



## Considering Medical School (M.D. or D.O.)? Steps for Success

### 1. Understand the “Core Competencies”

Medical schools expect all applicants to have developed 15 Core Competencies. Know what these are and challenge yourself to find opportunities that push you towards growth. Reflect on why these are important characteristics for future physicians. Complete the [AAMC's Anatomy of Applicant Self-Assessment Guide](#).

### 2. Choose a major that inspires you & take courses from a variety of disciplines

Find a major that excites you...and then dive into it with passion and intellectual curiosity. There are no “required” majors for premedical students. Since the practice of medicine is both art and science, medical schools value academic breadth. You will need to plan out a curriculum that allows you to complete courses necessary for MCAT preparation and/or to fulfill medical school prerequisites.

### 3. Prioritize your academics

Medicine is a serious and intense profession. Admissions committees are looking for students who have fully engaged in their academics. College coursework requires a high level of organization and commitment. Honest self-reflection and a willingness to seek out help are characteristics that will help you continually improve and succeed in your studies. Time management is key to allow you to find non-academic areas of engagement that add to your growth without compromising your academic commitments.

### 4. Vet the profession

Gain exposure to health fields: Shadow MDs, DOs, PAs and /or NPs in your hometown during vacations and find physician contacts here in Burlington; [volunteer at UVM Medical Center](#); consider summer or per diem school year jobs working directly with clients/patients as a personal care assistant, medical assistant, or EMT; use Handshake and other job search engines to find health-related internship or job opportunities; pursue experiences in clinical research or medically related basic science research (UVM's [Office of FOUR](#) can help). Read books and articles written by physicians and others about important issues in health care.

### 5. Practice what you preach

“Helping people” is an action item. Use your college years to find meaningful volunteer work (which does not need to be medically related). Choose experiences on and off campus that show you firsthand the social, cultural and political influences on health, healing and access to health care. Engage with people over a sustained time period and develop meaningful connections with them. Let your passions and interests drive your volunteering so that your efforts are genuine, enjoyable and sustainable.

### 6. Engage with the UVM community

Try new things, then find a few ways to deeply immerse yourself (rather than superficially engaging in multiple activities). Teamwork, communication, social skills, reliability & dependability, ethical responsibility, and leadership are some of the Core Competencies that can be developed through part-time work on campus or engagement in [SGA Clubs](#), including academic, identity, theater, music & media, and academic/preprofessional organizations. Build leadership skills through your Club work or involvement in Residential Life (e.g., [RA](#), [orientation leader](#)), [Center for Academic Success](#) or [Writing Center](#) (e.g., [Tutor](#), [Supplemental Instructor](#)), [Career Center](#) ([Peer Mentor](#)); or as a Teaching Assistant for course(s) in which you excelled.

### 7. Keep your mind and options open

Anyone considering allopathic medical school (M.D.) should also investigate osteopathic medicine (D.O.) to determine the best fit. In addition, be open to exploring related fields like optometry, podiatry, public health, nursing or complementary/integrative medicine. You might also realize that the health fields are not for you. The Career Center Counselors can help you identify your strengths and potential career opportunities wherever your interests and experiences lead you.

### 8. Get to know your faculty & advisors

You will need at least 3 academic letters of recommendation (2 from science professors). Actively participate in class, attend office hours, and get to know faculty in and out of your department. UVM offers a “Committee Letter” if you meet eligibility requirements. Attend information sessions sponsored by the Pre-Health office. Meet with the Pre-Health Advisor in the Career Center at least once yearly to reflect on your goals and application timeline.

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## AAMC CORE COMPETENCIES<sup>1</sup>

### Pre-Professional Competencies:

- **Service Orientation:** Recognizes and acts on responsibilities to society; locally, nationally, and globally.
- **Social Skills:** Adjusts behaviors appropriately in response to social and behavioral cues; treats others with respect.
- **Cultural Competence:** Engages diverse and competing perspectives as a resource for learning, citizenship, and work; recognizes and appropriately addresses bias in themselves and others; interacts effectively with people from diverse backgrounds.
- **Teamwork:** Works collaboratively with others to achieve shared goals; puts team goals ahead of individual goals.
- **Oral Communication:** Effectively conveys information and listens effectively to others, even when communication barriers are present.
- **Ethical Responsibility to Self and Others:** Honest/ethical behavior, personal/academic integrity; follows rules and procedures; resists peer pressure to engage in unethical behavior; encourages others to behave in honest and ethical ways.
- **Reliability and Dependability:** Takes responsibility for personal actions and performance.
- **Resilience and Adaptability:** Effectively adapts to stressful/changing environments; persistent, even under difficult situations; recovers from setbacks.
- **Capacity for Improvement:** Sets goals for continuous improvement and for learning new concepts and skills; engages in reflective practice for improvement; solicits and responds appropriately to feedback.

### Thinking and Reasoning Competencies:

- **Critical Thinking:** Uses logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- **Quantitative Reasoning:** Applies quantitative reasoning and appropriate mathematics to describe or explain phenomena in the natural world.
- **Scientific Inquiry:** Applies scientific process to integrate & synthesize information, solve problems, formulate research questions and hypotheses; is facile in the language of the sciences and uses it to participate in the discourse of science.
- **Written Communication:** Effectively conveys information to others using written words and sentences.

### Science Competencies:

- **Living Systems:** Applies knowledge and skill in the natural sciences to solve problems related to molecular and macro systems including biomolecules, molecules, cells, and organs.
- **Human Behavior:** Applies knowledge of the self, others, and social systems to solve problems related to the psychological, socio-cultural, and biological factors that influence health and well-being.

<sup>1</sup>The Core Competencies for Entering Medical Students. Association of American Medical Colleges. <https://students-residents.aamc.org/applying-medical-school/article/core-competencies/>[Accessed 29 May 2018]



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## Course Preparation for Medical School (M.D. or D.O.)

### General information (See list on flip side of page)

Requirements for medical school are changing, with some schools converting to “competency-based” evaluations (i.e., evidence of proficiency) rather than requiring specific courses as prerequisites. This makes it difficult to provide a single list of courses that will be appropriate for all medical schools. Carefully (& periodically) review the admissions information at all the medical school(s) in your home state and at least 1-2 of your “dream schools” to stay current with changing information.

The list of recommendations on the following page was created based on the coursework most likely to adequately prepare you for the MCATs and meet the requirements of many allopathic (M.D.) and osteopathic (D.O.) medical schools. Note that if you are a science major, many of these courses will already be requirements for your degree. Check individual school websites to determine requirements for organic chemistry and biochemistry.

### Advanced placement (AP) / dual enrollment credits

Medical schools have varying policies with regard to how AP course credits are handled. Before assuming that AP credit will suffice for prerequisite credit or MCAT preparation, talk with your academic and Pre-Health advisors and consult the admissions websites for the medical schools in your home state. Note that in order to be considered, the credit must be stated on UVM’s transcript. Even schools that do accept AP credit will usually recommend / require the student to take advanced coursework (with lab) in that discipline. AP credit is more likely to be accepted for physics, calculus, and English and less likely for chemistry and biology. Students with demonstrated mastery of basic biology through AP credit may be offered BCOR 21 (Accelerated Biology). Two additional upper-level biology courses are strongly recommended (BCOR 103 and BCOR 101) for students who receive Biology AP credit.

### Study Abroad / Community College Courses / Summer Course work

Study abroad is encouraged as it allows you to grow in unique ways, although it requires advanced planning. There are many two-semester-sequence courses in the typical premedical curriculum. We strongly advise against taking required/recommended premedical science or social science courses during the study abroad program.

Medical schools prefer when science courses are taken during the regular fall or spring semester at your home institution. Academic success while taking multiple challenging courses provides admissions committees with important predictive information as to likelihood of success in an intense medical school curriculum.

For extenuating circumstances that require summer coursework, it would be preferable to use the summer to take courses that are not medical school prerequisites. If prerequisites are taken during the summer, keep in mind that not all schools will accept community college credits and most schools will want all upper level science coursework to be taken at the home institution (or another 4-year college or university). If you are considering community college courses, review multiple medical school admission websites (especially from your home state and any “dream schools”) to determine whether that will be broadly acceptable. To demonstrate competency in coursework taken outside of your institution, your MCAT scores in that topic area will be particularly important, so the course that you choose should be equivalent in scope and rigor to the comparable UVM course.

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## Pre-Medical Course Recommendations

### BIOLOGY

**A minimum of two semesters with lab, satisfied by:**

Non-majors: *Principles of Biology (BIOL 001 & 002)*;

Most life science majors: *BCOR 011 & 012*

Students with advanced coursework: *BCOR 021 & 103*

Some CNHS & Biomedical Engineering majors:

*MLRS 034 & BIOL 002*

NOTE: BIOL 003 is NOT appropriate for premedical students. If this course is in the degree plan for your major, consult your advisor PRIOR to the semester to substitute one of the sequences above)

**Additional Biology coursework recommended for Non-science majors:**

*Genetics (BCOR 101) and/or Molecular & Cell Biology (BCOR 103)*

### GENERAL CHEMISTRY

**2 semesters of General Chem with lab, satisfied by:**

Non- majors: *General Chemistry 1 & 2 (CHEM 031 & 032)*;  
Chemistry/Biochemistry majors: *CHEM 165 & 231 & Labs 051/ 052*

NOTE: CHEM 023 is NOT appropriate for premedical students. If this course is in the degree plan for your major, consult your advisor PRIOR to the semester to substitute one of the sequences above.

### BIOCHEMISTRY & ORGANIC CHEMISTRY

Admissions requirements are changing. Some medical schools will accept one semester of organic chemistry plus one semester of biochemistry IF BOTH courses have labs. If biochemistry is taken without lab, a full year of organic chemistry is necessary to complete the requirements at many schools. Based on current UVM course offerings, the following sequences are recommended:

Non-majors: *CHEM 141 & 142* and *BIOC 201 –Fundamentals of Biochemistry (temporary course # is BIOC 295)*.

Chemistry/Biochemistry majors: *CHEM 047 & 048* and *BIOC 205 (+ 206 – recommended for MCAT preparation)*

Note: CHEM 026, 042, 044 are NOT appropriate for premedical/pre dental students. If one of these courses is in your degree plan for your major, consult your advisor to substitute CHEM 141.

### PHYSICS

**Two semesters of Physics with lab, satisfied by:**

Non-majors: *Elementary Physics (PHYS 011 & 012 and labs 021 & 022)*.

CEMS majors: *Recommendations vary (e.g., PHYS 051 & 152 or PHYS 031 & 125 + lab 022)*

### STATISTICS/MATHEMATICS

Knowledge of many mathematical concepts and an ability to analyze and manipulate scientific data are necessary for success on the MCATs, although no calculus is required for the exam. All medical schools highly recommend statistics (some require it); some schools recommend, and some require, calculus. Many premedical students take calculus as part of their major requirements. If your major does not require calculus and you have received AP credit for calculus, you may elect to only take statistics. If you do not have AP calculus credit, taking one semester each of calculus and

**A suggested approach to fulfill recommendations at nearly all schools would be:**

One semester of calculus –any 1 course is generally acceptable (MATH 019 or 021) **AND** STAT 141 (preferable to STAT 111)

Those students interested in additional statistics might benefit from Medical Biostats & Epidemiology (STAT 200).

### ENGLISH/HUMANITIES/WRITING-INTENSIVE COURSES

Recommendations/requirements vary significantly.

At least one semester of English composition and an additional writing intensive class is recommended as a minimum. Some schools will require two English courses on your transcript. All TAP classes and HCOL 085 seminars are considered writing intensive courses. Check websites for M.D. and D.O. schools.

Humanities courses are **highly** encouraged, as all schools value breadth of study.

### SOCIAL SCIENCES

An understanding of the psychological and sociocultural factors that influence human perception, interactions, behavior, health and access to health care is important for MCAT and career preparation. Introductory courses in psychology (PSYS 001) and sociology (SOC 001 and other SOC courses) are recommended, as are relevant courses in other disciplines (e.g., ANTH, EC, POLS, GSWS)