COURSE REQUIREMENTS AND D-PLANNING DOCUMENT

FOR STUDENTS INTERESTED IN MEDICAL (MD, DO), DENTAL, OR VETERINARY SCHOOL

(For other health professions, please check with an advisor for more information)

We encourage you to meet with a Pre-Health Assistant Dean early on, and again at least once or twice per year (or more) to confirm that you are taking appropriate courses in a timeline that works for you, and in a manner that supports your goals.

At Dartmouth, the following courses are considered to be adequate preparation by medical and dental schools, although veterinary schools have additional course requirements. Other health professions, such as physician assistants, nursing, and physical therapists (PT) have similar, but different requirements, which your Pre-Health Advising Deans can discuss with you. These courses also prepare you for the required admissions exams (MCAT, DAT) and should be completed before taking those exams. To obtain information about specific schools, refer to their websites, as these are often changed without notice.

There are several ways to navigate the following courses. **Work with your Pre-Health Assistant Dean to help you determine a plan that best fits you**. We can also help you shift your plan if you have new information about your goals or other academic and co-curricular commitments.

"Going straight through," (i.e., starting medical/vet/dental school in the summer after you graduate) assumes completing all the coursework required to prepare for the MCAT and taking the MCAT by the end of your Junior spring. The application itself is a **unique, year-long process** that begins in the summer. Due to the time it takes to develop all the academic and extracurricular preparation, at least 85% of Dartmouth students plan to complete this coursework by the end of their senior year, with time to take the MCAT by the end of senior spring (or sooner) and apply the summer after graduation. Applicants will either have a job or other meaningful experience while going through the application process. Some students and alumni decide to apply a year or more *after* graduation.

In general, medical schools and MCAT prep require the following courses or the equivalent (in Dartmouth terms). Below is the list that will satisfy admissions requirements for nearly all medical schools and prepare you to excel on the MCAT. These prerequisites are identical for osteopathic medical schools (DO). Veterinary and dental schools have the same prerequisites but with a few particular additions. Please check with a Pre-Health Assistant Dean. **As you move along your pre-health journey and start considering which schools you are applying to, we also highly recommend checking each school's course requirement list to confirm if any additional unique prerequisites are required.**

AP CREDIT–EXEMPTIONS CREDIT: While AP credits are not accepted towards Dartmouth course credits, you may be granted **exemption credit** by either the Math, Chemistry, or Physics departments for certain courses (e.g. Math 3 or 8, Chem 5, or Physics 3) allowing you to bypass these courses and enroll in the 2nd term course (e.g. Chem 6 and Physics 4). These exemption credits will fulfill med/dental/vet schools' requirements (example: exemption credit for Chem 5 plus enrollment in Chem 6 would count for 2 terms of general chemistry).

ADDITIONAL SCIENCE COURSES: If your grades in these courses are good and your schedule is filled with courses necessary for your major, you do not need to go beyond these unless an individual school of your choice has additional requirements for admission. If your record does not clearly establish competency in sciences, you should include more upper-level

science courses. That said, taking courses in, for instance, biology just because you are interested is valued by medical schools, and demonstrates a genuine interest in science. **Please discuss this with your pre-health advisors.**

NAVIGATING THE COURSES: You will each have different levels of experience coming into these courses. Some may have had an extensive background in the sciences and some less. Learning is an evolving process. With this understanding, most students will find themselves learning new study strategies and approaches to learning in general. Speak to your faculty, pre-health advisors, a teaching science fellow, the Academic Skills Center, the Tutoring Clearinghouse, upper-class peers, and/or someone in your class that might have a skill they can share. You may need to put in an amount of time that is new to you—that is very normal. Sustain that mindset and you will see your skills, understanding, and outcomes develop and thrive.

BIOLOGY PLACEMENT

To help students determine if they are sufficiently prepared to enter a foundation (lab) course directly, the biology department has established an online self-assessment exam for students. This self-assessment is a helpful way to determine your biology starting point, The Biology Placement/Advisory Test is available on the New Student Orientation Canvas Site.

If you're unsure of your best starting point, students should have a conversation with a Pre-Health Assistant Dean or undergraduate dean about taking BIOL 11 before enrolling in the foundation courses. These courses have no labs, focus on problem-solving in biology, and prepare students to take the required laboratory-based courses.

BIOL 11 (Introduction to Biology – various topics offered – check ORC): This course focuses on problem-solving in biology and prepares students to take the required lab-based foundation courses. BIO MAJORS: if taken BEFORE any foundation courses, BIO 11 WILL COUNT towards your major.

The Foundation Lab Courses
While any foundation course would "count" as a medical school prerequisite, to best prepare for the MCAT and medical/dental/veterinary school, we highly recommend taking BIOL 12, BIOL 13, AND BIOL 14, even though taking two foundations fulfills the pre-requisite. Dartmouth's biology foundation courses can be taken in ANY order.

- BIOL 12 or 19: Cell Structure and Function (19 is the honors version)
- BIOL 13: Gene Expression and Inheritance
- BIOL 14: Human Physiology
- BIOL 16: Ecology

- Other courses in Biology
  - For Dental and VET school: Microbiology and Anatomy are additional requirements.
  - **Texas Medical and Dental schools require more biology credit than most other med/dental schools.**

Coursework

Course Subject	Medical School Requirement	Dartmouth Courses/Recommendations	Notes on Dartmouth Courses
English/Writing	2 terms	Writing 5 (or Writing 2-3) AND First-Year Seminar, or Humanities 1 and 2	More courses that emphasize strong reading, synthesis, writing, and analytical skills are highly valued.
Mathematics	2 terms	Math 3 or equivalent and Statistics (1 of the classes listed below should suffice):	Calculus is a prerequisite for courses in biology, chemistry, and physics at Dartmouth

		• PSYCH 10 • SOCY 10 • BIOL 29 • MATH 10 • ECON 10 • GOV 10 • QSS 15	A higher-level calculus is not a pre-health requirement. If invited to a higher-level math course, it is your prerogative to take it, but do so because you love math or need it to fulfill major/minor requirements. If you have credit for calculus from the Entrance Placement exam, you should still take at least one math course at the college level (statistics would suffice).
Biology	2 terms with lab	Foundation lab courses: • BIOL 12 (or 19) • BIOL 13 • BIOL 14 • BIOL 16	3 terms recommended for MCAT prep (BIOL 12, 13, 14) **See the description above on BIOL 11 as starting points before jumping into foundation coursework**
General (Inorganic) Chemistry	2 terms with labs	CHEM 5 and CHEM 6; or CHEM 11 (Gives equivalent credit for CHEM 5 and 6)	MATH 3 (or MATH 1 & 3) is a pre-requisite With a more advanced background, one might be exempt from one or both classes (through AP/IB-type credit or the Placement Exam). You SHOULD still take at least one general chemistry course at the college level. Because there are several pre-health chemistry prerequisites please discuss your sequencing with a pre-health advisor to help develop a working strategy that's tailored to you.
Organic Chemistry	2 terms with labs	CHEM 51 and CHEM 52	Ideally, take in sequence but not required.
Biochemistry	1 term (lab optional)	BIO 40 (no lab) OR CHEM 41 (with lab)	BIOL 40 requires CHEM 51 & 52 AND BIO 12 as pre-requisites (a lab is not required for pre-health). CHEM 41 requires CHEM 51 & 52 as pre-requisites. Either is rigorous but neither course is more rigorous than the other. You can speak to an HPP advisor to consider which option to choose.
Physics	2 terms with labs	PHYS 3 and PHYS 4; or PHYS 13 and PHYS 14; or PHYS 15 and 16 (Honors)	Calculus (MATH 3 or exemption) is a pre-requisite for PHYS 3 & 4 Physics 3 and 4 are completely sufficient as pre-health pre-requisites. Physics 13 and 14 would be necessary for a major in Physics or Engineering and preferred for Chemistry—or if you just love Physics. Physics 15, 16 is an honors level. With a more advanced background, one might be exempt from one or both classes. However, one must still take at least one physics course at the college level

Social Sciences	2 terms	PSYCH 1 (or PSYCH 6) and SOCY 1 (or SOCY 2) recommended for MCAT prep	The MCAT contains a Psychology and Sociology section that makes up 25% of the total score. It is important to familiarize yourself with these materials by either taking these courses **or** having a plan to study them on your own. PSYCH 1-Recommended (by Psychology dept as the closest match to the material on MCAT). PSYCH 6-Though it provides some useful material for the MCAT it should be complemented with self-study on further psychology content for MCAT preparation. SOCY 1 has the closest match to competencies on the MCAT but any of the other health-related SOCY courses will offer a strong sociological context that self-study can compliment.