perform routine or emergent technical procedures including, but not limited to:

- Complete H&P (adult and pediatric including developmental milestone determination)
- Verbalize understanding of and demonstrate one-provider CPR
- Venipuncture for blood analysis
- Arterial puncture for blood gas analysis
- Nasogastric tube insertion
- Foley catheter insertion
- Pap smear
- Sterile cleaning/debridement of a dirty wound

- Simple suture single-layer laceration repair
- Act as a first assistant for simple surgical or obstetrical procedures
- Apply an extremity splint correctly
- Give an injection/immunization
- Verbalize understanding of and demonstrate proper use of PPE
- Control compressible external hemorrhage with and without a tourniquet
- Maintain an open airway and demonstrate proper use of a bag mask valve
- Establish a peripheral intravenous line
- Apply a sterile dressing to a wound
- Drain a simple subcutaneous abscess
- Perform an ECG
- Have the stamina and physical capability to work continuously for 24-28 hours in a patient care environment
- Verbalize understanding of informed consent and its components, i.e., the intended procedure, benefits, risks and alternatives

classroom and clinical setting.

8. Compliance with standards, policies and practices set forth in the program handbook.

Applicants or students who may have questions regarding these technical standards or who believe they may need to request reasonable accommodation in order to meet the standards are encouraged to consult the EVMS Disability Guide and/or the EVMS Disability Officer.

## **Behavioral and Social Attributes Technical Standard**

Demonstrate the behavioral and social attributes vital to participation in a professional program and service as a practicing physician.

Indicators include, but are not limited to, the following examples:

1. Possess personal qualities that facilitate effective therapeutic interactions (e.g., compassion, empathy, integrity, honesty, benevolence, confidentiality).
2. Possess the emotional health required for full utilization of mental faculties (including judgment, orientation, affect and cognition).
3. Ability to establish rapport and develop mature and effective professional relationships with faculty, patients, the public and other members of the healthcare team.
4. Demonstrate impartial motives, attitudes and values in roles, functions and relationships. Communicate and care for, in a non-judgmental way, persons who differ from oneself and one's beliefs in a variety of ways, including but not limited to gender, age, race, ethnicity, socio-economic status, culture, creed, military status, sexual orientation and identity and religious or spiritual beliefs.
5. Ability to monitor and react appropriately to one's own emotional needs and responses.
6. Display appropriate flexibility, adaptability, composure and emotional stability during periods of high stress or uncertainty associated with didactic and clinical encounters and environments.
7. Ability to accurately follow oral and written directions with prompt completion of all responsibilities in the

## Tuition & Fees

EVMS' Doctor of Medicine tuition and fees are set annually in June by the Board of Visitors and are subject to change without notice. Questions about tuition and fee charges on student accounts should be directed to Financial Services.

### Tuition

- In-state: \$31,820
- Out-of-state: \$56,382

### Mandatory Fees

- Year 1: \$3,499
- Year 2: \$3,339
- Year 3: \$2,946
- Year 4: \$2,685

## Projected Cost of Attendance

Cost of attendance (COA) discloses expenses for first- through fourth-year medical school students for the current academic year.

For those students dually enrolling in the Doctor of Medicine and Master of Public Health programs, the course of study extends over five years. In the first two years, students complete their Master of Public Health degree and the first year of their medical school studies. Students will follow the MD/ MPH budget, plus one half of medical school tuition each year. The latter three years will consist of year two through year four of medical school studies; during this time, students follow the regular MD budget.

Typically finalized for an academic year during the June Board of Visitors meeting, the governing board reserves the right to change tuition and fees as required during the academic year without prior notice.

Financial aid is disbursed in equal amounts at the beginning of each term.

Your actual cost of attendance budget will be viewable when you log in to your EVMS Online Financial Aid System via your student portal. The cost of attendance budget includes loan fees based on in-state or out-of-state budgets. A student's individual cost of attendance may be slightly different from what appears on this page based on approved adjustments. Review your budget closely and only borrow what you truly need.

As part of the Higher Education Act, as amended, regulations governing elements were established. Federal regulation requires that all need determinations be based on a single student budget for a program. If you demonstrate unusual expenses, see the guidelines to request a budget increase. All requests will be considered on a case-by-case basis within federal regulations.

2018-2019		MD1	MD2	MD3	MD4
<b>Budget length</b>		9 mos.	9 mos.	12 mos.	11 mos.
<b>Tuition*</b>	<b>In-state</b>	\$31,820	\$31,820	\$31,820	\$31,820
	<b>Out-of-state</b>	\$56,382	\$56,382	\$56,382	\$56,382
<b>Fees*</b>	<b>Mandatory</b>	\$3,499	\$3,339	\$2,946	\$2,685
	<b>Health insurance</b>	\$2,800	\$2,800	\$2,800	\$2,800
<b>Subtotal tuition and fees (direct costs)</b>	<b>In-state</b>	\$38,119	\$37,959	\$37,566	\$37,305
	<b>Out-of-state</b>	\$62,681	\$62,521	\$62,128	\$61,867
<b>Other allowances</b>	<b>Books and equipment</b>	\$1,500	\$900	\$400	\$400
	<b>USMLE exam</b>	\$0	\$610	\$1,895	\$0
	<b>Room, board and miscellaneous living expenses</b>	\$15,028	\$15,028	\$20,036	\$18,367
	<b>Personal expenses</b>	\$720	\$720	\$960	\$880
	<b>Transportation</b>	\$3,370	\$3,370	\$4,493	\$5,056
<b>Cost of attendance without loan fees</b>	<b>In-state</b>	\$58,737	\$58,587	\$65,350	\$62,008
	<b>Out-of-state</b>	\$83,299	\$83,149	\$89,912	\$86,570
<b>Loan fees**</b>	<b>Direct Unsubsidized – 1.066%</b>	\$432	\$432	\$503	\$479
	<b>Grad PLUS – 4.264% in-state</b>	\$778	\$771	\$775	\$727
	<b>Grad PLUS – 4.264% out-of-state</b>	\$1,822	\$1,819	\$1,823	\$1,775
<b>Total cost of attendance including loan fees</b>	<b>Out-of-state</b>	\$32,293	\$30,911	\$23,956	
	<b>In-state</b>	\$59,947	\$59,790	\$66,628	\$63,214
	<b>Out-of-state</b>	\$85,553	\$85,400	\$92,238	\$88,824

\*Tuition and fees are subject to change without notice.

\*\*Loan fees are based on maximum direct unsubsidized for graduate program and balance of projected cost of attendance in Grad PLUS, if applicable. Loan fees are subject to change for loans first disbursed on or after October 1.

## Academic Calendar 2018-2019

### Doctor of Medicine - First Year

"(M1)- Class of 2022"	
<b>Orientation</b>	8/9/2018 -8/11/2018
<b>Term I</b>	
<b>Start Date</b>	8/13/2018
<b>End Date</b>	12/14/2018
<b>Final Exams</b>	"12/11/2018 -12/14/2018"
<b>Term II</b>	
<b>Start Date</b>	1/2/2019
<b>End Date</b>	5/10/2019
<b>Final Exams</b>	"5/6/2019 -5/10/2019"
<b>Clinical Skills Assessments</b>	"5/6/2019 -5/10/2019"
<b>Commencement Rehearsal &amp; Regalia Pick-up</b>	
<b>Commencement</b>	5/21/2022

#### HOLIDAYS AND BREAKS

<b>Labor Day</b>	9/3/2018
<b>Thanksgiving Break</b>	"11/22/2018 -11/23/2018"
<b>Winter Break</b>	"12/14/2018 -1/1/2019"
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	"3/11/2019 -3/15/2019"
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	*7/4/2019

### Doctor of Medicine - Second Year

"(M1)- Class of 2022"	
<b>Orientation</b>	8/9/2018 -8/11/2018
<b>Term I</b>	
<b>Start Date</b>	8/13/2018
<b>End Date</b>	12/14/2018
<b>Final Exams</b>	"12/11/2018 -12/14/2018"
<b>Term II</b>	
<b>Start Date</b>	1/2/2019
<b>End Date</b>	5/10/2019
<b>Final Exams</b>	"5/6/2019 -5/10/2019"
<b>Clinical Skills Assessments</b>	"5/6/2019 -5/10/2019"
<b>Commencement Rehearsal &amp; Regalia Pick-up</b>	
<b>Commencement</b>	5/21/2022

#### HOLIDAYS AND BREAKS

<b>Labor Day</b>	9/3/2018
<b>Thanksgiving Break</b>	"11/22/2018 -11/23/2018"

"(M1)- Class of 2022"	
<b>Winter Break</b>	"12/14/2018 -1/1/2019"
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	"3/11/2019 -3/15/2019"
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	*7/4/2019

### Doctor of Medicine - Third Year

"(M1)- Class of 2022"	
<b>Orientation</b>	8/9/2018 -8/11/2018
<b>Term I</b>	
<b>Start Date</b>	8/13/2018
<b>End Date</b>	12/14/2018
<b>Final Exams</b>	"12/11/2018 -12/14/2018"
<b>Term II</b>	
<b>Start Date</b>	1/2/2019
<b>End Date</b>	5/10/2019
<b>Final Exams</b>	"5/6/2019 -5/10/2019"
<b>Clinical Skills Assessments</b>	"5/6/2019 -5/10/2019"
<b>Commencement Rehearsal &amp; Regalia Pick-up</b>	
<b>Commencement</b>	5/21/2022

#### HOLIDAYS AND BREAKS

<b>Labor Day</b>	9/3/2018
<b>Thanksgiving Break</b>	"11/22/2018 -11/23/2018"
<b>Winter Break</b>	"12/14/2018 -1/1/2019"
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	"3/11/2019 -3/15/2019"
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	*7/4/2019

### Doctor of Medicine - Fourth Year

"(M1)- Class of 2022"	
<b>Orientation</b>	8/9/2018 -8/11/2018
<b>Term I</b>	
<b>Start Date</b>	8/13/2018
<b>End Date</b>	12/14/2018
<b>Final Exams</b>	"12/11/2018 -12/14/2018"
<b>Term II</b>	
<b>Start Date</b>	1/2/2019
<b>End Date</b>	5/10/2019
<b>Final Exams</b>	"5/6/2019 -5/10/2019"
<b>Clinical Skills Assessments</b>	"5/6/2019 -5/10/2019"
<b>Commencement Rehearsal &amp; Regalia Pick-up</b>	
<b>Commencement</b>	5/21/2022

<b>Commencement</b>	5/21/2022
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#### HOLIDAYS AND BREAKS

<b>Labor Day</b>	9/3/2018
<b>Thanksgiving Break</b>	"11/22/2018 -11/23/2018"
<b>Winter Break</b>	"12/14/2018 -1/1/2019"
<b>Martin Luther King, Jr. Day</b>	1/21/2019
<b>Spring Break</b>	"3/11/2019 -3/15/2019"
<b>Memorial Day</b>	5/27/2019
<b>Fourth of July</b>	*7/4/2019

## Curriculum

The mission of Eastern Virginia Medical School is deeply rooted in the education and training of truly caring and competent physicians, equipping them with the requisite scientific, academic and humanistic skills most relevant to today's practice of medicine.

## CareForward Overview

EVMS' newly reformed CareForward Curriculum (CFC) is designed to enhance learning through integration and innovation. The purpose of the CFC is to educate caring, compassionate, skillful caregivers, with an emphasis on preparing students to easily transition into residency training with the knowledge and understanding to competently navigate the complexities of the healthcare system.

Recognizing the importance of effectively managing care for the aging American population and the predominant challenge of caring for patients with multiple chronic conditions, we empower our future healthcare providers with the skillsets necessary to address these issues.

## What the CFC offers students:

### Integration

- Learning opportunities are fully integrated with appropriate and contemporaneous foundational and clinical science principles delivered at an appropriate level.
- Foundational science principles are augmented by early access to clinical practice.
- Compassion and care, not only for patients but for fellow learners and educators, are a significant focus of the curriculum.

### In-depth focus

- Active learning is promoted in the curriculum to advance students' ability to problem-solve, communicate effectively and work independently as well as in a team environment.
- Opportunities are made readily available to systematically and scientifically strengthen the knowledge, skills and paradigms that produce strong, community-oriented physicians.

- The organ- and systems-based approach to medical education accurately reflects the real-life performance pattern of a practicing physician.

## Preparation for the future

- The emphasis on foundational sciences, clinical sciences and clinical skills, combined with a robust program in careers in medicine, helps prepare students for residency selection and beyond.
- By providing a true understanding of the nuances of healthcare, students are exposed to the importance of making cost-conscious decisions while providing the safest and highest-quality care.
- Principles of evidence-based medicine and best practices are taught to ensure students can develop comprehensive care plans for elderly patients and patients with multiple chronic conditions.
- The curriculum, by design, cultivates a lifelong love of learning.

Using cutting-edge concepts in technology and the science of learning, CFC will use longitudinal clinical cases drawn from virtual families to simulate real-life clinical scenarios and complexities. These cases will be used as an important tool for integrating basic and clinical sciences and also contents across various organ systems modules.

## Course Sequence

### M1 and M2 Curriculum Modules

#### MED100 Foundational Science 1

The Foundational Sciences 1 module introduces students to the molecular and biochemical underpinnings of cellular structure and function and initiates the foundations of clinical practice through the conductance of a patient-centered interview. Students will apply the principles of cell structure and function to clinical scenarios.

#### MED101 Foundational Science 2

The Foundational Sciences 2 module addresses the fundamentals of organ structure and function and builds upon the foundations of clinical practice laid in earlier modules. Students will be able to apply the principles and process of organ structure and function to effective practice.

#### MED102 Human Structure

Our Human Structure module gives a foundation in clinically relevant concepts of gross anatomy, microanatomy and human embryology. In addition, students use several modes of medical imaging (ultrasound in particular) to help them fully see what is before them. Students will develop good manual dissection skills.

#### MED103 General Mechanisms of Disease

The General Mechanisms of Disease module serves as a transition from the foundational modules to the organ systems modules. It focuses on the general mechanisms of disease, introducing students to microbiology and infectious disease,



principles for discriminating healthy from unhealthy conditions and predicting clinical manifestations from available data. Students will interpret clinical data and prioritize differential diagnoses and management plans. Students will also conduct integrated and focused physical examinations based on chief complaint and history.

#### **MED104 Skin, Muscle and Bone**

The Skin, Muscle and Bone module provides students with the tools to recognize the causes and potential diseases of the integumentary and musculoskeletal systems. Through integration of these systems, the students will develop the ability to diagnose and create management plans for diseases of skin, muscle and bones based on signs, symptoms, complaints and diagnostic results.

#### **MED105 Gastrointestinal System and Metabolism**

The Gastrointestinal System and Metabolism module provides students with the tools to recognize causes and potential gastrointestinal and metabolic diseases. Students will develop the ability to develop diagnoses and management plans for gastrointestinal system and metabolic diseases based on signs, symptoms, complaints and diagnostic results.

#### **MED200 Heart, Lung and Kidney**

In the Heart, Lung and Kidney module students will learn about the disease processes which affect the cardiovascular, pulmonary and renal systems in a fully integrated manner. This module builds upon students' prior understanding of the structure of these systems and provides students with the tools to recognize causes and potential diseases and the ability to develop diagnoses and management plans for diseases of heart, lungs and kidneys based on signs, symptoms, complaints and diagnostic results. Intricate working relationships between these three organs will be reinforced by discussing disease states such as acid-base imbalances, hypertension, heart failure, chronic kidney disease and atherosclerosis. Through use of clinical cases, students will integrate basic science and clinical concepts related to these systems. In addition, appropriate medical imaging and diagnostic techniques are introduced, including ultrasound, pulmonary function testing and EKG recording and interpretation.

#### **MED 201 Hormones and Reproductive Health**

Students will apply their knowledge of embryology and anatomy to the endocrine and reproductive systems and will acquire knowledge of internal homeostasis, the role of hormones in metabolism, pregnancy, development and aging. Students will develop their examination skills of female and male reproductive organs and develop diagnoses and management plans for diseases of the endocrine and reproductive systems based on signs, symptoms, complaints and diagnostic results.

#### **MED202 Brain, Mind and Behavior**

The Brain, Mind and Behavior module provides students with the skills to differentiate between normal and abnormal processes and behavior and to interpret diagnostic tests or findings specific to neurology and psychiatry. Students will be

able to generate a differential diagnosis and create an effective management plan for neurological and psychiatric diseases.

#### **MED203 Multisystem Disorders**

The Multisystem Disorders module provides students with the tools to effectively manage diseases that affect multiple organ systems. Examples include Alcoholism, Drug Abuse and Diabetes. Students will identify the underlying biochemistry, pathology, pathophysiology, immunology and genetics related to abnormal process of multisystem diseases and be able to identify and manage the interactions created within the multiple systems.

#### **M3 Clerkships**

##### **FAM300 Family Medicine (7 weeks)/GER300 Geriatrics (1 week)**

EVMS Family and Community Medicine provides educational services for students at EVMS and partnering institutions. Our faculty contributes to medical student education through classroom teaching, early clinical experiences, medical simulations, service teaching and mentoring. Our clinical clerkship allows students to experience a sample of family and community medicine.

Goals for the clerkship:

- Learn about common patient-care issues encountered by family physicians
- Understand the family physician's role in directing and coordinating care for patients, their families and the EVMS community
- Observe and understand the disparities in healthcare outcomes caused by the patient's health literacy
- Attempt to correct the health disparities in our community through service-learning experiences by providing culturally and contextually appropriate care and by applying lessons learned in patient-centered communications, health literacy assessments
- Motivate patients toward better self-care and adherence to a medical plan
- Understand how evidence-based medicine, team-based interdisciplinary care, information technology and medical systems analysis can improve healthcare while decreasing waste and errors

Experiences come from a variety of sources, including Family Medicine faculty, community physicians, residents, inpatient and outpatient services and didactics.

##### **INT300 Internal Medicine (8 weeks)**

"The third year internal medicine clerkship's role in the education of medical students is to teach fundamental knowledge and develop skills and behaviors necessary to care for adult patients, regardless of the students' final career paths. In the context of caring for patients, medical students learn a logical approach to diagnosis of significant symptoms and signs, basic therapeutic approaches to common diseases ranging from emergent to chronic, and an understanding of the role of the internist in caring for people across the spectrum

from healthy to critically ill.”

### **OBG300 Obstetrics/Gynecology (8 weeks)**

We aim to provide the best clerkship experience during the third year of medical school and inspire students to consider a career in OB-GYN. We pledge to:

- Provide the education needed to pass the SHELF exam
- Provide exposure to the day-to-day responsibilities of an obstetrician/gynecologist
- Increase awareness of the special needs of the female patient, including careful choice of language in discussing sensitive issues
- Teach proper procedures in the operating room including the prevention of exposure and the maintenance of a sterile field
- Produce an organized history and physical examination for both an OB and GYN patient
- Provide comprehensive training in the performance of clinical skills such as:
  - ◆ pelvic and breast exams
  - ◆ vaginal deliveries
  - ◆ C-section delivery assistance
  - ◆ hysterectomy (by laparoscopy and laparotomy) assistance
  - ◆ routine prenatal care
  - ◆ annual gynecologic exams
- Promote awareness of potentially life-threatening medical conditions involving OB-GYN patients, including appropriate diagnosis and treatment
- Develop and/or practice techniques for delivering bad news to patients in an empathetic and sensitive way
- Continue to foster outstanding professional behavior in all aspects of daily activities, inside and outside the hospital.
- Provide a fair and objective evaluation of student performance, including fund of knowledge, professional behavior and clinical skills both during and at the end of the rotation

### **PED300 Pediatric (8 weeks)**

- Acquire basic knowledge of growth and development and its clinical application from birth through adolescence
- Acquire the knowledge necessary for the diagnosis and initial management of common pediatric acute and chronic illnesses
- Develop excellent communication skills
- Expand history and physical examination skills
  - ◆ Examine kids in developmentally appropriate ways

### **PSY300 Psychiatry (8 weeks)**

It is an extraordinary time for the respective fields of Psychiatry and Neurology. Recent advances in the neurosciences, genetics, cognitive science, and behavioral medicine are rapidly translating into real understanding and valuable treatments

that promise to substantively improve the lives of people with neurologic and mental illness. We are learning more each day about the causes and correlates of these conditions, including their complex interplay and etiologies. With this knowledge, we are beginning to address the true impact of neuropsychiatric illnesses (NPIs) in our culture. This is a time in which we can truly make a difference in the lives of our patients and their families.

As medical students who will eventually join the nation's physician workforce, it is essential that you become familiar with these issues and actively engage in contemporary assessment and treatment of patients with NPIs. It is important because the prevalence and impact of NPIs and coexisting conditions are daunting. Physicians in all fields of medicine inevitably will encounter these issues. For example, one in five persons will experience a significant mental illness during their lives. Half of patients who present for clinical care in medical settings will have a coexisting mental and/or addiction disorder. Cognitive impairment from conditions such as Alzheimer's disease and related disorders can erode medical decision-making and ability to follow a medical regimen.

NPI's shatter lives and adversely affect the treatment of other medical problems. The global, national and local burden of NPIs is almost immeasurable in terms of human suffering and economic impact. Despite changing societal perceptions, mental illness continues to be poorly recognized, highly stigmatized, and until relatively recently, scientifically neglected. However, new advancements in the neurosciences are leading to more effective therapies to minimize the burden of neuropsychiatric illness and potentially halt pathological changes in the brain. The next ten years should see dramatic progress for these patients and their conditions. You can be part of this positive change.

For these reasons, we believe that caring for people who experience and suffer from either neurologic or mental illness is the responsibility of every healthcare professional. Therefore, we ask for your help to answer those questions related to the causes, prevention, and optimal

### **SUR300 Surgery (8 weeks)**

The Surgery Clerkship rotation is eight weeks long and includes a two-week subspecialty rotation. The class size is around 26 students, divided among three participating clerkship sites.

As members of the healthcare team, students will:

- Assume responsibility for patient care under supervision
- Enhance their clinical skills through history-taking and physical exams
- Identify and solve problems in a surgical environment
- Develop plans for investigation and management
- Develop an awareness of emotional, social and economic implications of illness
- Engage in self-assessment and recognize educational needs
- Appreciate the psychological consequences of surgical procedures

- Acquire an understanding of professional and ethical principles in relation to patient management and physician-patient family relationships
- Develop communication skills (oral case presentation, chart notes, etc.)
- Develop professional habits in line with the ACGME core competencies

## School of Medicine: Fourth Year

In contrast to the first three years of the medical school curriculum, during which students follow a fixed schedule, the M4 year provides considerable flexibility. Although the M4 curriculum contains some required elements, students have considerable latitude to design their educational programs to fit their individual needs and interests. The M4 year is intended to provide each student with a well-rounded educational experience, building on the knowledge and experiences of the first three years and preparing the student for postgraduate training.

Descriptions of electives appearing in this catalog were prepared by the faculty of the department offering the elective and by the Office of Medical Education. At present, the information in this book is accurate to the best of our knowledge. However, policies, procedures, and faculty listings may change from time to time. Any questions regarding descriptive material of a particular elective should be directed to the appropriate departmental elective course director.

### Role of the Student

Each student should have identified a clinical faculty advisor. It is the responsibility of the student to contact the advisor to discuss possible career choices and other factors that might directly or indirectly affect the 4th year elective schedule. Each student is responsible for developing a 4th year schedule that is a well-rounded educational experience meeting all graduation and site compliance requirements. The student should be proactive in communicating in a timely and honest manner with the M4 coordinator and Office of Medical Education regarding scheduling of interviews and elective rotations.

### Role of the Faculty Advisor

The advisor should play more than a passive or permissive role and should be able to supply perspective to developing the student's educational program. In most instances the most satisfying programs result from a strong collaboration between student and advisor. The role of the advisor is dual, combining personal, supportive counseling with study and career guidance; helping the student to develop an overall plan for the entire elective year and assisting with interviewing skills and evaluating residency programs. The advisor should be available for periodic consultation and should take an active interest in the success of the elective program and the student's performance.

### Role of the Elective Course Director(s)

The student must negotiate with the intended directors to reach agreement on the extent of supervision and the resources required to achieve the objectives. If the directors cannot provide the resources or feel that the objectives for the elective are unable to be obtained due to time needed away from the rotation for interviews, the student must seek an alternative elective course. The Course Director is responsible for completing the final evaluation for the student. At the director's discretion another faculty member can be assigned to this role.

## Role of the Department Chairman

The Department Chairmen have an important role in ensuring that the resources - faculty, space, time and interest - are available for both intramural and extramural electives. The Elective Course Director must notify his/her department chairman prior to agreeing to supervise an elective to ensure that there is no infringement on the educational or other resources required for the core curriculum.

## Role of the Associate Dean for Clinical Education

The Associate Dean for Clinical Education, in cooperation with the Vice Dean for Academic Affairs and the Medical Education Committee (MEC), oversees the operation of the electives program. The Associate Dean for Clinical Education will review and approve each student's planned program, and may return an unsatisfactory program to the student for revision, or may prohibit a student from taking an extramural elective if it is felt to be inappropriate. All electives not in this catalog, with the exception of those offered through VSLO, must be approved by the Associate Dean for Clinical Education. All schedule changes will require approval from the Associate Dean for Clinical Education. When necessary, the Associate Dean of Clinical Education will seek the advice and counsel of the Vice Dean for Academic Affairs and the Medical Education Committee.

In order to graduate from the Eastern Virginia Medical School with the M.D. degree, students must satisfactorily complete all elements of the prescribed four-year curriculum. Students must have successfully completed all requirements of the M1, M2 and M3 years before beginning the M4 year.

### Requirements for Promotion to M4

- All clerkships must be completed with a passing score prior to beginning the M4 year
  - ◆ Family Medicine
  - ◆ Internal Medicine
  - ◆ Neuropsychiatry
  - ◆ Obstetrics & Gynecology
  - ◆ Pediatrics
  - ◆ Surgery
- M3 Intersession, Palliative Medicine – The Spectrum course
- Advanced Cardiac Life Support Course (ACLS)
- Basic Life Support Course (BLS)
- Compliance with EVMS health requirements
- Completion of required Sentara compliance trainings
- Required EMR training
- Required EVMS annual compliance training

## The M4 Year

The M4 year is designed to promote a well-rounded educational experience (NOT a preliminary internship). Use the M4 year as an opportunity to broaden your horizons, not to get an early start on specialty training.

- Includes 32 weeks of full-time, scheduled, supervised, and evaluated educational experiences.

- ♦ 20 weeks of required electives
  - Acting Internship (4 weeks)
  - Ambulatory Care (4 weeks)
  - Critical Care (4 weeks)
  - Scholarly Activity (2 weeks)
  - Interprofessional Education (2 weeks)
  - Successful Transition to an Effective Practice (4 weeks)
- ♦ 12 weeks of elective time
- Includes 12 weeks of unscheduled time for professional development and personal use.
  - ♦ Additional clinical or basic science rotations
  - ♦ USMLE Step 2 study
  - ♦ Interviews
  - ♦ Vacations/Travel/Personal Time
- Students are allowed to work with faculty to design clinical experiences other than those in this Catalog. The process for creating an individualized experience or away rotation is described in detail in this catalog. Please plan ahead as there are multiple compliance requirements and deadlines that must be met.
- Students MUST TAKE USMLE Step 2 Clinical Knowledge (CK) and USMLE Step 2 Clinical Skills (CS) before September 30, 2018 and must PASS in order to graduate.

## Required Rotations - 20 WEEKS

### Acting Internship (AI)

Must be completed at EVMS or an affiliated site

Affiliated sites include:

- Bon Secours, Hampton Roads
- Children's Hospital of The Kings Daughters
- Naval Medical Center Portsmouth
- Sentara, Hampton Roads
- Veteran's Affairs Medical Center, Hampton

The Acting Internship (AI) elective is designed to encourage senior medical students, regardless of desired future specialty, to assume patient care responsibilities similar to those of an intern (PGY-1 resident), including night call. Acting interns should carry patients independently of interns and have similar duties, schedules, and didactic sessions as interns. They should work all shifts with their teams. They should take ownership of their patients and be the primary point person regarding their care. They should be increasingly (but safely) independent in their clinical practice but able to recognize when help is needed.

By the end of the acting internship, students should be proficient and efficient in handling the daily tasks of an intern, demonstrating expected behaviors for an entrustable learner including:

- Performing complete and accurate history and physical exams in an organized fashion
- Prioritizing a differential diagnosis following a clinical

encounter

- Recommending and interpreting common diagnostic and screening tests
- Entering and discussing orders and prescriptions
- Documenting a clinical encounter accurately in the patient record
- Presenting an oral presentation of a clinical encounter
- Forming clinical questions and retrieving evidence to advance patient care
- Giving or receiving a patient handover to transition care responsibly
- Collaborating as a member of an interprofessional team
- Obtaining informed consent for tests and/or procedures
- Identifying system failures and contributing to a culture of safety and improvement

## Available Acting Internships

Category	Course Number
<b>Emergency Medicine</b>	ERM400, ERM402
<b>Family Medicine</b>	FAM417, FAM423
<b>Internal Medicine</b>	INT417, INT418
<b>OB/GYN</b>	OBG400, OBG402, OBG419, OBG418
<b>Otolaryngology</b>	OT0404
<b>Pediatrics</b>	PED405
<b>Psychiatry</b>	PSY407, PSY412, PSY417
<b>Surgery</b>	SUR402, SUR404, SUR416
<b>Urology</b>	UR0404

Other electives that meet the definition of this course category may be submitted for approval to fulfill this requirement using the M4 Elective Objectives form.

## Ambulatory Medicine (AMB)

May be completed at any LCME-accredited school or under the supervision of a physician with an active faculty appointment at an LCME-accredited school.

The Ambulatory Medicine (AMB) elective is intended to allow senior medical students to participate in the evaluation and management of patients who present with a wide variety of disorders in a setting where physicians provide primarily outpatient care. A minimum of 5 half days per week (averaged over the course of the elective) must be in an Ambulatory setting providing direct patient care (not in a shadowing role).

By the end of the ambulatory medicine elective, students should be proficient and efficient in the management of an outpatient in a clinic setting, demonstrating expected behaviors for an entrustable learner including:

- Performing complete and accurate history and physical exams in an organized fashion
- Prioritizing a differential diagnosis following a clinical



encounter

- Recommending and interpreting common diagnostic and screening tests
- Entering and discussing orders and prescriptions
- Documenting a clinical encounter accurately in the patient record
- Presenting an oral presentation of a clinical encounter
- Forming clinical questions and retrieving evidence to advance patient care
- Collaborating as a member of an interprofessional team

Category	Course Number
<b>Emergency Medicine</b>	ERM400, ERM402
<b>Family Medicine</b>	FAM418, FAM424, FAM410, FAM429, FAM404, FAM426, FAM430
<b>Internal Medicine</b>	INT403, INT451, INT474, INT468, INT485, INT432, INT479, INT435, INT484, INT420, INT480, INT481, INT482, INT413, INT428, INT483, INT487
<b>Neurology</b>	NEU401
<b>OB/GYN</b>	OBG407, OBG417
<b>Ophthalmology</b>	OPH400, OPH403
<b>Orthopedics</b>	ORT403
<b>Otolaryngology</b>	OTO403
<b>Physical Medicine &amp; Rehabilitation</b>	PMR400
<b>Pediatrics</b>	PED414, PED427, PED402, PED411, PED423, PED419, PED422
<b>Psychiatry</b>	PSY408, PSY419, PSY420

Other electives that meet the definition of this course category may be submitted for approval to fulfill this requirement using the M4 Elective Objectives form.

### Critical Care (CC)

May be completed at any LCME-accredited school or under the supervision of a physician with an active faculty appointment at an LCME-accredited school.

The Critical Care (CC) elective is intended to expose senior medical students to the evaluation and management of seriously ill patients, often in intensive-care settings, with the goal of learning how to appropriately evaluate the emergent patient. Students should be increasingly (but safely) independent in their clinical practice and able to recognize when help is needed. Students should work all shifts with their teams, including night call.

By the end of the critical care elective, students should be able to develop a thorough, systematic approach to the rapid recognition, evaluation, treatment, and disposition of the critically ill or injured patient, demonstrating expected behaviors for an entrustable learner including:

- Recognizing a patient requiring urgent or emergent management

- Prioritizing a differential diagnosis for a critically ill or injured patient
- Recommending and interpreting common diagnostic and screening tests
- Entering and discussing orders and prescriptions
- Presenting an oral presentation of a clinical encounter
- Forming clinical questions and retrieving evidence to advance patient care
- Collaborating as a member of an interprofessional team
- Obtaining informed consent for a test or a procedure
- Performing general procedures of a physician

Category	Course Number
<b>Emergency Medicine</b>	ERM400, ERM402
<b>Internal Medicine</b>	INT472
<b>Pediatrics</b>	PED415, PED401, PED422
<b>Surgery</b>	SUR404, SUR416, SUR414

Other electives that meet the definition of this course category may be submitted for approval to fulfill this requirement using the M4 Elective Objectives form.

### Interprofessional Education (IPE)

7 hours of face-to-face course work and simulations at EVMS on assigned Monday for all EVMS students.

Student can sign up during another elective if approved and excused by that elective course director.

The Interprofessional Education (IPE) elective is intended to expose senior medical students to an interprofessional team approach to patient care. This course will engage students from a variety of healthcare backgrounds to work together online and in person over the course of 2 weeks, culminating in a day-long standardized patient workshop utilizing telehealth and home healthcare monitoring technology.

By the end of the interprofessional education elective, students should be able to identify core competencies for interprofessional practice and collaboration and describe the benefit and necessity of interprofessional team approaches in complex health systems, demonstrating expected behaviors for an entrustable learner including:

- Forming clinical questions and retrieving evidence to advance patient care
- Collaborating as a member of an interprofessional team

### Successful Transition to Effective Practice(STEP)

Required course for all EVMS students in Block 10

The Successful Transition to Effective Practice (STEP) course is a required rotation intended to prepare senior medical students for residency.

By the end of the STEP course, students should be able to identify core competencies for effective practice, demonstrating expected behaviors for an entrustable learner



including:

- Performing complete and accurate history and physical exams in an organized fashion
- Prioritizing a differential diagnosis following a clinical encounter
- Recommending and interpreting common diagnostic and screening tests
- Entering and discussing orders and prescriptions
- Documenting a clinical encounter accurately in the patient record
- Presenting an oral presentation of a clinical encounter
- Forming clinical questions and retrieving evidence to advance patient care
- Giving or receiving a patient handover to transition care responsibly
- Collaborating as a member of an interprofessional team
- Recognizing a patient requiring urgent or emergent management
- Obtaining informed consent for tests and/or procedures
- Performing general procedures of a physician
- Identifying system failures and contributing to a culture of safety and improvement

## Scholarly Activity

All EVMS students are required to complete one of the below courses prior to the beginning of block 10. A scholarly product must be submitted to receive credit.

Category	Course Number
<b>Dermatology</b>	DRM410
<b>Emergency Medicine</b>	ERM405
<b>Family Medicine</b>	FAM421
<b>Internal Medicine</b>	INT465, INT490, INT473
<b>OB/GYN</b>	OBG412
<b>Neurology</b>	ANT404
<b>Physiological Sciences</b>	PHY400
<b>Psychiatry</b>	PSY420
<b>Scholarly Activity</b>	ITD430
<b>Business in Medicine</b>	ITD423
<b>Executive Leadership</b>	ITD424
<b>Patient Safety</b>	ITD425

Other electives that meet the definition of this course category may be submitted for approval to fulfill this requirement using the M4 Elective Objectives form.

## Elective Rotations - 12 Weeks

Many of the electives in the catalog can be used to satisfy any of several different requirements. For example, SUR404 (Shock/Trauma) can be used to satisfy the Acting Internship (AI) requirement, the Critical Care requirement, or can serve as an elective rotation.

1. Each 4-week rotation can only be used to satisfy ONE requirement.
2. An M4 rotation MAY NOT be used to remediate a failed M3 clerkship.
3. Students may not schedule electives in which they will be directly supervised or graded by members of their immediate family (parents, grandparents, spouses, siblings, in-laws or children.)
4. Students will plan "full-time" electives based on four-week blocks. Four week blocks may be developed by students into two, two-week block electives provided that proper procedures for developing electives are followed. Electives may not be planned for less than two weeks in duration. (NOTE: Two-week rotations should include AT LEAST 10 scheduled work days.)

## Away Electives

Except for the required Acting Internship (AI) rotation and STEP course, any of the required or elective rotations may be completed at sites other than EVMS-affiliated institutions. EVMS encourages students to do M4 rotations at other medical schools. These can be very valuable and enjoyable experiences, and they may help to strengthen your application for residency training. In planning for these rotations, you should be aware of the following rules:

1. Students may do a maximum of 4 months (a total of 16 weeks) at locations other than EVMS
2. Away rotations must be done at an LCME accredited U.S. Medical School.
3. If your desired rotation is described in the catalog of the host school, that description can be used to complete the EVMS Electives Objectives form. If the elective is not described in the host school's catalog, students should follow the instructions for developing elective rotations below.
4. The majority of U.S. medical schools now require that applications from visiting students be submitted through the Visiting Student Learning Opportunities service (VSLO) managed by the Association of American Medical Schools (AAMC). The VSLO link is <https://students-residents.aamc.org/attending-medical-school/article/about-vslo/>. Information is available from the Office of Medical Education (Dr. Janet Winner) or directly from the AAMC. Some medical schools use their own individual applications. Information for each school can be obtained from the school's website.
5. Most schools accept applications from visiting students in the spring, but may not confirm your acceptance until late spring or early summer. Most schools, including EVMS, make every effort to accommodate their own students before accepting visiting students.

For extramural electives for which you have not yet received confirmation, indicate the expected rotations on your scheduling form and attach your elective objectives form.

6. When you receive your letter of confirmation (approval of rotation from outside school) please forward the letter of approval and elective objectives and description from the school's catalog to [m4@evms.edu](mailto:m4@evms.edu)
7. If your application is not accepted, we will assist you in adjusting your schedule.

## Creating Your Own Away Elective

1. Identify the site. All non-VSLO away electives require an affiliation agreement between EVMS and the site. The site must either be affiliated with EVMS or another LCME accredited institution. Obtaining agreements can be a lengthy process spanning several months. Please plan accordingly.
2. Consult with your advisor, the appropriate department chairman, Associate Dean of Clinical Education, or the Vice Dean for Academic Affairs regarding your goals and objectives.
3. Complete an Elective Objectives Form describing the skills, knowledge or values/attitudes the student wishes to achieve. Use the following links to help you write objectives: [http://www.evms.edu/media/departments/medical\\_education/New\\_Blooms\\_Taxonomy3-7-14.pdf](http://www.evms.edu/media/departments/medical_education/New_Blooms_Taxonomy3-7-14.pdf) and <https://learning-objectives.easygenerator.com/>
4. Review the objectives with the proposed course director, who must be a board certified physician or other comparably credentialed individual and must hold a faculty appointment with EVMS or another LCME accredited institution.
5. Submit the form to Charlene Cooper at [m4@evms.edu](mailto:m4@evms.edu). The proposed elective will be routed to the Associate Dean of Clinical Education and the appropriate Department Chairman for review. The affiliation agreement and faculty status will be verified during the review process.
6. This process should be completed more than 30 days prior to the start of the elective. Electives will not be approved if submitted less than 14 days prior to the start of the elective.
7. An email notification of final approval must be received prior to participating in any created elective at EVMS or any other LCME accredited school.

## Schedule Submission and Approval

In reviewing a student's proposed program, the Associate Dean of Clinical Education, Vice Dean for Academic Affairs, and the Medical Education Committee will use the following guidelines:

- a. The program shall be well conceived and consistent with respect to fulfillment of the educational needs of the student.

- b. The program shall be commensurate with the capabilities of the student.
- c. The educational opportunities selected shall be of a quality sufficient to justify the expenditure of time requested.
- d. The required rotations listed must be included in each student's planned program. A longitudinal ambulatory care elective will not satisfy the requirement for the four week ambulatory care rotation.
- e. Students cannot change the designation of an already completed rotation.

## Schedule Changes

1. A Drop/Add request form must be completed and submitted to the M4 Coordinator NO LESS THAN 14 days in advance of the beginning rotation date with approval from the elective supervisor of the elective being ADDED. If an Objectives Form is necessary this also should be submitted. (See Drop/Add form and deadlines for changes on the following pages). Credit for rotations will not be given to students who fail to follow the proper procedures for changing an elective.
2. The M4 Coordinator (Charlene Cooper) will review the requested change and approve or disapprove the request based on the balance of the student's schedule and requirements. If the request is approved, the student may then proceed to change the rotation. The student must forward confirmation that the elective supervisors for both the elective being dropped and the rotation being added have been notified.
3. Under no circumstances should a student make schedule changes prior to receiving approval by the M4 Coordinator. Changes WILL NOT be accepted if submitted less than 14 days in advance. Credit for rotations will not be given to students who fail to follow the proper procedures for changing a rotation. No changes to schedules will be allowed after December 14, 2018.
4. To submit a drop/add schedule change request use the following link:  
<https://b6.caspio.com/dp.asp?AppKey=402c3000cd914ecb13054db3b75b>

## Grading System

The requirements for Honors, High Pass, and Pass are based on departmental policy that will be discussed with the students at the initiation of the clerkship or elective. Honors, High Pass, Pass, or Fail are the only notations sent to the Registrar's Office and appearing on transcripts.

Implications of the Grade Fail: In the event a student fails a clerkship/elective, the Course Director shall recommend both to the student and the Student Progress Committee, an appropriate remedial program. The remedial program may include taking an examination and/or repeating all or a portion of the clerkship. The recommendation is reviewed by the Student Progress Committee, which makes the final decision regarding the student's academic progress. The Student

Progress Committee uses guidelines outlined in the Policies and Procedures for Student Evaluation and Progress regarding promotion of students through the education program at the medical school. At the completion of the approved remedial activity, the student will be given a grade of pass or fail. Both grades (e.g., F/P) remain part of the student's record and transcript.

Some departments allow students who fail the written examination but have passed other portions of the clerkship to remediate the examination before receiving a final grade for the clerkship. Remediation must occur within 2 months or a grade of "Fail" will be assigned.

## Elective Periods and Deadlines

Blocks	Deadline for Changes
1) July 2 - July 27, 2018	June 18, 2018
2) July 30 - August 24, 2018	July 16, 2018
3) August 27 - September 21, 2018	August 13, 2018
4) September 24 - October 19, 2018	September 10, 2018
5) October 22 - November 16, 2018	October 8, 2018
6) November 19 - December 14, 2018	November 5, 2018
7) January 2 - January 25, 2019	December 14, 2018
8) January 28 - February 22, 2019	No changes allowed after December 14, 2018
9) February 25 - March 22, 2019	
10) March 25 - April 19, 2019 (EVMS students complete STEP during this block)	
11) April 22 - May 17, 2019	

- SCHEDULES: Deadline for completed EVMS M4 schedules: May 1, 2018
- STEP 2: must be completed before September 30, 2018
- ADVANCED CARDIAC LIFE SUPPORT: – must be completed before December 31, 2018
- SCHEDULED TIME OFF: Winter Break: December 15, 2018 - January 1, 2019
- GRADUATION: May 18, 2019

Note to Visiting Students: 4th Year Visiting students may apply for electives during the blocks listed above. However, confirmation of rotation cannot be given before May 2018.

## Clinical Education Site Compliance

All 4th year EVMS students will be required to complete pre-rotation compliance requirements for Sentara facilities by June 8, 2018. Students will be enrolled in and communicated with via Blackboard to facilitate completion.

For electives taking place at facilities other than Sentara, students are required to complete all site-specific requirements a minimum of 30 days prior to the start of the elective. All requirements for our local health systems will be housed in one central Blackboard course, MD2019 M4 Clinical Experience Requirements, which students will have access to on May 1, 2018. An email announcement will be sent out through Blackboard when the compliance course opens.

Any student who has not completed the necessary required compliance activities will be prohibited from starting their elective. This delay may impact your ability to complete the scheduled elective and may impact your ability to graduate on time.

## Visiting Students

1. All visiting students must apply through the Office of Education, Eastern Virginia Medical School, P.O. Box 1980, Norfolk, VA 23501. If a student contacts a department, the student must be referred to the Office of Education. Confirmation for Electives is granted by the Office of Education.  
Only persons currently enrolled in an LCME accredited U.S. medical school are eligible to apply for admission to the Electives Program at EVMS.
2. Visiting students may take only senior year electives. Third year clerkships are not open to any visiting students. A visiting student must have satisfactorily completed all basic science courses (including physical diagnosis) and, by the start date of the requested elective, the applicant must have completed satisfactorily a minimum of thirty-six (36) weeks of full-time clinical experience during which the student's primary responsibility was to follow patients on a teaching service. This experience must include at least four (4) separate disciplines from among the following: Family Medicine; General Internal Medicine; Obstetrics and Gynecology; Pediatrics; Psychiatry; and General Surgery. Experience in each discipline must be at least four (4) weeks in duration. No elective will be approved for a discipline in which the requisite core clinical experience has not been satisfactorily completed.
3. An elective application form must be completed for each elective requested and approved by the visiting student's medical school official, authorizing these experiences. This form must be submitted no later than four weeks prior to the beginning of an elective in order to be considered. Visiting student application materials may be found on our EVMS web-site.
4. Each request for an elective must have the approval of the sponsoring department and the Office of Education.
5. In most cases, confirmation for electives will be given as soon as possible after the May 1st deadline for EVMS students. EVMS students have first priority for electives.
6. Visiting students are limited to a maximum of twelve weeks of electives at EVMS, except under special circumstances. (Requires approval from the Vice Dean for Academic Affairs)
7. A non-refundable application fee of \$150.00 must be submitted along with the application materials. Each visiting student must register with the EVMS Registrar's Office prior to beginning the elective. A student identification card will be issued by our Human Resources Office, Eastern Virginia Medical School, following registration.
8. Visiting students must have adequate health insurance coverage to take electives at EVMS. Proof of personal health coverage can be submitted with the application packet or presented at the time of registration. Visiting students must also provide proof of HIPAA training, Blood Born Pathogen training and a Criminal Background report with the application packet. The EVMS Health form completed by a health care provider must also be submitted along with your application.
9. Each student is responsible for obtaining accommodations during his/her stay here.
10. No stipend will be paid by EVMS to visiting students taking electives for credit.
11. EVMS will provide evaluations to the sponsoring institutions, but credit for elective experiences will be given by the institution granting the M.D. degree to the student.



## Clinical Rotation Descriptions

### Department of Anesthesia

#### ANS400: Clinical Anesthesia

The anesthesia clinical rotation will provide the medical students with hands on experiences at airway management including the insertion of oral and nasal airways, laryngoscopy, and intubation. The student will learn basic principles of anesthetic management and the indications for different general and regional anesthetic techniques. He/she will also experience a practical review and refinement of pharmacology and physiology in the clinical setting. Students will also receive an overview of acute and chronic pain management.

#### ANS401: Clinical Anesthesia

Practical and theoretical aspects of anesthetic techniques with special emphasis on selection of the anesthetic technique of choice and contraindications to different anesthetic techniques. Selected references recommended to be read before elective.

#### ANS403: Pediatric Clinical Anesthesia

The clinical anesthesia elective offered at Children's Hospital of The King's Daughters/Eastern Virginia Medical School will provide the medical student with practical and theoretical aspects of anesthetic techniques as they apply to the subspecialty of pediatric anesthesia with special emphasis on the differences between the adult and the pediatric patient in areas of airway management, fluid management, preoperative and postoperative evaluation and care. There will be hands-on experience with managing the pediatric airway including insertion of oral airways, laryngoscopy and intubation; there will also be hands-on experience in the techniques of intravenous access. Participation in resident's didactic session will be optional. Due to the very specialized nature of pediatric anesthesia, previous experience in adult anesthesia is strongly recommended. Students with this prior anesthesia experience will be given preference. Course length is 2 weeks with the option to extend to 4 weeks for those students planning to go into the anesthesiology field. Before signing up for this course, please email Ms. Lisa Seate, Lisa.Seate@chkd.org, with your motivations for taking this course and details of your past anesthesia experience.

### Department of Dermatology

#### DRM408: Dermatology

This elective is designed to give the student exposure to clinical dermatology including the vocabulary, diagnosis, and management of common skin diseases seen in general practice. Rotations through a variety of clinical outpatient settings will provide a broad-based background.

#### DRM409: Dermatopathology

Gross and microscopic pathology of skin diseases and tumors. One-to-one experience and self-study with histologic sections and basic texts. Clinical dermatology to help correlate the gross pathology with the microscopic. Designed for serious

student of dermatology and/or pathology.

#### DRM410: Dermatology Special Elective

This elective is offered to individuals with a special interest in dermatology. Opportunities will be available to pursue a research project that will result in a publication at the end of the month. Projects will be tailored to the individual's area of interest.

### Department of Emergency Medicine

#### ERM400: Emergency Medicine

Rotate through the Emergency Medicine Department at several area Sentara hospitals with Emergency Physicians of Tidewater. The student will see and evaluate all types of emergency patients, while working closely with emergency medicine attendings and residents. There is ample opportunity for hands-on care and developing procedural and clinical skills.

Students will be assigned to a resident/attending and are expected to work their assigned shifts. Any schedule requests/changes must be approved in advance by the chief resident. Students are required to attend a series of lectures, grand rounds, SIM lab assessments, FAST exam Ultrasound, and our monthly Journal Club. The final grade is based on case conference presentation, patient/procedure logbook, clinical performance, and final exam grade. Clinical performance is a composite score based on resident and attending evaluations. The logbook refers to clinical experience documented in a patient/procedure log kept by the student during the rotation. In order to be considered for a grade of Honors for this elective, (the student must complete 15 documented shifts), a clinical score evaluation of Honors, and take the shelf exam.

#### ERM402: Emergency Medicine

Rotating medical students spend 4 weeks in our department, and function in a capacity similar to that of the typical sub-intern. Students evaluate patients autonomously and make presentations to any one of 17 individual emergency medicine attending physicians whose cumulative background encompasses over 9 separate residency training programs throughout the nation. They participate in the resuscitation of critically ill or injured patients, and perform necessary procedures when indicated. Didactically, the student participates in the accredited weekly emergency medicine residency conferences, daily intern lectures, and patient rounds. Additionally, students benefit from a specialized medical student curriculum which covers key concepts in the field. They may also participate in a monthly animal lab in which ATLS procedures are taught and they are invited to attend monthly journal club sessions. Students also benefit from their interaction with interns and residents of varied levels of training and specialty interests. A particularly unique feature of our rotation is the exposure to emergencies presenting primarily in the military setting and emergency physician use of ultrasound. Naval Medical Center Portsmouth is a large 450 bed teaching hospital which has 14 specialty residencies/fellowships. The annual patient census in the emergency department approaches 70,000 visits. Approximately 30-40% of these pertain to the pediatric population. The admission rate

from the emergency department is approximately 12%. The ratio of medical/surgical presenting complaints is roughly 3/2. This high volume provides a rich environment for exposure to the entities commonly encountered in emergency medicine. The recently renovated and upgraded emergency department has 13 general beds, 5 specialty beds, and 2 resuscitation beds.

#### **ERM405: Honors Ultrasound in Emergency Medicine**

The purpose of this course is to teach the fundamentals of emergency ultrasound, both didactic knowledge and bedside image acquisition, longitudinally over the fourth year of medical school for selected students pursuing a career in Emergency Medicine. During the year, M4 students will have the opportunity to work with Emergency Medicine physicians proficient in emergency ultrasound at Sentara Norfolk General Hospital. The student will become proficient in the core applications of bedside ultrasound in Emergency Medicine. The M4 student will also serve as an education resource to assist in teaching their underclassmen.

### **Department of Family and Community Medicine**

#### **FAM417: Family Medicine Acting Internship**

The student will spend 4 weeks with the Ghent Family Medicine inpatient team at Sentara Norfolk General Hospital. Inpatient service only admits patients from the Ghent Family Practice. The student's responsibilities are commensurate to those of an intern on the family medicine service. These responsibilities include daily rounds, management of patients, evaluations of patients in the emergency department, admissions and discharges through EMR. For continuity, there will be opportunities to follow the discharged patient(s) during follow-up at the Ghent ambulatory center. There will also be opportunities to take night call with the family medicine intern. All activities will be supervised by a senior resident and the rounding faculty.

The acting intern will attend didactic lectures one afternoon per week, and will spend one afternoon per week in the outpatient setting seeing patients.

#### **FAM423: Family Medicine Acting Internship**

The student will spend 4 weeks at Portsmouth Family Medicine. The student's responsibilities will be comparable to those of an intern on the family medicine service. They will be required to take night call with the family medicine intern, do admission histories and physicals and follow the patients admitted to the service. They will also attend didactic lectures at the appropriate site. The student will spend one afternoon per week in the office seeing patients with hospital residents to provide continuity for discharged patients.

#### **FAM418: Ambulatory Family Medicine**

The student will spend four weeks providing patient care at the Ghent Family Medicine ambulatory center under the supervision of attending physicians and senior residents. The student will have the opportunity to provide "point of care" services such as cryotherapy and joint injections. Participation in the center's minor surgery, colposcopy and other specialty clinics can be arranged based on interest and availability.

#### **FAM424: Ambulatory Family Medicine**

The student will spend four weeks in their rotations seeing patients with their preceptor. The student will provide care for patients under supervision and when appropriate participate in educational activities.

#### **FAM410: Apprenticeship in Family Medicine**

Through reading and direct observation of family physician preceptors, the student will develop an accurate understanding of family medicine as a discipline and potential career choice.

#### **FAM429: Family Medicine**

Through reading and direct observation of Family Physician preceptors. The student will develop an accurate understanding of family medicine as a discipline and potential career choice.

#### **FAM430: Family Practice**

Through reading and direct observation of Family Physician preceptors. The student will develop an accurate understanding of family medicine as a discipline and potential career choice.

#### **FAM404: Rural Medicine (CROSS LISTED)**

This elective is designed to provide an in-depth experience in community/rural medicine. Student will work with a family physician in a rural primary care office. Travel may be necessary to Franklin/Courtland, VA, Western Tidewater, the Eastern Shore, or other sites.

#### **FAM421: Family Medicine Quality Improvement**

The student will longitudinally over academic year work with Dr. Richard Bikowski, Director of EVMS HS Quality Improvement, and other faculty for approximately 8 sessions starting in August and continuing once a month. The student will work with the Quality Improvement team in various aspects of EVMS QI activities that may include practice based research and implementation, best practices research and implementation, disease registry development and implementation, and development of dissemination of knowledge programs.

#### **FAM426: Frontier Medicine (CROSS LISTED)**

This elective is designed to provide an in-depth experience in frontier/rural medicine, experience with environmental and occupational health, inter-professional team based care, and health information technology (HIT) that ridges care for frontier populations. Student will work with a family physician in rural primary care office and in the Frontier Community Clinic (<http://tangierclinic.org/>) with Physician Assistant Inez Pruitt. Travel will be necessary to the Eastern Shore and Tangier Island. Students should be prepared to stay in housing/dorm provided. Students will need to undergo rotation specific training for Riverside Health Systems prior to clinical experiences. Students should be prepared to fly to Tangier Island with physician supervisor or take the ferry.



## **FAM428: Philosophy & Ethics**

This two week course will provide background in philosophy and application of philosophical principles as they apply in medical ethics decision making. It will be a combination of on line course work, didactics, small group meetings, ethics conference and experiences in clinical settings.

1. On line course with testing will include the completion of Ethics in Medicine course and Cultural Health Literacy by the end of the two week course.
2. Didactics will be 5-6 hour long didactic lectures provided by Jack Sommers, Ph.D., on Monday, Wednesday and Friday's of the two weeks. Students should have prepared by completion of core reading prior to didactics.
3. Following didactic, there will be 1 – 2 hour clinical case discussions that highlight lessons learned from readings with case based small group problem solving (2 groups of students facilitated by Dr. Sommers and MD faculty facilitators. Evaluations will be through faculty observed preparation and participation and through team written evaluations of case done during that problem learning session. Each team will present to the other for discussion facilitated by faculty. (didactic small group 18 hours)
4. Clinical exposures: students will participate in groups at various ethics committee meetings as observers and participate as small groups with ethic consults at various campus partner hospitals, 20-30 hours. Evaluation will be based on small team written reports on one ethics clinical case and philosophic and ethical considerations.

The online certification coursework can be completed prior to the start of the course in order to include the certificates in your CV for interviews. These will count toward hours of course and are required to have been completed before able to receive credit for course.

- Ethics Training Certification: Ethics Training Certification (World Medical Association – 8 hours) <http://www.wma.net/en/70education/10onlinecourses/30ethics/>
- A Physician's Practical Guide to Culturally Competent Care (HHS- 9 hours) <https://cccm.thinkculturalhealth.hhs.gov/default.asp>

## **FAM425: Cost Conscious Medical Care**

Students will meet for initial course introduction and to form teams for developing and completing education or clinical interventions for enhancing cost-conscious medical care in ambulatory or inpatient care and/or interfaces of care (e.g., emergency departments). There are 8 total sessions held once a month starting in August. Thereafter students will prepare for 3 hour evening seminars held monthly between August and March, reviewing best practices in cost-conscious care, from the Choosing Wisely Initiative to principles of parsimony.

Teams will meet independently to design and carry out education or clinical interventions, while learning metrics for quality and cost of care.

## **Department of Internal Medicine**

### **General Internal Medicine**

#### **INT417: Internal Medicine Acting Internship**

An advanced experience in general internal medicine, with the opportunity to select a subspecialty area. The student will function as an Acting Intern on the medical service.

#### **INT418: Internal Medicine Acting Internship**

The purpose of this rotation is to provide the student an opportunity to function as an Acting Intern on the general medicine wards at the VA Medical Center. The student will admit patients, perform initial history and physical examinations, write all orders, discuss the case with an attending, make daily rounds with the attending physician and other members of the ward team and perform all necessary procedures. Skills to be obtained during this rotation include improved diagnostic techniques through history and physical examination and improved skills in therapy. Since continuity of care is essential to training, absences should be minimized during this elective.

#### **INT420: Internal Medicine (CROSS LISTED)**

This program offers a perspective in internal medicine and its subspecialties available in a rural, referral hospital. Student responsibility is commensurate with interest and capability. The student will be expected to act as a house officer. Students from MCV rotate regularly through this hospital. A private suite of rooms is available, with meals and laundry provided. The expense of room and board are borne by the hospital.

#### **INT479: Internal Medicine**

Through direct observation and practicing medicine under the supervision of Internal Medicine preceptors, the student will develop an accurate understanding of internal medicine as a discipline and potential career choice.

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#### **INT482: Internal Medicine**

Through direct observation and practicing medicine under the supervision of Internal Medicine preceptors, the student will develop an accurate understanding of internal medicine as a discipline and potential career choice.

#### **INT484: Internal Medicine – Adult Primary Care**

An advanced experience in general internal medicine, with the opportunity to select a subspecialty area.

### **Cardiology**

#### **INT401: Clinical Cardiology**

The student is offered an opportunity to participate in clinical cardiology. This exposure can be done in one of two ways: 1) He/she can work in an active 14-bed Coronary Care Unit with a large turnover of patients and have the opportunity to evaluate these patients under supervision. Clinical evaluation as well as interpretation of arrhythmias and serial electro-cardiograms are stressed during this period. There will be daily teaching rounds with a staff Cardiologist. 2) A student may also have an opportunity to participate in evaluating cardiovascular problems in consultation with a staff Cardiologist. An opportunity to discuss each of these problems in detail is offered. Bedside clinical evaluation and interpretation of electrocardiograms and chest roentgenology is stressed in this area. There is also an opportunity for exposure to other non-invasive procedures such as echocardiography, graded exercise electrocardiography, vectorcardiography and ambulatory 24-hour monitoring. Emphasis in one of these areas or in a mixture of both can be accomplished to the student's desire.

#### **INT403: Cardiology**

The clinical clerk will work closely with the staff cardiologist in an outpatient clinical setting. The vagaries of the cardiovascular history will be stressed. The clerk will have ample opportunity to hone cardiovascular physical examination skills. Individual instruction in ECG interpretation will be provided. The clerk will gain carefully supervised experience in treadmill testing, echocardiography, Holter monitoring, and pacemaker follow-up. Exposure to cardiac catheterization will be available.

#### **INT489: General and Interventional Cardiology**

The student will work side by side with the cardiologist and staff in both an inpatient and outpatient setting, seeing a wide variety of disease states in cardiovascular medicine. The student will have the opportunity to improve their exposure to patients with cardiac disease, and they will be an active participant in the evaluation, assessment, management and disposition of their disease states. Individual instruction in the field of general cardiology, history and physical examinations, interventional cardiology, and outpatient testing will be done. The student will be exposed a mix of all aspects of a cardiology practice.

#### **INT404: Cardiology**

Exposure to all areas of non-invasive and invasive cardiac procedures. Cardiology, including daily inpatient service exposure, consultative cardiology, cardiac transplantation, and electro-physiology.

#### **INT461: Cardiology Electrophysiology**

This elective is designed for the student who has particular interest in cardiac rhythm disturbances, particularly in more advanced EKG interpretation, evaluation of complex arrhythmias to include atrial tachycardia, atrial fibrillation, Supraventricular tachycardia, Premature Ventricular Contractions/Ventricular tachycardia. The student will be observing the evaluation and management of patients requiring antiarrhythmic drug therapy. There will be direct observation and assessment of patients undergoing electrophysiologic studies and ablation procedures to include endovascular and epicardial/surgical techniques. This rotation also involves evaluation of pacemakers, implantable cardioverter-defibrillators and resynchronization devices, including patient selection, observation of implantation procedures, and participation in the outpatient clinic.

#### **INT469: Clinical Cardiology**

The student will work directly with attending Cardiologists in general cardiology consultations, outpatient cardiology clinics, observation of and interpretation of electrocardiograms, echocardiograms, echocardiography, exercise stress testing and nuclear stress testing. Emphasis will be on the indications and use of cardiac physical diagnosis and non-invasive cardiac testing in the management of common cardiac problems one would encounter in primary care or general internal medicine. The student will also attend noon conferences and Grand Rounds at the VAMC. The student will be encouraged to develop a cardiac topic and present to the Cardiology section or a noon conference.

#### **INT407: Cardiovascular Medicine**

A busy consultative service, emphasizing clinical cardiology, clinical decision making, intensive care cardiology, EKG reading and the proper use of cardiac testing.

### **Critical Care Medicine**

#### **INT472: Critical Care Medicine**

Fourth year students involved in the Intensive Care Unit Rotation will be expected to round with the Intensive Care Unit Team. Students will work under the supervision of upper level residents and Pulmonary/Critical Care Medicine Faculty. This rotation will allow students to see critically ill patients and gain experience in managing mechanical ventilation, interventions, such as nutritional support.

### **Endocrinology**

#### **INT413: Clinical Endocrinology**

Sub-specialists in the division of Endocrinology & Diabetes provide expert medical care for adult patients with hormonal disorders. Our clinic is a multidisciplinary service composed of physicians, nurse practitioners, certified diabetes educators, DXA technologists, and corps-staff. The services we offer include Endocrinology subspecialty consultation for both in- and out-patients, assistance with Diabetes management, Diabetes education and classes, bone mineral density assessment (DXA scanning), thyroid fine needle aspiration,

and metabolic testing. Endocrinologists serve as inpatient or outpatient consultants, patient and physician educators, and physician scientists in Endocrinology. With such a variety of available experiences, your educational opportunities are vast and we are committed to tailoring your rotation here to best serve your educational objectives.

#### **INT465: Clinical Aspects of the Complications of Diabetes Mellitus**

The student will learn clinical evaluation of patients for complications of diabetes, including macro and micro-vascular, renal and neuropathic signs and symptoms. Emphasis will be placed on clinicopathologic correlates and the design and implementation of clinical management protocols and introduction to clinical research design. Exposure to data base construction, critical review of the literature and issues current and pertinent to clinical research will be provided. An appreciation of multidisciplinary approaches to clinical problem solving will also be gained.

#### **INT476: Clinical Endocrinology**

The endocrine elective will expose the student to a comprehensive spectrum of endocrine conditions. The student will see a broad spectrum of endocrine diseases, including type 1 and type 2 diabetes and their complications, thyroid disorders, conditions affecting both male and female reproduction, obesity, adrenal and pituitary gland disease, neuroendocrine tumors and their associated syndromes, and conditions involving bone and calcium metabolism. Students will be involved in both initial patient visits in the clinic and in follow-up visits. They will also participate as a member of the endocrine consult service for a portion of the elective, and will write and present patient notes to the consult attending. Students are encouraged to attend a variety of endocrine-focused conferences during their elective time, including endocrine grand rounds, the endocrine core lecture series, journal club and endocrine case conference.

### **Gastroenterology**

#### **INT451: Gastroenterology**

An introductory clinical experience in Gastroenterology and Hepatology, involving both the evaluation of out-patients and common gastroenterology problems and in-patient consultation in patients that included multi-system disease. The student will have exposure to all Gastroenterologic and Endoscopic procedures, along with the chance to correlate clinical endoscopic and radiographic findings.

#### **INT437: Gastroenterology**

The students will be exposed to the practice of clinical gastroenterology on both an inpatient and outpatient basis. In a staff supervised setting, the students will become familiar with the evaluation and treatment of common problems in gastroenterology. In addition, the students will be exposed to the various endoscopic procedures and esophageal manometrics. A review of pertinent liver biopsies and barium studies of G.I. tract will be included. Numerous teaching conferences are scheduled.

#### **INT474: Clinical Gastroenterology**

An introductory clinical experience in Gastroenterology and Hepatology, involving both the evaluation of out-patients and common gastroenterology problems and in-patient consultation in patients that include multi-system disease. The student will have exposure to all Gastroenterologic and Endoscopic procedures, along with the chance to correlate clinical endoscopic and radiographic findings.

#### **INT443: Digestive and Liver Diseases**

An intensive clinical experience in gastroenterology and hepatology, heavily weighted to inpatient consultation and management of primary, secondary and tertiary level care problems. Cognitive and diagnostic approaches to patients with digestive and liver diseases are emphasized.

#### **INT449: Gastroenterology and Liver Disease**

An intensive clinical experience in gastroenterology and hepatology. The student will have exposure to all gastroenterology procedures. Cognitive and diagnostic approaches to patients will be emphasized, with ample time for self-study.

### **Geriatrics**

#### **INT470: Internal Medicine/Geriatrics**

The course is designed for senior medical students interested in a career in primary care internal medicine or family medicine with an emphasis on geriatrics and who wish to pursue an elective prior to the beginning of internship and residency. The elective provides diverse exposure to older patients in various settings of care: long-term care, skilled nursing facility, continuing care retirement community, memory consultation clinic, and assisted living facility. These settings allow for a rich assortment of patients and health care professionals with whom the student can interact. Daily rounds with the attending physician, opportunities to work and learn with multiple levels of trainees, and direct patient care responsibilities provide the foundation for the experience. Students should also expect to consult with members of the interdisciplinary team (PT, OT, SW, nursing, dietary, speech and language) and participate in therapy sessions, care planning conferences and family meetings. Students will attend morning reports, didactic sessions, interdisciplinary conferences, and develop and give presentations of both patients and topics to supervisory physicians, colleagues, other health professions students and staff. The student will receive the current edition of Geriatrics At Your Fingertips and attend all Glennan Center education programs and other didactics as assigned during the rotation.

Development of a clinical research or library-based research project or paper and presentation at the Glennan Center Geriatric Conference is required for Honors. Glennan Center faculty, including Drs. Aravich, Galicia-Castillo, Kannarkat, Mazzurco, Morris, Okhravi, Palmer and Smith serve as advisors for student projects and are involved in teaching the geriatric elective. Students should seek consultation during week one of the rotation regarding Honors expectations to determine

the student's project goals and objectives and to map out a timeline for completion of the honor's project.

## **Infectious Disease**

### **INT452: Infectious Disease Consult Service**

This elective will provide an introduction to infectious disease. Emphasis will be on the evaluation of patients with a variety of infections on the inpatient wards including endocarditis, meningitis, nosocomial infectious, antibiotic resistance and osteomyelitis.

A set of reference materials covering the major aspects of Infectious Disease will be provided to each student.

### **INT468: Clinical HIV/AIDS**

This elective includes a comprehensive approach to HIV/AIDS care beginning with initial diagnosis, moving through preventative care, and dealing with end-stage processes and death related issues. There is a strong focus on outpatient experience but hospital care/teaching will also be provided. Teaching will be on a one-on-one basis for patient care. Reading topics and slide collections will be provided.

### **INT490: HIV Quality Improvement**

The student will spend 4 weeks continuously or intermittently over a full year with Dr. Catherine Derber, Chair of the HIV Quality Improvement Committee at EVMS. The student will work with the quality improvement team in various aspects of EVMS HIV QI activities that may include designing and implementing a quality improvement project, best practices research and implementation, and development of programs to disseminate knowledge.

### **INT471: Allergy and Clinical Immunology**

Clinical allergy/immunology with exposure to practice management. The student will see asthma, allergic rhinitis, drug allergies, urticaria, and immune disorders.

### **INT485: Allergy Medicine**

Student will be involved directly in the evaluation and management of patients with allergic and immunologic disorders, including asthma, allergic rhinitis, atopic dermatitis, urticarial, food allergy, anaphylaxis, and recurrent infections. Knowledge and clinical experience will be obtained by learning to interpret blood levels for food and environmental allergies, immune function, CXRs, PFTs and skin testing.

## **Nephrology**

### **INT478: Nephrology**

The student will make clinical rounds on patients on the inpatient EVMS Renal and Nephrology Assoc. Consult Service at their assigned hospital. Hospitals are assigned by the program on a first come basis. The student will also be given selected lectures and will be responsible for presenting a clinical topic or journal article at one of our division renal conferences.

### **INT428: Nephrology**

The student will evaluate both inpatients on various specialty services and outpatients on the Nephrology Consultation Service. The student will present and discuss these patients with staff attending nephrologists and be guided to the appropriate reading on topics related to these patients. Introduction to hemodialysis, peritoneal dialysis and continuous renal replacement therapy also provided.

## **Palliative Care Medicine**

### **INT473: Internal Medicine/Palliative Care**

The course is designed for senior medical students whose careers might include patient and family discussions about life and death decisions, treatment of difficult pain and other symptoms, and working with interdisciplinary teams. The Sentara Norfolk General Hospital Palliative Care Service consists of a physician; a nurse practitioner, a nurse specialized in neuroethics, and a social worker. While the primary teaching site is Sentara Norfolk General, students are also scheduled time with the Palliative Care Consult Service at Sentara CarePlex and Chesapeake Rehab and Care Center. This rotation allows the student the opportunity to experience the human side of tertiary care medicine, to integrate science with humanities and to test the waters for a fellowship or career in the new field of hospice and palliative care. The rotation aims to give future physician the opportunity to care for the sickest of the sick patient, to acquire new skills and work with a dynamic interdisciplinary team.

Palliative care consults are generated on patients with serious illness, often with multi-system failure and suffering. The team evaluates patients, conducts family conferences and attempts to set goals of care. In addition, the team tries to control suffering. Conferences frequently include other physicians, consultants, chaplains and nurses in addition to the palliative care team. The student will participate in daily conferences to learn about patients and to plan the day and Team meetings. Students will be mentored by Dr. Marissa Galicia-Castillo, Dr. Lauren Mazzurco or Dr. Deborah Morris on the Palliative Care Team and/or other team members (social worker, nurse practitioner), observe evaluations and family meetings, and participate in the debriefings in which the team discusses family dynamics, and decision-making.

Depending on interest and skills, students may begin to work independently and conduct family meetings, learn to work collaboratively with nurses, social workers and chaplains and to lead debriefings. There will be an opportunity to read and compose patient reports to present at team meetings or other forums. Often the student will interact with the ethics team and attend the Sentara Norfolk General Hospital Ethics Committee Meeting as scheduled. Students attend one Grief Counseling/ Support Group session with the social worker. Students receive a syllabus with links to key readings and articles. Students are also required to select a topic and give a presentation no longer than 30 minutes to the Palliative Care team in the last week of the rotation. Any Palliative Care Team member or the course director may offer guidance about the topic.



## **Pulmonary Medicine**

### **INT486: Pulmonary Medicine**

Supervise inpatient and outpatient evaluation and treatment of patients with pulmonary diseases. Interpretation of radiography, pulmonary function studies and other diagnostic tests. Regular didactic sessions with pulmonary staff and scheduled conferences covering selected aspects of pulmonary medicine.

### **INT432: Pulmonary Medicine**

Supervised inpatient and outpatient evaluation and treatment of patients with pulmonary diseases. Interpretation of radiographs, pulmonary function studies and other diagnostic tests. Daily didactic sessions with pulmonary staff and scheduled conferences covering selected aspects of pulmonary medicine.

### **INT433: Clinical Pulmonary Medicine**

Students will round on a daily basis with the Pulmonary attending and resident. The students will be responsible for maintaining contact with a group of patients on the Pulmonary Consult Service. Students will also be expected to evaluate new consultations in the outpatient sphere under the supervision of the pulmonary resident and attending.

## **Rheumatology**

### **INT435: Rheumatology**

The student will receive a well-rounded exposure to rheumatology, spending time in the office assisting with patients and helping work-up admissions.

### **INT483: Internal Medicine-Rheumatology**

The student will receive a well-rounded exposure to rheumatology, spending time in the office assisting with patients.

## **Sleep Medicine**

### **INT487: Sleep Medicine**

Students will be exposed to diagnostic work-up and treatment of patients presenting with sleep disorders. During the elective, students will participate in the work-up and treatment of patients presenting with sleep apnea, narcolepsy, insomnia, restless legs syndrome and parasomnias. Students will review in-lab polysomnographic data, ambulatory sleep study records and multiple sleep latency tests.

### **INT488: Sleep Disorders**

The course will expose students to diagnostic work-ups and treatment of patients presenting with sleep disorders. During the four-week elective, students will participate in the work-up and treatment of patients presenting with sleep apnea, narcolepsy, insomnia, restless legs syndrome and parasomnias. Students will review polysomnographic records, multiple sleep Latency Tests, and performance on driving simulator. Student will present patients at weekly patient staffings, and assist

in the formulation of a diagnosis and treatment plan. The student will follow patients for the duration of the course. The student will be encouraged to present at least one article at a journal club meeting. The course will require interaction with the disciplines of Dentistry Maxillofacial Surgery, Medicine, Neurology, Otolaryngology, Psychiatry, and Psychology.

## **Department of Neurology**

### **NEU401: Clinical Neurology**

While rotating with the Neurology service, the student will be primarily attached to the Consultation Service and will evaluate both outpatients and inpatients as well as follow selected inpatients under the direct supervision of an attending neurologists. There will be ample time for independent study and it is expected that a brief text on the clinical exam will be read. Attending physicians will work closely with the student both on rounds and one on one.

### **NEU403: Clinical Child Neurology**

This elective provides clinical practice in child neurology. The student will see inpatient consultations, review and follow all neurology patients admitted and assist in neurology clinic. Mini-reports appropriate to material seen may be required.

### **NEU404: Clinical Adult Neurology**

Clinical neurology in the outpatient and inpatient settings in cooperating hospitals. The students will evaluate and follow neurology consultations in the hospital and assist in the neurology clinic. Specific reviews of various neurological illnesses will be made.

Opportunities exist for observation in diagnostic laboratories (e.g. Epilepsy Monitoring Unit, Autonomic Lab, EMG Lab, Music Medicine, etc.)

## **Department of Obstetrics and Gynecology**

### **OBG400: Advanced Clerkship in Clinical Obstetrics and Gynecology**

This elective permits the assumption of greater patient responsibility on the part of the medical student both in the outpatient and inpatient settings. This elective is recommended if a student is interested in pursuing a residency in OB/GYN and desire more in depth exposure to the specialty. The faculty will be pleased to attempt to tailor a program to the student's particular interest, but the basic usual expectation should be advanced clinical management and reinforcement of cognitive material and problem solving skills. The student will function as an "acting intern."

### **OBG417: Obstetrics & Gynecology**

This elective permits the assumption of greater patient responsibility on the part of the medical student both in the outpatient and inpatient settings. This elective is recommended if a student is interested in pursuing a residency in Ob/Gyn and desire more in depth exposure to the specialty. The faculty will be pleased to attempt to tailor a program to the student's particular interest, but the basic usual expectation

should be advanced clinical management and reinforcement of cognitive material and problem solving skills.

#### **OBG401: Reproductive Endocrinology & Infertility**

The experience teaches introductory concepts of homeostasis, hormone synthesis, structure/function and hormonal signal transduction; the key hormones and growth factors and their roles in reproduction; basic female and male reproductive anatomy; physiology of the ovulatory cycle, menstruation and menopause; pharmacological control of follicular development of fertility treatment and contraception; disorders of fertility and pathology of the reproduction system; ovarian stimulation protocols; and the role of GnRH agonists and antagonists in ART.

There is opportunity to be involved with surgery depending on experience and desire of the student.

#### **OBG402: High Risk Obstetrics - Advanced Clerkship**

The student will participate in the care of the high risk obstetrical patient, working directly with the faculty members of the Division of Maternal-Fetal Medicine and the residents on the Academic Obstetrics Service at Sentara Norfolk General Hospital. In-patient care is stressed. However, the student will attend patients at a weekly high-risk clinic and participate in outpatient high risk ob clinic and ultrasound. At the completion of the elective, the student should have an understanding of the approach to diagnosis (including special laboratory and ultrasound) and decision-making in complicated obstetrics.

#### **OBG411: Urogynecology**

Experience in urogynecology in an office and hospital setting. Hands on experience in the operating room in a supervised setting. Management of outpatient urodynamic testing and other evaluations pertinent to the patient with urinary incontinence.

#### **OBG407: Benign Gynecology**

The purpose of this elective is to provide the students with further experience in inpatient and outpatient benign gynecology. The student will function as a "sub-intern" in the diagnosis, evaluation and treatment of women with various gynecologic problems. It will include both inpatient and outpatient experiences, with participation in clinics, gynecologic surgeries, and on-going inpatient care.

#### **OBG419: Advanced Clerkship in Benign Gynecology**

The Acting Internship (AI) experience is designed to encourage senior medical students to assume patient care responsibilities similar to those of an intern (PGY-1 resident), including night call.

This course is designed for students pursuing a surgical career who are interested in increasing their knowledge of pelvic anatomy and fundamental surgical skills with an emphasis in minimally invasive surgery. The student will complete a structured curriculum that includes pelvic anatomy, surgical instrumentation, surgical energy, & fundamental laparoscopic skills. The student will participate in clinical activities including

observation in the operating room one and one half days per week and will be involved in direct patient care two half days in outpatient gynecology clinics. The remainder of the time will be in self-directed study and surgical simulation skills. The student will be assigned a mentor from the Gynecology Division to supervise the completion of the course.

#### **OBG418: Advanced Clerkship in Benign Gynecology and Urogynecology**

The Acting Internship (AI) experience is designed to encourage senior medical students to assume patient care responsibilities similar to those of an intern (PGY-1 resident), including night call.

This course is designed for students pursuing a surgical career who are interested in increasing their knowledge of pelvic anatomy and fundamental surgical skills with an emphasis in minimally invasive surgery. The student will complete a structured curriculum that includes pelvic anatomy, surgical instrumentation, surgical energy, & fundamental laparoscopic skills. The student will participate in clinical activities including observation in the operating room one and one half days per week and will be involved in direct patient care two half days in outpatient gynecology clinics. The remainder of the time will be in self-directed study and surgical simulation skills. The student will be assigned a mentor from the Gynecology Division to supervise the completion of the course.

#### **OBG410: Reproductive Genetics**

Although exposed to the general "concepts" of genetic risk assessment in the third year clerkship, the majority of students have little experience with medical genetics as practiced. The goals of the elective will include observation of genetic counseling, risk assessment calculation, counseling regarding prenatal diagnosis options, prenatal screening to include noninvasive prenatal testing of fetal aneuploidy (NIPT), population based carrier screening, ultrasound assessment of fetal anomalies (and their implications), teratogen exposure in pregnancy and recurrence risk.

#### **OBG412: Advanced Clerkship in Clinical Research**

This elective is offered to fourth year medical students who have an interest in performing clinical research. The outcome is to familiarize the student with the appropriate method of approaching the clinical problem and the organization that is required to develop a grant or write the protocol for the research. The student will be required to work independently with oversight and has the following tasks to perform within the 4 week period. She/He identifies a topic area and hypothesis or question with Dr. Archer. The student then develops either a grant or protocol for the selected topic (see below items 1 and 2). The Student is required to provide a written report of the grant/protocol at the end of the rotation. The Background information relevant to the topic with published and anticipated outcomes and interventions if known will be the topic of a 20 to 30 minute power point presentation at the conclusion of the elective.



### **OBG415: Advanced Educational/Research Elective**

The student will actively participate in the planning, coordinating, and successful execution of various educational activities of the third year OB-GYN clerkship; and participate in educational and/or clinical research under the direction of Dr. Too and her appointed clinical research supervisors. Included duties with respect to the third year clerkship include, but are not limited to, assisting with orientation, suture workshops, simulation training, updating and proctoring the clerkship mid-term examination, development and testing of objective structured clinical exams (OSCE's), standardized patients (SP's) and other teaching responsibilities as directed by Dr. Too.

## **Department of Ophthalmology**

### **OPH400: Clinical Ophthalmology**

An introduction to comprehensive and subspecialty ophthalmic practice. Emphasis will be placed on general ophthalmology, acute ocular pathology and trauma, retinal pathology, glaucoma, and pediatrics. The student will work closely with ophthalmology residents as well as faculty. Curriculum can be tailored to the student's particular interests. The rotation will particularly benefit those interested in ophthalmology as a career, as well as other subspecialties including emergency medicine, internal medicine and pediatrics.

### **OPH402: Clinical Ophthalmology**

This elective will include exposure to the office practice of ophthalmology and ophthalmic surgery with emphasis on managing and diagnosing common eye diseases.

### **OPH403: Subspecialty Ophthalmology: Cornea, External Disease, Uveitis**

40-50 hour per week clinical rotation with close observation in clinic and OR.

## **Department of Otolaryngology-Head and Neck Surgery**

### **OTO403: Otolaryngology for the Primary Care Physician**

This elective is designed for the medical student interested in the primary care specialties (family practice, internal medicine, pediatrics) and is oriented toward outpatient services. The student will receive a wide exposure to medical and surgical aspects of diseases of the head and neck in adults and children. Major patient contact will be through the departments clinical offices, hospital clinics, and hospital rounds. There will be selected operating room experience to demonstrate common procedures.

### **OTO404: Otolaryngology for the Future Surgeon**

This elective offers an orientation to otolaryngology for the future surgeon. An emphasis will be placed on medical and surgical aspects of diseases of the head and neck with the development of specific surgical skills related to these diseases. The course will be divided between operating room experiences and office otolaryngology. The elective will be

fashioned to meet the needs of the student, and be tailored toward medical students interested in the Otolaryngology-Head & Neck Surgery residency.

### **OTO402: Otolaryngology**

This elective offers a broad and flexible orientation suitable for medical students interested in surgery or the primary care specialties. The student will receive a wide exposure to medical and surgical aspects and diseases of the head and neck in adults and children. All students obtain experience with the diagnosis and initial treatment of head and neck problems commonly encountered by primary care providers. Because the ENT department serves a large and diversified patient population, there is also ample opportunity for more in-depth experience with the complete spectrum of head and neck disorders. The proportion of time each medical student spends in the clinic or operating room will be tailored to emphasize the student's interests.

## **Department of Pathology and Anatomy**

### **PAT409: Pathology**

Anatomic and clinical are offered. Course content can be flexible with regards to student interest in a particular subject matter. Gross and microscopic anatomic pathology will be emphasized. Students may assist in autopsies. Clinicopathologic correlation will be stressed. Sentara Norfolk General Hospital is a private surgical pathology practice which has involvement in academic work. Students will gain experience in utilization of state of the art diagnostic procedures including immuno-peroxidase studies, molecular pathology, and flow cytometric immunophenotyping. Students have the opportunity to explore pathology with regard to possible career choice or to augment knowledge of tissue pathology as it pertains to other specialties such as surgery, oncology, radiology, etc.

### **PAT400: Anatomic and Clinical Pathology**

Laboratory medicine is an exciting and broad discipline that includes anatomic pathology (surgical pathology, autopsy pathology and cytology), clinical pathology (hematology, chemistry and microbiology), and transfusion medicine (clinical transfusion medicine and blood banking). The goal of this rotation is to provide an opportunity to learn the functional aspects of each of these areas, the appropriateness of test ordering and the processes involved in arriving at specific diagnoses, thereby fostering understanding and better working relationships between clinicians and the laboratory. Students will have the opportunity to rotate through all of the major areas of the anatomic and clinical laboratories and any other areas of special interest, time permitting.

### **PAT401: Gross Anatomical Pathology of Trauma and Sudden Death**

The role of the Medical Examiner in the community is investigating deaths in the public interest of the administration of justice and detecting hazards to public health and safety. Pathology of sudden death and trauma.

#### **ANT404: Combined Basic Science - Clinical Neurology Elective**

This elective is designed to combine basic anatomy, physiology and pathology of the nervous system with the clinical experience in neurology and/or neurosurgery. Four sessions of three hours each will be spent as conferences with Dr. Aravich. Student must sign up with neurologist or neurosurgeon of choice who holds an EVMS faculty appointment in addition to signing up with Dr. Aravich.

### **Department of Pediatrics**

#### **PED405: Pediatric Acting-Internship**

The Acting Internship (AI) experience is designed to encourage senior medical students to assume patient care responsibilities similar to those of an intern (PGY-1 resident), including night call.

The purpose of this course is to provide the student with the opportunity to further develop his/her clinical skills and knowledge in pediatrics. Under the supervision of the faculty attending and supervising resident, the student will admit patients, perform history and physical examinations, write orders, discuss the case with the supervising resident and attending, make daily rounds with the pediatric team, and perform clinical procedures. This elective is designed to give the student considering a career in pediatrics the opportunity to function as an acting-intern on a pediatric ward and to assess his/her suitability and interest in pediatric residency training.

#### **PED414: Ambulatory Pediatric Medicine**

This elective is designed to give the student experience in the diagnosis and management of common acute illnesses in children, the essential features of well child and adolescent care including developmental assessment and health maintenance and common long-term illness management of children in the General Academic Pediatrics Outpatient Center. Students will be supervised by the pediatric attending physicians in the General Academic Pediatrics Outpatient Center.

#### **PED427: Pediatric Medicine**

This elective is designed to give the student experience in the diagnosis and management of common acute illnesses in children, the essential features of well child and adolescent care including developmental assessment and health maintenance and common long-term illness management of children. Students will be supervised by pediatric attending physicians.

#### **PED402: Pediatric Endocrinology Clinical Experience**

Opportunity to become acquainted with endocrine problems of childhood and adolescence. Students will learn about the more common endocrine problems and how they are managed. They will also learn about the impact of chronic disease on physical and psychosocial-emotional growth.

#### **PED403: Pediatric Cardiology**

This is primarily an outpatient cardiology clinic rotation with opportunities to observe surgeries, TEEs, catheterizations,

advanced imaging, and EP studies. The student will learn the clinical signs and symptoms of the major congenital and acquired pediatric cardiac conditions. Self-directed reading of primary articles as well as texts will be required. Relevant EKGs echocardiography, x-rays and physical exam findings will be reviewed.

#### **PED415: Pediatric Critical Care Medicine**

This elective is designed to familiarize the student with the subspecialty of pediatric critical care medicine. The student shall become familiar with the management of critically ill children who have a variety of medical and surgical problems. The student will be familiar with the social, ethical and medical-legal issues associated with the practice of critical care. The student will function as a house officer under the direct supervision of the attending and senior residents on the PICU service.

#### **PED426: Child Abuse Pediatrics**

During the child abuse rotation, students will become familiar with the medical and forensic mental health assessment of children with suspected sexual abuse, physical abuse, and/or neglect. Basic knowledge of child abuse pediatrics will be acquired through inpatient and outpatient consultations, scheduled clinics, observation of medical and mental health faculty, attendance at multidisciplinary team meetings and observation of court proceedings.

#### **PED411: Pediatric Gastroenterology, Hepatology and Nutrition**

A comprehensive rotation encompassing all aspects of the discipline of pediatric gastroenterology, hepatology and nutrition. The student will work with all age groups, from newborn to young adult, in the inpatient and outpatient setting. Travel to satellite offices is the student's option. The student will observe and sometimes assist with procedures, such as endoscopy, dilation and liver biopsy. Attendance at all GI-related conferences and a presentation at the monthly journal club will be expected.

#### **PED409: Pediatric Hematology/Oncology**

The purpose of this elective is to provide the student with an opportunity for practical application of acquired knowledge and skills pertaining to pediatric hematology/oncology. The student's clinic time will be spent in the outpatient practice.

#### **PED406: Pediatric Infectious Diseases**

The student will gain experience in the diagnosis, evaluation, and treatment of infectious diseases in both inpatient and outpatient settings. Inpatient experience is mostly in a consultative role, which allows the student to focus on the infectious disease issues. Work is distributed to maximize learning. Students are encouraged to delve into the literature about patients or conditions they find particularly interesting. The outpatient clinic provides experience with acute infectious problems outside the realm of the generalist's knowledge. In addition, patients with sub-acute or chronic infections or immune-compromising conditions are followed. Weekly city-

wide infectious diseases case conference and weekly division meetings provide additional didactic learning, and contact with many ID-trained sub-specialists.

#### **PED401: Neonatal-Perinatal Medicine**

This elective is designed to familiarize the student with the Neonatal Intensive Care Unit (NICU) at CHKD and to participate in the management of neonates under direct supervision of the neonatal-perinatal faculty. Students will be able to apply the basic sciences (physiology, biochemistry, and microbiology) to the care of sick neonates. This elective is designed to allow the student to function as an acting intern in the NICU. When taking night call, the student will have the opportunity to accompany the attending neonatologist and pediatric residents in the delivery room to attend high risk deliveries.

#### **PED412: Pediatric Nephrology**

A comprehensive experience in pediatric nephrology. Includes daily inpatient rounds, consultations, outpatient clinics daily. Emphasis on clinical diagnosis and management of acute and chronic renal diseases including fluid-electrolyte, acid-base, and renal failure. Prior arrangement required.

#### **PED420: Pediatric Pulmonology**

The student will actively participate as a member of the division, on an outpatient basis. Student will either shadow or independently see patients in clinic. Inpatient time is to be expected when there are no clinics. Attendance at general pediatric conferences will be expected.

#### **PED421: Allergy/Clinical Immunology Rotation**

Student will be involved directly in the evaluation and management of patients with allergic and immunologic disorders, including asthma, allergic rhinitis, atopic dermatitis, urticaria, food allergy, anaphylaxis, and recurrent infections. Knowledge and clinical experience will be obtained by learning to interpret blood levels for immune function, CXRs, PFTs, skin testing and food challenges.

#### **PED422: Pediatric Emergency Medicine**

This elective is located in the emergency department of the Children's Hospital of The King's Daughters. Students will be expected to see patients independently and then present the history, physical examination, assessment and plan to the ED attending physician in an efficient, organized manner. Participants in the elective will receive hands-on experience in managing a wide variety of medical and surgical problems that present to a busy pediatric emergency department. The ideal student for this rotation is one who is serious about experience in pediatric emergency medicine, can work independently and who is willing to work a full clinical schedule.

#### **PED423: Office Based Pediatrics**

This elective is being offered as an opportunity to obtain experience in a Pediatrician's office. Under the supervision of the pediatrician, the student will perform duties of a practicing pediatrician. The elective is designed to give the student considering a career in pediatrics the opportunity to further

assess his/her interest in pediatric practice.

#### **PED400: Pediatric Acting Internship**

The Acting Internship (AI) experience is designed to encourage senior medical students to assume patient care responsibilities similar to those of an intern (PGY-1 resident), including night call. This elective is being offered as an advanced course in general Pediatrics with emphasis being placed in inpatient care. The environment and experiences will be provided for the student to further develop the skills necessary for providing health care to the pediatric population. The student will work more independently with increased patient responsibility as part of a medical team.

#### **PED419: Clinical Pediatric Neurology**

Clinical experience with the wide spectrum of neurological disorders in children, including neuromuscular diseases, epilepsy, headache, brain tumors, neuro-degenerative diseases, and neonatal neurology.

### **Department of Physical Medicine and Rehabilitation**

#### **PMR400: Physical Medicine & Rehabilitation**

Flexible inpatient and/or outpatient clinical experiences for adult physical medicine and rehabilitation. Inpatient rehabilitation of stroke, head injury, spinal cord injury, amputee and other orthopedic and neurologic disorders. Outpatient musculoskeletal and pain management including manipulation, acupuncture, epidurals and nerve blocks. Specialty clinics for spinal cord injury, muscular dystrophy, spasticity and cerebral palsy and head injury. Electrodiagnostic evaluation of muscle and nerve disorders. Choice of 2 - 4 weeks duration.

### **Department of Physiological Sciences**

#### **PHY400: Studies on Hormone Production by the Fetal-Placental Unit During Pregnancy**

This laboratory studies the role of estrogen on fetal placental development and impact of alterations in the maternal/fetal hormonal milieu as well as endocrine disruptors that mimic estrogen action (e.g. bisphenol) on placental and fetal development, maternal well-being, fetal programming, pregnancy outcome and risk for development of disease in adulthood. Studies show that estrogen regulates placental cellular invasion of the maternal uterine spiral arteries in early pregnancy a process that is essential for appropriate uteroplacental blood flow and which when defective leads to development of maternal hypertension and preeclampsia as well as compromise fetal growth leading to IUGR. Studies also show that estrogen in the second half of gestation regulates placental catabolism of maternal stress hormones (e.g. cortisol) and programs fetal organ/metabolic systems important for insulin action and thus prevention of insulin resistance (e.g. diabetes) in adulthood. The student will be expected to choose one or more of these or other clinical complications of human pregnancy (e.g. preeclampsia, IUGR; gestational diabetes, prematurity; placenta accreta), summarize the etiology, clinical



manifestations etc. and via library search and interaction/discussion with Dr. Pepe to summarize and integrate the relevant basic science research being performed to elucidate cause, improve treatment and enhance fetal-maternal well-being and pregnancy outcome.

## **Department of Psychiatry and Behavioral Sciences**

### **PSY404: Consultation/Liaison Psychiatry**

The student will be exposed to Consultation/Liaison Psychiatry, a branch of Psychiatry specializing in psychiatric care of the medically ill patient. The student will participate as an integral member of the consultation team, which is comprised of an attending consultation/liaison psychiatrist, residents, and clerkship students. The rotation takes place at Sentara Norfolk General Hospital, a 425 bed general hospital with developed trauma, critical care and specialty units. The students will be expected to evaluate, present and write up consult cases. The student will work closely with the resident and attending physicians and will attend rounds, follow-up on assigned cases, attend conferences and grand rounds. Common diagnoses encountered include delirium, dementia, mood, anxiety and personality disorders.

### **PSY416: Psychosomatic Medicine (Consultation-Liaison Psychiatry)**

Consultation-Liaison (C-L) Psychiatry is a branch of psychiatry that entails consultation to medically and surgically ill hospitalized patients, education of students and clinicians of all disciplines, and research. The setting for the practice of C-L Psychiatry is the general hospital. NMCP is a 366 bed general hospital. 4th year medical students will learn key elements in an effective C-L team: Ability to conduct mental status exam and interpret findings in conjunction with laboratory and neuro-imaging; capacity to assess the potential for suicidality, aggression and agitation within a medical-surgical setting; ability to work with and clearly communicate findings and recommendations to non-psychiatric physicians, other health care workers, and families. Usual coverage during duty hours for C-L service pager is 0730-1600. Medical students' duty hours will be 0730-1700. Rounds are daily from 1300 to 1500 except for Fridays when we round from 1430 to 1600. Students will be exposed to "talking papers" as a form of learning and teaching others during rounds. Talking Papers are a quick reference outline on key points of an oral briefing.

### **PSY407: Acting Internship in Psychiatry**

This course is designed for seniors wishing for a sub-internship experience in Inpatient Psychiatry prior to beginning residency in Psychiatry. However, students entering the Primary Care field, who want further experience recognizing and assessing mental illness should also apply.

The purpose of this rotation is to provide increasing amounts of responsibility for treating psychiatric inpatients. The student will act as an intern with primary responsibility for patient care including evaluation and treatment.

### **PSY408: Addiction Psychiatry**

The student will be exposed to Addiction Psychiatry, a branch of Psychiatry specializing in the treatment of addictive disorders, i.e., alcoholism and other psychoactive substance dependence. Many of the patients will also have a dual diagnosis. The students will participate as a member of a multidisciplinary team and work closely with the attending psychiatrist and other treatment team members.

The rotation takes place in an intensive REHABILITATIVE RESIDENTIAL setting where patients reside for up to 120 days. This is an intensive and highly structured program, which operates on a "bio-psychosocial model" of treatment with a strong emphasis on the 12-Step recovery process. The program is headed by a psychiatrist and includes a program specialist, social worker, addiction therapists and other support personnel. Other treatment tracks include relapse prevention, aftercare, and family. The student will be expected to actively participate in program activities to include: (1) individual and group therapy; (2) community meetings; (3) family counseling; (4) didactic therapy; (5) physical, recreational and occupational therapy; (6) treatment planning; and (7) assessment triage. Students may also be exposed to subspecialty areas to include detoxification and inpatient psychiatric substance abuse education. Utilization of current literature and appropriate references is encouraged. Emphasis is placed on learning the biopsychosocial assessment and formulation, as well as in motivational intervening therapy.

### **PSY412: Psychiatry Acting Internship**

This course is designed for seniors wishing for a sub-internship experience in Inpatient Psychiatry prior to beginning residency in Psychiatry. However, students entering the Primary Care field, who want further experience recognizing and assessing mental illness should also apply.

Cases of greater interest in maximizing the educational objectives and that meet the student interests will be selected. Particular areas of interest can include Substance (alcohol or Illicit Substances), Use Disorders, Neurocognitive Disorders (Dementia), Psychotic Disorders, Mood Disorders, Anxiety Disorders, Post Traumatic Stress Disorder or Personality Disorders. The Biopsychosocial model is used with a crisis intervention approach. Brief stabilization is followed by return to the community or non-acute level of care. Under the psychiatrist's supervision, the student would be responsible for assessing the patient and implementing their own treatment plan. The student would follow the response to treatment, updating or modifying the plan as required.

### **PSY419: Army Psychiatry**

Military outpatient mental health care is different than general outpatient care in several ways. The population is generally physically healthy and younger. The goal of treatment is not only symptom improvement, but evaluation of fitness for duty. There are administrative evaluations not conducted in the civilian sector. Focus will be on new patient evaluations conducted in the outpatient setting.

## **PSY420: Rural Outpatient Psychiatry (CROSS LISTED)**

This clinically oriented elective will provide the student with exposure to rural mental health care for children, adolescents and adults in the outpatient setting. The student will participate in psychiatric evaluations and develop an understanding of the etiology, presentation, diagnosis, treatment and prognostic variables of psychiatric disorders and the delivery of care in a rural setting. The realm of anxiety, affective/mood disorders, neuro-developmental disorders, psychotic illness will be explored. Through evaluations, follow-up visits, and case presentations, the student will gain an appreciation of formulating cases with attention to biological, psychological/developmental and social/culture perspectives. The elective curriculum would include content on mental health disparities in rural areas and in the Eastern Shore. Students would be encouraged to develop case reports with their preceptors. Students will live on Virginia's Eastern Shore during this rotation in the College of William & Mary – Virginia Institute of Marine Science cottages.

## **PSY421: Emergency Psychiatry**

This clinically oriented elective will provide the student with exposure to Emergency Psychiatry in the Emergency Room at Sentara Norfolk General Hospital. The student will participate in evaluations of, but not limited to, patients with psychotic, mood, personality and substance use disorders as well as lethality. The student will evaluate the need for emergent psychopharmacology and ultimate disposition.

## **PSY417: Inpatient Geriatric Psychiatry Acting Internship**

This course is designed for seniors wishing for a sub-internship experience in Inpatient Psychiatry prior to beginning residency in Psychiatry. However, students entering the Primary Care field, who want further experience recognizing and assessing mental illness should also apply.

This elective may be beneficial for students interested in Geriatric Medicine, Internal Medicine, Family Medicine, Psychiatry or other fields that would involve the Geriatric population. The student will be exposed to the Senior Treatment Area at Sentara NGH, which is an inpatient Geriatric Psychiatry unit. This unit hosts a population of patients 65 years or older who often present with dementia, delirium psychosis, anxiety and affective states, alongside the physical impairments of various medical conditions, including movement disorders, cardiac and pulmonary conditions and progressive terminal illness. At this location, the student will work actively with the attending physician and will gain experience in diagnostic assessments, behavioral and pharmacologic management of psychiatric illness and the education of patients/caregivers. Treatment modalities include the exposure to Electroconvulsive Therapy which is an effective and safe option for medication-refractory depression, psychosis or catatonia in this population. The student will follow and manage patients daily and play an active role in team presentations. Common topics on this rotation include polypharmacy, ways to minimize confusional states, interdisciplinary management, palliative care, resources in the community and caregiver burden. Efforts will be made to expose the student to topics of interest.

## **Department of Radiation Oncology and Biophysics**

### **ROC401: Clinical Radiation Oncology**

Students will learn biology, physics, and clinical application of radiation in the management of tumors and certain specific non-malignancies. They will be exposed to the use of external beam radiation therapy using 3-D planning, IMRT, using interstitial therapy such as prostate implants. This is accomplished by new patient conferences and examination of patients. The students will learn to evaluate tumor response, acute and late normal tissue reactions to radiation therapy, and the use of chemotherapy with radiation therapy.

## **Department of Radiology**

### **RAD400: Radiology**

During the elective students will spend their mornings participating in read-out sessions in the various subspecialties of Diagnostic Radiology, spending 1-3 days in each modality. Time devoted to the sub-specialties can be tailored to the special needs and interests of the participants, such as pediatric radiology, interventional and neuroradiology, etc.(based on availability). Required reading is a basic radiology text that will be distributed to the students the first day of their rotation. Afternoons the students will attend lectures given by both attendings and residents in Radiology. Time will be allowed for self-instruction, so that students may review the ACR teaching files, web-based learning tools and radiologic anatomy. Students are expected to attend all teaching conferences held in the department at 7:00 a.m. and Noon. At the end of the rotation the student will prepare and present a short case presentation. A written and oral exam is given toward the end of the rotation.

### **RAD407: Interventional Radiology**

The Interventional Radiology (IR) elective offers the 4th year student a 4-week experience in caring for patients undergoing image-guided procedures. The student will work closely with attendings, residents, and other providers as an integral member of the IR team. Students will learn to perform basic IR procedures including PICC line placement and core needle biopsies, assist in advanced procedures including TIPS and chemo-/radioembolization, and participate in consults for the IR service.

The student will attend Department of Radiology morning (7AM) and noon didactic conferences. The student will also attend Diagnostic Radiology medical student lectures given by residents, unless he/she has already completed RAD400 satisfactorily; if so, the lecture time will be replaced with reading/study time. Required reading includes selected chapters of The Requisites: Vascular and Interventional Radiology, recommended supplemental reading for students who have not completed RAD 400 is Learning Radiology: Recognizing the Basics; both texts available through Brickell Library's Online Resources. Students will also have access to IR Lecture Series slides covering high-yield IR topics. Written exam at end of rotation will be based on the required reading. The student will also present a case during noon conference highlighting pathophysiology and interventional techniques

during the last week of the elective.

#### **RAD408: Diagnostic Radiology Ultrasound**

One to two EVMS M4 students planning a career in radiology with special interest in ultrasound will gain advanced understanding of the radiologic subspecialty while working with Radiology attendings and residents through a variety of activities including hands on scanning, developing procedural skills, didactics and self-directed learning.

We expect each student to provide 160 hours of engagement during the course of the year similar to a full four week block rotation (4 weeks x 40 hours = 160 hours) to be completed by March 15th of academic year. Given interviews and away rotations the student may not be able to participate in all course educational offerings. Maximum numbers of hours permitted for each activity will ensure a balanced experience.

### **Department of Surgery**

#### **SUR402: Clinical Surgery - Professorial Service**

The Acting Internship (AI) experience is designed to encourage senior medical students to assume patient care responsibilities similar to those of an intern (PGY-1 resident), including night call.

Exposure to broad range of surgical conditions on the wards, in the operating room and clinics and full participation on the surgery professorial service. The student will participate in weekly teaching rounds with Dr. LD Britt and other faculty small group teaching sessions.

#### **SUR404: Shock/Trauma**

This rotation is designed to introduce the student to the principles of initial assessment, resuscitation and decision making needed to deal with the multiply injured patient. Operative management, care in the intensive care unit and integration of care by multiple services are emphasized on daily rounds. The role of the Trauma Surgeon/team as coordinating physician is demonstrated especially regarding complex multi-system injury patients. The student will be assigned to one of the Trauma Teams.

Responsibilities on call include care of all new incoming patients, ongoing care in the Burn Trauma Unit and on the floor service. The student is expected to function as an integral team member under the direction of the Chief Resident and attending staff. Initial reading material will be distributed at the start of the rotation.

#### **SUR411: Surgical and Breast Oncology**

This is a senior elective (year M4) for any student interested in surgical oncology and breast surgery. The focus will be on the evaluation and staging of patients with common malignancies especially gastrointestinal cancer, breast cancer, melanoma, as well as unusual and complex problems. The importance of a well thought out treatment plan as well as the multi-modality approach to care, will be emphasized. Importance will be placed on the comprehensive management of the entire patient, not only from a medical standpoint, but also in terms of psychological, social, and rehabilitation aspects.

The student will also become familiar with the complexity of current national protocol studies. The student will be assigned to patients for twice daily rounds, procedures and ward work. Students will be required to attend the tumor conferences. During the rotation the student will be expected to perform an indepth analysis each week on a tumor specific evaluation or treatment that the student encountered and give a brief 10-minute summary to the course director. The textbook for the course is "THE M.D. Anderson Surgical Oncology Handbook, 4th Edition, Lippincott, 2006". Online reference for the course is "The National Comprehensive Cancer Network" ONCCN.

#### **SUR416: Emergency General Surgery Acting Internship**

One M4 year student per rotation will have the opportunity to work on the Emergency General Service (EGS) at Sentara NGH for four weeks. They will be expected to function at the intern level helping the R2 and chief manage the service. They will be expected to see inpatient and ED consults and to round on patients on a daily basis. Call will be every 4th to 5th night with early release post call. Students will be off at least one weekend day per week. Students will participate in patient management, placement of central lines, arterial lines, PA catheters, chest tubes, tracheostomies, PEGs and OR cases. Students will participate in all Department of Surgery conferences and didactic sessions during their rotations. Each acting intern will be responsible for organizing one EGS journal club. This elective is ideal for the student interested in surgery or the subspecialties.

#### **SUR405: The Joy of Surgery**

This elective offers the student the opportunity to observe and participate in the active care of general surgical and general thoracic surgical patients within the context of a large private practice setting. The elective offers the senior medical student the opportunity to work with a variety of surgeons in and out of the operating room setting.

Operative management and post-operative care. Introduction to new surgical techniques and application of endoscopic surgery with the opportunity to participate in clinical research is provided.

#### **SUR413: The Joy of Thoracic Surgery**

This elective offers the fourth year student interested in pursuing a career in General/Thoracic Surgery to be involved in the preoperative, operative and postoperative evaluation and management of primarily pulmonary and esophageal surgical conditions. The opportunity to be involved in clinical research is also available. The elective is in the setting of a large group private practice working at multiple hospitals.

Operative management and post-operative care. Introduction to new surgical techniques and application of endoscopic surgery with the opportunity to participate in clinical research is provided.

#### **SUR414: Clinical Pediatric Surgery**

Pediatric surgery offers the opportunity to become familiar with surgical diseases and congenital malformations affecting neonates, infants and children. The rotation also provides an



opportunity to learn the surgical indications as well as the pre- and postoperative management of these highly complicated patients.

## **Orthopedic Surgery**

### **ORT405: Orthopedic Surgery Rotation**

Patient contact and clinical aspect of basic science and orthopedic surgery.

### **ORT403: Orthopedics**

Text to serve as basic reference while on rotation, (1) Essentials of Orthopaedic Surgery, by Sam Weisel, published by Saunders. Rotator will spend approximately 0700 to 0730 in morning conference, and 0730 to 1600 in clinical setting, which will primarily be the acute care clinic, but can be other services if desired and available (i.e., total joint, sports medicine, hand, trauma, etc.) A comprehensive curriculum of lectures intended for non-orthopedists will be given during the course of the month. (2) Physical Examination of the Spine and Extremities by Stanley Hoppenfeld (Appleton-Century-Crofts).

### **ORT409: Orthopedic Surgery & Sports Medicine**

Student will follow private practice orthopedist during office hours, surgery and rounds. Student will have ample time for their own studying and reading. Student should come away with a basic understanding of orthopedic surgery and clinical evaluation of the orthopedic patient.

### **ORT411: Orthopedic Surgery & Sports Medicine**

Student will follow private practice orthopedist during office hours, surgery and rounds. Student will have ample time for their own studying and reading. Student should come away with a basic understanding of orthopedic surgery and clinical evaluation of the orthopedic patient.

### **ORT412: Orthopedic Surgery/Physical Medicine & Rehabilitation**

Students will experience all facets of Orthopedic Surgery and Spine Surgery, Office Practice and life. In addition, Physical Medicine & Rehabilitation will be included.

## **Plastic Surgery**

### **PLS403: Plastic Surgery/Reconstructive Surgery**

Students will rotate through the Plastic Surgery Service, engaging in contact with patients and assisting in surgery; attending lectures, conferences and suture workshops including microsuturing. Exposure to all aspects of reconstructive and aesthetic surgery; including breast, facial, pediatric and general plastic surgery procedures. Participation in a research project or preparation of an in-depth essay or paper on a particular subject in plastic surgery.

## **Department of Urology**

### **URO400: Urology**

This course includes experience with the broad, overall concepts of urologic disease and the practice of urology in

the hospital and office setting. There will be an emphasis on the basic diagnostic procedures and treatment of patients with disease of the genitourinary organ system, male and female. Students will participate in assigned readings, diagnostic procedures, assist at surgery, and present patients at conferences.

Students will become familiar with the American Urological Association (AUA) website - National Medical Student Curriculum, specifically the Core Content (all 9 areas) and Uroradiology cases (all 6 cases).

### **URO401: Urology**

Students will be involved as externs in clinic, inpatient care, surgery, urographic reading sessions, conferences and academic programs. Course can be tailored to meet individual's needs, interests, or special requirements.

### **URO404: Urological Surgery Acting Internship**

The Acting Internship (AI) experience is designed to encourage senior medical students to assume patient care responsibilities similar to those of an intern (PGY-1 resident), including night call. This rotation will be offered to M4 students who are interested in a career in Urology. They will be expected to function at the intern level, helping the residents and chief manage the service. They will be expected to see inpatient and ED consults and to round on patients on a daily basis. Call will be every fourth night. Students will develop a broad knowledge base of the concepts of urologic disease and the practice of Urology in the hospital and outpatient setting. Emphasis will be placed on diagnostic procedures and treatment of patients with disease of the genitourinary organ system, male and female. Students will be responsible for assigned readings, carrying out diagnostic procedures, assist at surgery, and attending all departmental conferences where they will be expected to actively participate.

Students will become familiar with the American Urological Association (AUA) website - National Medical Student Curriculum, specifically the Core Content (all 9 areas) and Uroradiology cases (all 6 cases).

## **Interdisciplinary Electives**

### **ITD426: Successful Transition to Effective Practice (STEP)**

STEP is a required rotation that addresses the core competencies (tasks) graduating students should possess prior to starting internship. STEP is divided into 2 components. The required component addresses content and skills interns are entrusted to perform unsupervised regardless of specialty.

- Gather a history and perform a PE
- Prioritize a differential diagnosis following a clinical encounter
- Recommend and interpret common diagnostic and screening tests
- Enter and discuss orders and prescriptions
- Document a clinical encounter in the patient record
- Provide an oral presentation of a clinical encounter
- Form clinical questions and retrieve evidence to

advance patient care

- Give or receive a patient handover to transition care responsibility
- Collaborate as a member of an interprofessional team
- Recognize a patient requiring urgent or emergent care and initiate evaluation/management
- Obtain informed consent for tests and/or procedures
- Perform general procedures of a physician
- Identify system failures and contribute to a culture of safety and improvement

The elective component provides students the opportunity to revisit foundational principles that are a component of the EVMS undergraduate medical school curriculum to prepare them for their specialty.

#### **ITD427: Interprofessional Education (IPE)**

This is a hybrid learning experience which means you will be learning and engaging with the content and each other in person as well as in an asynchronous online learning environment. You will be learning, getting to know each other and working together in an online learning environment, via the Internet, throughout the 2-week long IPE Learning Experience.

During this course you will:

1. complete discussion board assignments based on multimedia learning modules
2. participate in a day-long standardized patient workshop utilizing telehealth and home monitoring technology
3. be trained to develop websites and Apps to provide care at a distance
4. develop and present either a website or an App on an interprofessional team

#### **ITD430: Introduction to Scholarly Activity**

The scholarly activity requirement is designed to provide the basic tools and opportunity to develop research skills that add value to clinical knowledge and practice.

Participation in scholarly activity is a program requirement for accreditation by the ACGME (Accreditation Council for Graduate Medical Education) for all training specialties with the purpose of advancing knowledge of the basic principles of research including how research is conducted, evaluated, explained to patients, and applied to patient care.

This course provides protected time for the opportunity to further develop an area of interest and lay the foundation for a professional identity that includes systematic investigation and problem solving. Students will contribute a scholarly work to one of the 4 main domains of scholarly activity including DISCOVERY (advancing knowledge), INTEGRATION (synthesizing knowledge), APPLICATION (applying existing knowledge), or TEACHING (disseminating current knowledge).

#### **ITD428: Obesity: Surgical & Medical Management**

This elective offers the M4 student the opportunity to observe and participate in the medical and surgical management of obesity in the context of an innovative community private practice. Students will spend 1-3 days per week in the surgical and medical outpatient clinic and 1-3 days per week in the Sentara Norfolk General Hospital Operating Room. Students will observe and assist with pre-operative and postoperative patient care in clinic and in the hospital. Motivated students will have opportunities to scrub in for laparoscopic surgeries. Students will learn about private practice management and the business of medicine within a large healthcare system. Students will present a research topic during the final week of the elective.

Obesity is a major complex issue for every medical specialty. Over one third of people in the United States are obese. 300,000 US residents die of obesity-related disease every year. The cost of obesity in the United States is over \$1.5 billion per year. Since 2001, Sentara Comprehensive Weight Loss Solutions has provided rigorous, realistic patient care for those who struggle to lose weight. Medical management is centered on treating the disease processes that accompany obesity, including diabetes, hypertension, hyperlipidemia, pain and fatigue. Patients interested in bariatric surgery spend 6 months preparing physically and emotionally. Surgical procedures such as the laparoscopic sleeve gastrectomy serve as a powerful tool to improve the odds of achieving and maintaining a healthy weight over a life time. Surgical outcomes include outright cure of insulin resistance and marked improvement in weight loss over time.

#### **ITD423: Business in Medicine**

EVMS students will engage in a month of training on the basics of business management including understanding health policy, finance, quality, professional development, organizational behavior and leadership. The goal will be to equip students with a basic understanding of personal finances, practice efficiency and general management principles. To achieve this, a curriculum has been developed that will be delivered in a seminar environment with lectures and group discussions. Faculty will include local experts of varied backgrounds whose teaching will be supplemented with self-study reading materials. The resources used for self-study will include but not be limited to articles/training modules from the American College of Physician Executives, American Medical Student Association as well as a required textbook. Finally, students will create a project to teach their classmates about an aspect of business in medicine in which they have developed an interest.

#### **ITD422: ITP Course Facilitator**

The Junior Facilitator experience allows fourth-year medical students the opportunity to assist EVMS faculty in leading Clinical Skills small group sessions for first and second-year students. This is a longitudinal experience that begins with training concerning facilitating small group learning, giving strategic feedback, and evaluating learner performance. The participant will assist faculty leaders in leading small group

discussions, overseeing simulated patient interviews relevant to medical history and physical exam topics and guiding discussions about medical decision making.

The preparatory course is offered in July and August with small groups beginning in mid- August and extending through mid-March. Small groups are coordinated with the M1 and M2 schedules and observant of vacation time. Sessions are held on Tuesday or Thursday afternoon in the Sentara Center for Simulation and Immersive Learning.

By meeting the requirements of the course the student will accrue two weeks of M4 credit

#### **ITD424: Executive Leadership**

This course will expose students to leadership tools that will enhance physician decision-making in the workplace. The course explores conflict resolution, situational leadership styles, how to give effective feedback, change management principles as well as techniques to influence behavior and ensure success in performance improvement initiatives in the healthcare environment.

#### **ITD425: Patient Safety**

This course will expose students to the tools and resources available to hospitals to support a culture that provides safe patient care. The student will learn how safety is measured and monitored. The student will participate in Root Cause Analysis (RCA) training and will participate in a RCA team. The course is part classroom and part interaction with the leadership team that manages and ensures a safe environment.

#### **ITD429: Student/Physician Wellness Course Facilitator**

The M4 Facilitator experience allows fourth-year medical students the opportunity to assist EVMS faculty in developing and delivering content for first, second, and third-year students in the Student/Physician Wellness course. This elective is a longitudinal experience that begins with training on facilitating small group learning, understanding course principles, and giving strategic feedback. The participant will assist faculty leaders in leading small group discussions about student/physician wellness, preparing/giving didactic lectures, and monitoring student engagement with assignments.

The preparatory training is offered in July and August with small groups beginning in mid-August and extending through early April. Small groups are coordinated with the M1, M2, & M3 schedules, observant of vacation time. Students must be able to attend one of the two training sessions, prepare for course sessions by reading/watching preparatory materials and engaging in the reflection assignments, and participating in at least 8 of the planned small group sessions that span the academic year for M1s, M2s, and M3s. Students will also be required to submit a journal reflection and a 1-3 minute video reflection at the end of the course that will be graded by rubric.

#### **ITD436: Real-World Application of Health Policy & Finance in the Practice of Medicine**

This course will offer aspiring clinicians a unique view into the world of healthcare policy and finance. Students will be

introduced to thought-leaders in healthcare finance, and will be granted intimate access and exposure to the real-world financial ramifications of the clinical decisions they will soon be making. Through readings, exercises, and site visits, students will come to better understand health benefits in the private sector and how the associated costs play into business strategic planning; will see how those health benefits (health insurance) are understood by patients and physicians; and, will see how the choices made by employers and employees can have profound, long-lasting implications on socioeconomic wellness. Students will also become familiar with administrative tasks and learn software skills that will make them better physicians and better business men and women in the future.

#### **ITD435: Women's Health**

This M4 longitudinal elective is designed to further understanding of and develop practical approaches to several non-reproductive women's health medical issues. The elective will be most applicable to M4s who will train in Family Medicine, Internal Medicine or OB/GYN. Participants will be provided learning objectives and reading material in advance of each monthly discussion. Clinical questions that introduce the discussion will be obtained from a variety of sources including the American College of Physicians Medical Knowledge Self-Assessment Program, the OB-GYN residency study guide, the New England Journal's case based clinical discussions, and the Cleveland Clinic's Women's Health Updates. We will advance our clinical knowledge of common issues in women's health by taking advantage of review articles and examining pertinent established and new literature. Guest faculty will occasionally join in the discussions. Several recent position papers (last 18 months) addressing important women's health issues will serve as important resources to participants.

### **International Electives**

#### **ITD405: Operation Smile Inc**

Operation Smile envisions a world where every person has access to safe, well-timed and effective surgery. To make this vision a reality we work day in and day out around the world to equitably increase access to high quality surgical care. The student will observe reconstructive surgery and longitudinal care of children as a member of a multi-disciplinary medical team. The student will shadow various medical members of the team, and as such will follow patients pre-operatively, intra-operatively, and post-operatively as they gain a perspective on patient care in a resource-poor environment. The student will participate in patient education as well as observe the emphasis placed on education of team member counterparts in a developing country. The student will be responsible for the cost of their travel and accommodations, which vary depending on location.

Contact: Operation Smile Education Department 757-321-7645.

#### **ITD408: Physicians for Peace International Elective**

The elective will introduce students to international medicine as delivered by Physicians for Peace (PFP), an internationally recognized, award-winning organization established by Dr. Charles Horton, founder of the Division of Plastic Surgery

at Eastern Virginia Medical School. Its distinguishing philosophy is to combine teaching and medical education with interdisciplinary medical missions in developing countries.

#### **ITD999: Bar Ilan – Student Exchange Program**

This elective permits the assumption of greater patient responsibility on the part of the M4 student both in the outpatient and inpatient settings. This rotation is recommended if a student is interested in pursuing a residency in Ob/Gyn and desire more in depth exposure to the specialty. The faculty will be pleased to attempt to tailor a program to the student's particular interest, but the basic usual expectation should be advanced clinical management and reinforcement of cognitive material and problem solving skills. The student will function as an "acting intern".

#### **ITD999: Global Health Learning Opportunity (VSLO)**

##### **Facilitating Global Health Education**

The AAMC recognizes that with ever-increasing globalization in medicine there is growing interest on the part of medical students and medical schools to integrate international electives into their medical education. Global experiences enable students to interact with different patient populations, develop cross-cultural understanding, and learn about health systems in other nations. Increasingly, students are seeking international opportunities from their medical institutions, but not all institutions have the capacity to develop and manage such programs. Global Health Learning Opportunities (VSLO®) (pronounced "glow"), is an application service that facilitates clinical, global health, and research elective rotations globally for final year medical students. The VSLO application service fosters collaboration between U.S. and international medical schools for student mobility to create future global physicians.

##### **The VSLO Collaborative**

VSLO's streamlined application process is used by all VSLO-participating institutions. The VSLO community will assist you with advice from host institutions and medical students, and offers resources for supporting your international travel and temporary stay.

##### **Why pursue an elective abroad?**

As a VSLO® participant, you will:

- Work with different patient populations
- Learn about global health systems
- Increase your intercultural understanding

### **Rural and Frontier Electives**

#### **FAM404: Rural Medicine (CROSS LISTED)**

This elective is designed to provide an in-depth experience in community/rural medicine. Student will work with a family physician in a rural primary care office. Travel may be necessary to Franklin/Courtland, VA, Western Tidewater, the Eastern Shore, or other sites.

#### **FAM426: Frontier Medicine (CROSS LISTED)**

This elective is designed to provide an in-depth experience in frontier/rural medicine, experience with environmental and occupational health, inter-professional team based care, and health information technology (HIT) that ridges care for frontier populations. Student will work with a family physician in rural primary care office and in the Frontier Community Clinic (<http://tangierclinic.org/>) with Physician Assistant Inez Pruitt. Travel will be necessary to the Eastern Shore and Tangier Island. Students should be prepared to stay in housing/dorm provided. Students will need to undergo rotation specific training for Riverside Health Systems prior to clinical experiences. Students should be prepared to fly to Tangier Island with physician supervisor or take the ferry.

#### **INT420: Internal Medicine (CROSS LISTED)**

This program offers a perspective in internal medicine and its subspecialties available in a rural, referral hospital. Student responsibility is commensurate with interest and capability. The student will be expected to act as a house officer. Students from MCV rotate regularly through this hospital. A private suite of rooms is available, with meals and laundry provided. The expense of room and board are borne by the hospital.

#### **PSY420: Rural Outpatient Psychiatry (CROSS LISTED)**

This clinically oriented elective will provide the student with exposure to rural mental health care for children, adolescents and adults in the outpatient setting. The student will participate in psychiatric evaluations and develop an understanding of the etiology, presentation, diagnosis, treatment and prognostic variables of psychiatric disorders and the delivery of care in a rural setting. The realm of anxiety, affective/mood disorders, neuro-developmental disorders, psychotic illness will be explored. Through evaluations, follow-up visits, and case presentations, the student will gain an appreciation of formulating cases with attention to biological, psychological/developmental and social/culture perspectives. The elective curriculum would include content on mental health disparities in rural areas and in the Eastern Shore. Students would be encouraged to develop case reports with their preceptors. Students will live on Virginia's Eastern Shore during this rotation in the College of William & Mary – Virginia Institute of Marine Science cottages.





## **Graduate Medical Education: Fellowships**

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The office of Graduate Medical Education provides the administrative oversight of all residency and fellowship training programs at Eastern Virginia Medical School. Our community-based Graduate Medical Education is one of the nation's few training programs in which all residencies are integrated among a number of hospitals and community clinic settings, instead of one fixed setting such as a university hospital. Our residents work at 14 teaching affiliate hospitals, staffing hospitals 24 hours a day, implementing new treatment methods and conducting research. We train approximately 350 residents and fellows each year. The EVMS Vice-Dean of GME serves as the Accreditation Council for Graduate Medical Education (ACGME) Designated Institutional Official. The GME professional staff serve as the liaisons to the training programs for support regarding their educational program needs.

# **EVMS**

**Eastern Virginia Medical School**