

MEDICINE, DOCTOR OF (M.D.)

The program for the M.D. degree is divided into four phases. The Scientific Foundations of Medicine emphasizes the basic science concepts within a clinical context every student must master to progress with a medical education. The Applied Medical Sciences integrate basic science principles with pathophysiology and treatment using an organ-system approach. The last two years include the Clinical Concentrations and Advanced Clinical Concentrations. Students are expected to successfully complete clerkships in eight core areas in addition to advanced training that assesses their competency to practice with supervision. There are opportunities for students to enroll in electives throughout the clinical concentrations to enrich their medical experience and to assist them in planning a career within a specific field of medicine.

Admissions

[medschool.vcu.edu/admissions](http://www.medschool.vcu.edu/admissions/) (<http://www.medschool.vcu.edu/admissions/>)

The School of Medicine participates in the American Medical College Application Service. The AMCAS application forms can be obtained from AMCAS, 2450 N. St., N.W., Washington, D.C. 20037-1126. The electronic application is available on the AMCAS website (<http://www.aamc.org/students/amcas/>). Updated information is available at the School of Medicine website (<http://www.medschool.vcu.edu>). Application for the School of Medicine should be made during the first week of June of the year preceding intended matriculation. Letters of recommendation can now be submitted with the AMCAS application.

The closing date for filing applications for this institution is Oct. 15 of the year preceding the enrollment date. Priority for admissions is given to Virginia residents; however 45 percent of each class is from out of state. Members from disadvantaged populations are encouraged to apply to the School of Medicine. Students previously dismissed from a medical school will not be considered. All applicants must be U.S. citizens, permanent residents of the U.S. or Canadian citizens at the time of application. Permanent residents must submit their cards prior to file review.

A nonrefundable \$80 application fee and supplemental information, including letters of recommendation, are required with all applications accepted for further consideration. The final date for returning supplemental information is Jan. 31 of the year of possible enrollment in the School of Medicine. Students are given individual deadlines which are 60 days from the date the Supplemental Application is granted.

The School of Medicine will not matriculate students from other health sciences schools at VCU or any other school until such students have completed the degree program for which they are enrolled.

The School of Medicine participates in the Early Decision Plan. This program permits an applicant to file a single application through AMCAS by Aug. 1. All applicants filing under the Early Decision Plan will receive consideration for admission and a response on or before Oct. 1. All applications for the Early Decision Plan must be supported by the results of the new MCAT test at the time the application is made.

The early notification date of this plan ensures that those who are unsuccessful have ample time to request further distribution of their applications to other medical schools. Further information on the Early Decision Plan is available with the AMCAS application.

Requirements for entrance

The MCAT is required as part of the application. It is necessary that the test be taken no later than September of the year of application. This test is produced by the American College Testing Program, P.O. Box 414, Iowa City, IA 52240, and is administered in colleges and universities throughout the country. Information about the MCAT is available through premedical advisers or directly from the American College Testing Program.

Applicants may be admitted on the basis of 90 semester hours of outstanding achievement. The majority of successful candidates have a college degree at the baccalaureate level or higher. The college major for premedical students should be selected in accordance with the individual student's aptitude and interest. The prerequisites for the School of Medicine have been reduced to a minimum in order to permit the widest possible latitude in preparation for medical education.

Prerequisites for admission include a minimum of 90 semester hours (or the equivalent) in a U.S. or Canadian college or university accredited by the regional accrediting agency. This program of study must include a minimum of:

1. English – two semesters (one semester to include grammar and composition);
2. College mathematics – two semesters;
3. Biological science – eight semester hours, including laboratory experience. This requirement may be satisfied by general biology, general zoology or botany. No more than half may be botany;
4. General or introductory chemistry – eight semester hours, including laboratory. An appropriate portion of this requirement may be met by courses in analytical chemistry or physical chemistry;
5. Organic chemistry – eight semester hours, including laboratory. This course should be equivalent to and acceptable for continued studies in a chemistry major;
6. General or introductory physics – eight semester hours, including laboratory experience.

Students are encouraged to pursue their own intellectual interests in college in order to obtain a broad education consistent with their major program. Courses in medically related science areas will not relieve the student of his/her responsibility for these subjects in the medical curriculum.

Selection factors

Demonstrated academic ability, as well as attributes of character and personality, are of significance to the admissions committee in the selection process. A review of academic achievement as represented by the standard academic record and summaries, MCAT scores, evaluations and interviews are all sources of information on which the comparative evaluation process is based. A review of the completed application file and interviews with members of the admissions committee are an integral part of the admissions process.

Noncognitive variables also are sought in all candidates. These qualities include, but are not limited to, health care experience, community service and social concern, communication skills both written and oral, leadership, ethical and moral behavior, creativity, compassion and empathy, altruism, personal maturity, self-confidence without arrogance, appropriate motivation, the ability to realistically self-appraise, and a demonstrated ability to work as a team member. These qualities and characteristics are judged by references within the letters of recommendation and from a careful review of the student's essays and extracurricular activities, as well as the interviewers' assessment

during the interview. The School of Medicine hopes to create a learning environment where students will meet colleagues whose life experiences and views differ significantly from their own. A physician must be at home and at ease in a wide variety of environments and with a wide variety of people. Students frequently comment that the aspect of the school they appreciate most is the diversity of their class. The admissions process seeks to foster that diversity of perspective and background by admitting students from a wide range of backgrounds – socioeconomic, cultural, geographic and educational. Health care experience is also examined as a true evaluation of the motivation of the candidate for a career in medicine.

The interview is an opportunity for the applicant to become acquainted with the institution and it offers additional information for the selection process. Only on-campus interviews in Richmond are available. Each year more applicants are interviewed than can be accepted in the class. Therefore, an interview is not an indication of acceptance to the School of Medicine.

Offers for admission are made in the Early Decision Plan on Oct. 1 and on the uniform acceptance date after Oct. 15, with admissions occurring at several points thereafter until the class selections have been completed. The approximate dates for acceptance decisions are Oct. 16, Dec. 15, Feb. 1 and March 15. At the time the class is filled, an alternate list of applicants is compiled from which replacements are drawn for any vacancies that may occur in the selected class between notification and the third week of class attendance.

Since selections are made in advance of actual attendance, all acceptances are made on condition of satisfactory completion of courses planned or in progress. It is expected that candidates will maintain acceptable standards of deportment. Students offered acceptance into a class are expected to respond within two weeks of the offer. If such a response presents a problem, extension of the time for the response should be requested. After March 31, students are selected from a wait list of very good candidates until the first day of orientation in August.

The enrollment of accepted candidates is considered complete only after payment of the \$100 deposit toward the first tuition payment. This deposit will be returned to the candidate should withdrawal occur prior to May 15 of the year of attendance. By the act of matriculation into the School of Medicine, the student accepts the responsibilities related to this opportunity and agrees that during the time that he/she is a registered student he/she will follow the rules and regulations established by the governing bodies of the School of Medicine and the university.

Transfer in advanced standing

Background

It is incumbent upon the School of Medicine to delineate the circumstances under which a student may transfer in advanced standing from another medical school; the number of transfers that will be allowed so as not to encumber educational resources for currently enrolled students; and to assess the qualification of transfer students to assure that they have had a comparable educational experience at the time of matriculation.

Policy

1. Medical students may only transfer into the VCU School of Medicine under rare and extraordinary circumstances (e.g., natural disaster that prevents continued education at the student's home institution, loss of accreditation by the home institution).

2. Only students from schools that are currently accredited by the LCME or that have recently lost accreditation will be considered for transfer. Osteopathic and international students and those from off-shore medical schools may not transfer.
3. Only U.S. and Canadian citizens and permanent residents may apply to transfer.
4. Students may only transfer into the clinical concentrations component of the curriculum and must complete all of their required clerkships and advanced clinical experiences at the VCU School of Medicine.
5. The senior associate dean for medical education will determine by January of each academic year if there are positions for transfer that would not impede on current resources.
6. Students seeking transfer must submit the following information by Nov. 1 of the year prior to transfer:
 - a. A letter of interest delineating the specific circumstances for transferring
 - b. A copy of the original AMCAS application
 - c. An official transcript from their current school of medicine
 - d. A letter of support from their school's dean of medical education or student affairs
 - e. A copy of the USMLE Step 1 verifying that that student has passed the examination
 - f. A non-refundable processing fee of \$100
7. Information for transfer should be mailed to:

Senior Associate Dean for Medical Education and Student Affairs
Virginia Commonwealth University School of Medicine
McGlothlin Medical Education Building
1201 East Marshall Street, 4th Floor
Box 980565
Richmond, VA 23298-0565
8. The senior associate dean for medical education and student affairs or his/her designee shall review the transcript and possibly contact the applicant's home school to determine that the educational experience is comparable to that of one of our students entering the clinical concentrations. In addition, criteria for comparability shall include, but not be limited to, GPA, USMLE scores and MCAT scores.

Applicants that have met the above requirements and who are deemed to add value to the current group of student will be offered interviews by the administrative staff of the School of Medicine. Holistic interviews will be completed similar to those seeking initial admission to the medical school.

Applicants will be notified of a final decision no later than Jan. 31 of the year of transfer.

Disability support services

Virginia Commonwealth University in agreement with Section 504 of the Rehabilitation Act of 1973 and The Americans with Disabilities Act of 1990 provides reasonable accommodation to any individual who advises us of a disability. We wish to provide new and current students who have a disability the opportunity to voluntarily identify themselves.

Early identification permits the Division for Academic Success the opportunity to acquire verification of the disability, if required, and the opportunity to get appropriate accommodations in place as soon as possible. All accommodations request are handled on an individual basis. Examples of some accommodations are; extended test taking time, alternative testing format, note takers, readers, scribes, quiet testing area,

sign language interpreters, assistive technology and computer software programs which are located in the library for student use.

If you are an individual with a disability and wish to identify yourself as such, please contact the Division for Academic Success. It is important to note that all disclosures are confidential and are released only with your permission. A comprehensive VCU Handbook for Students with Disabilities is available upon request. **Be sure to include your name, address and phone number if you write.** We also are available to answer questions about accommodations and services.

Mail: Director, VCU Division for Academic Success, Box 980124, Richmond, VA 23298-0124; phone: (804) 828-9782 or VTDD (804) 828-4608; FAX (804) 828-4609; or das.vcu.edu (<http://das.vcu.edu/>)

C³ curriculum

The C³ curriculum was initiated with the matriculating class of 2017. The curriculum is competency-based, centered on the needs of learners and clinically relevant. The program for the M.D. degree is divided into four phases (a more detailed description of each follows):

- The Scientific Foundations of Medicine
- The Applied Medical Sciences
- The Clinical Concentrations
- The Advanced Clinical Concentrations

In addition, there are four longitudinal courses that run the expanse of the four years of medical school:

- The Practice of Clinical Medicine
- The Physician, Patient and Society
- Population Health and Evidence-based Medicine
- Interprofessional Education

Point of Care Ultrasound is taught longitudinally over 18 months during the preclinical curriculum.

The program for the M.D. degree will be divided into four phases:

M1: The Scientific Foundations of Medicine – These sections comprise the first semester and provide the foundational knowledge necessary for the practice of medicine.

- Molecular Basis of Health and Disease
- Fundamentals of Physiology
- Principles of Autonomics and Pharmacology
- Infection and Immunity
- Foundations of Disease

M1-M2: The Applied Medical Sciences – These sections are taught during the second and third semesters. Using an integrated, organ-system approach, normal functioning is taught in tandem with disease and its treatment.

- Musculoskeletal
- Hematology/Oncology
- Gastroenterology
- Endocrinology
- Reproduction
- Cardiovascular
- Pulmonary

- Renal
- Nervous System
- Behavioral Sciences

M3-M4: The Clinical Concentrations – Covering the remaining two and one-half years, the clinical concentrations include traditional clinical clerkship training, electives and advanced clinical training in field(s) of interest. Scheduling flexibility permits students to intersperse elective opportunities immediately to promote exploration of career interests and maximize individual learning needs. Specialty-specific choices such as electives and advanced clinical training opportunities are selected with the guidance of a specialty adviser. All students complete eight core clerkships, two acting internships and a variety of electives as listed below:

- Core clerkships
 - Family medicine (4 weeks)
 - Internal medicine (8 weeks)
 - Neurology (4 weeks)
 - Obstetrics/gynecology (6 weeks)
 - Pediatrics (6 weeks)
 - Psychiatry (4 weeks)
 - Surgery (8 weeks)
 - Ambulatory (4 weeks)
- Advanced clinical training
 - Inpatient acting internship
 - Critical care acting internship
- Specialty-driven electives
 - Foundational
 - Advanced
 - Non-clinical

The Practice of Clinical Medicine: This longitudinal course begins the first week of medical school where students participate in an intensive “boot camp” to learn the essentials of obtaining a history and physical examination. The week culminates with students performing their first complete history and physical examination on a standardized patient. Throughout the first two semesters, students learn to develop communication skills, how to ask patients about specific types of historical information (e.g., sexual history) and detailed organ-specific examinations. Students practice these skills using standardized patients in our state-of-the-art simulation center. The third semester, students are placed with community preceptors to practice these skills with actual patients. The course continues in the clinical and advanced clinical concentrations as students rotate through seven clinical areas and begin assuming the responsibilities to prepare themselves for residency.

The Physician, Patient and Society: This course encompasses the humanistic, ethical and legal responsibility of physician to their patients and society. Topics covered include career and professional development, the physician-patient relationship, integrative/complementary medicine, palliative care, spirituality, health disparities, physician bias and cultural competency, and the practical application of ethics and law to the practice of medicine.

Population Health and Evidence-based Medicine: During the first three semesters, students develop an understanding of the determinants of health such as socioeconomic, educational and environmental circumstances, the assessment and measurement of health status at the population level, the ability to effectively evaluate the quality of medical literature, and biostatistics. During the clinical concentrations and

advanced clinical concentrations the course focuses on the application of prior knowledge in analyzing evidence which contributes to decision-making in patient care.

Interprofessional Education: This course involves learners from the various health professions schools. Introductory course work encompasses topics such as team formation, defining quality, improving quality, leadership, complexity and error, measuring error, error-prevention tools and techniques, and an independent quality/safety improvement project. During the clinical and advanced clinical concentrations students will study and analyze in real time the impact of safety/quality improvement projects within the various health systems where clinical rotations are performed.

Ultrasound: The VCU Point of Care Ultrasound course is a longitudinal course that runs through the first 18 months of the pre-clinical curriculum. The course gives students the chance to learn bedside clinical ultrasound at the same time they are learning basic physical exam and history skills in their Practice of Clinical Medicine course. The course consists of 15 sessions with ultrasound-trained practicing clinical faculty that provide direct feedback and guidance to the learner. Each session will have a Standardized Patient to scan, and pathology will be discussed or displayed on the simulators.

U.S. Medical Licensing Examination

All students are required to pass the U.S. Medical Licensing Examination Step 1 prior to the start of the clinical concentrations.

Students who do not pass the examination on the first attempt will be placed on a leave of absence. During this time the student will be allowed two additional attempts to pass the examination. Failure to pass the examination after three attempts will result in immediate dismissal. Students who fail Step 1 on the first attempt may request additional financial aid to take a commercial board preparation course. These funds will be granted one time only.

All students are required to take the USMLE Step 2 CK for the first time after completion of their core clerkships (family medicine, internal medicine, neurology, ob/gyn, pediatrics, psychiatry and surgery) or at least six months prior to the anticipated date of graduation. Failure to do so will result in dismissal. Students are required to pass USMLE Step 2 CK for graduation. Students are allowed three attempts to pass Step 2 CK. If they do not pass by the third attempt, they will be automatically dismissed.

Withdrawal from the School of Medicine

Students may withdraw after meeting with the senior associate dean for medical education and submitting a letter requesting withdrawal.

Requirements for graduation

The degree of Doctor of Medicine will be conferred by Virginia Commonwealth University upon candidates who, in the opinion of the medical faculty, have:

- Attained the school's educational competencies as evidenced by satisfactory completion of prescribed courses, clerkships, clinical experiences and examinations, by proven clinical skills and responsibilities, and by ethical standards
- Passed Step 1 and Step 2 CK of the U.S. Medical Licensing Examination before graduation

- Attended the School of Medicine for a minimum of two years, one of which must be an academic year of clinical rotations
- Discharged all financial obligations to the university

Sample plan of study

Course	Title	Hours
M1 year		
Fall semester (MEDI 100): 20 weeks		
	Transition to Medical School	
	Practice of Clinical Medical Bootcamp	
	Molecular Basis of Health and Disease	
	Principles of Physiology	
	Principles of Autonomics and Pharmacology	
	Immunity and Infection	
	Foundations of Disease	
	Practice of Clinical Medicine	
	Patient, Physician and Society	
	Population Health and Evidence Based Medicine	
	Ultrasound	
	Diagnostic Reasoning	
Spring semester (MEDI 150): 21 weeks		
	Marrow (Hematology / Oncology)	
	Movement (Musculoskeletal)	
	Gastrointestinal	
	Endocrine	
	Reproduction	
	Practice of Clinical Medicine	
	Patient, Physician and Society	
	Population Health and Evidence Based Medicine	
	Ultrasound	
	Diagnostic Reasoning	
M2 year		
Fall semester (MEDI 200): 22 weeks		
	Cardiovascular	
	Pulmonary	
	Renal	
	Mind, Brain and Behavior	
	Practice of Clinical Medicine	
	Patient, Physician and Society	
	Population Health and Evidence Based Medicine	
	Ultrasound	
	Diagnostic Reasoning	
Spring semester (MEDI 250): 12 weeks		
	Step 1 Study	
M3 year		
Fall and spring semesters (MEDI 300): 50 weeks		
	M3 Transitions to Clerkships Workshops	
	Internal Medicine Clerkship	
	Surgery Clerkship	
	OB/GYN Clerkship	
	Pediatrics Clerkship	
	Family Medicine Clerkship	

Neurology Clerkship
Psychiatry Clerkship
Ambulatory Clerkship
Foundational Career Exploratory Elective (FE)
Patient, Physician and Society
Population Health
M4 year
Fall and spring semesters (MEDI 400): 49 weeks
Two acting internships, one ward and one critical care (four weeks each)
Step 2 Clinical Knowledge and Clinical Skills exams
Five specialty electives (four weeks each)
Up to five non-clinical electives (four weeks each)
Population Health
Interprofessional Critical Care Simulations
M4 Capstone Course

VCU's School of Medicine participates in the Consortium of Accelerated Medical Pathway Programs, which includes more than 25 medical schools that offer an accelerated curriculum.

The competency-based graduation program allows students to complete the medical curriculum in three years instead of four and gain a head start in the chosen specialization. The program assesses competency through rigorous assessments of entrustable professional activities and specialty-specific milestones. In addition to a continuum of education, training and practice, goals of implementing a three-year graduation program include the reduction of student debt and retaining students at VCU Health who will ultimately practice medicine in Virginia. Having students rapidly enter the workforce will aid in the impact of the impending physician shortage.

Students may express interest in the program at the end of the first year of medical school. Students are selected for the program through a rigorous review process including assessment of pre-clinical grades; audit of feedback from patient encounters, preceptors and small group leaders in the Practice of Clinical Medicine course; an interview with the specialty residency director; and an essay of interest. Approximately halfway through the third-year clerkship phase, there will be an intensive review to determine if the student is on track with their competency achievement to be able to graduate after their clerkship year (May of their third year or summer of their fourth year.) The student will apply to VCU Health or a VCU Community Family Medicine residency program and enter the match in December of their third year.

Students accepted into the competency-based graduation program follow the same third-year curriculum with the exception of the foundational elective period being replaced by the fourth-year acting internship requirement and the first block of the traditional fourth year is replaced with a critical care elective. Students are assigned to a specialty coach with whom they meet regularly to review assessment data as well as set and achieve performance and wellness goals. Students also complete the Step 2 Clinical Knowledge and Clinical Skills exams in the third year instead of the fourth.

The goal of the program is multifaceted in that it will 1) attract high-achieving students to the VCU School of Medicine, 2) improve the transition from undergraduate medical education to graduate medical education through a transparent handover including the coach, program director and student, 3) retain high-achieving students as residents at VCU Health and 4) address the physician shortage in that students who remain in Virginia for residency are more likely to stay and practice in the state.