



WELCOME TO DARTMOUTH'S PRE-HEALTH COMMUNITY COURSE REQUIREMENTS AND D-PLANNING DOCUMENT FOR PRE-HEALTH STUDENTS

INTERESTED IN MEDICAL (MD, DO), DENTAL OR VETERINARY SCHOOL (and many that are also for Physician's Assistant & Nursing, check with us for more info)

Students - check in with an advisor early on, and at least **ONCE OR TWICE PER YEAR** (or more!) to verify that they are taking appropriate courses **FOR YOU**.

The following courses should be completed **before** you take any required admission test (MCAT, DAT) and apply to a health professional school. These courses are considered an adequate minimum basic preparation by most medical schools, although a few schools have additional course requirements. To obtain information about specific schools, refer to their web sites, as these are often changing without notice. There is also a document entitled "Dartmouth MSAR Data Sheet" on the HPP website under "Choosing Medical Schools". This summary is also duplicated there as "Prerequisite Courses at Dartmouth".

There are a SEVERAL ways to navigate the following courses. **Work with your Pre-health Advisors to help you determine a plan that would best fit you.** We can also help you to shift your plan if have new information about your goals or other academic and co-curricular commitments. "To go straight through," (ie: starting medical/vet/dental school in the summer after you graduate) assumes completing all the coursework required to prepare for the MCAT, AND take the MCAT by the end of Junior Spring. The application itself is a **very unique year-long process** that begins in the summer (not Fall or Winter like many other undergrad and grad programs). Because of the time it takes to have developed all the academic and extracurricular preparation, at least 80% of Dartmouth students have a plan to complete this coursework by the end of their Senior Year, with time to take the MCAT by the end of Senior Spring, applying summer after graduation. Some students/alumni even apply a year or more *after* graduation.

English/Writing

Medical School Requirement= 2 terms

At Dartmouth

- **Writing 5 (or Writing 2-3) AND First Year Seminar**
 - Though more courses that emphasize strong reading, synthesis, writing, and analytical skills are highly valued.

Mathematics

Medical School Requirement= 2 terms (1 term Calculus AND 1 term Statistics)

At Dartmouth

- Calculus: **MATH 3 (or MATH 1&3 sequence)** or exemption*
 - Calculus is a prerequisite for courses in biology, chemistry, and physics at Dartmouth
 - If invited to a higher-level math course, it is your prerogative to take it only if you love math or need it to fulfill major/minor requirements. BUT a higher level calculus is not a pre-health requirement.
 - *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).
- Statistics: **Any statistics course numbered 10** (PSYCH 10, SOCY 10, ECON 10, GOV 10, MATH 10) **or BIO 29** (Biostatistics) **or Social Sciences 15** (Intro to Data Analysis) are acceptable.

Biology

Medical School Requirement= 2 terms of Biology Foundation courses w/labs (minimum) (Many Dartmouth students take three, if they can, for their preparation).

At Dartmouth

To help students determine if they are sufficiently prepared to enter a foundation course directly, the Biology department has established an online self-assessment exam for students. For the members of the Class of 2021 the Biology Placement/Advisory Test is available in Canvas under "Courses."

Every student should have a conversation with a pre-health advisor as to the desirability of taking either BIOL 11 or BIOL 2, before enrolling in the foundation courses. These courses have no labs, and focus on problem-solving in Biology and prepare students to take the required laboratory-based courses.

- **BIOL 11 OR BIOL 2 (non-lab courses)**
 - Both are excellent entry points into biology depending on the student's previous background, but are not considered foundation courses (these courses are outlined below)
 - **BIOL 11** (Introduction to Biology-various topics-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, BIOL 11 WILL count towards major. If taken after any foundation course, BIOL 11 WILL NOT count towards major
 - **BIOL 2** (Human Biology)
 - This is a perfect course for:
 - Students with little human biology background or who wish to refresh their human bio background

- Students who wish to get good preparation for how to approach Dartmouth biology courses
 - Students on the fence about medicine (it's taught through a medical lens)
 - Students who might choose it in lieu of BIOL 14 (Human Physiology w/lab) and does not elect BIOL 14 as one of the two required foundation courses or cannot fit a third BIOL course but would like physiology preparation for the MCAT
- **The Foundation Lab courses: BIOL 12, 13, 14, 15,16**
- While any foundation course would "count" as a medical school pre-req, for best preparation for the MCAT and medical/dental/veterinary school, we highly recommend taking BIOL 12, BIOL 13, AND BIOL 14 in particular, even though taking two foundations fulfills the pre-requisite. ***Dartmouth's biology foundation courses can be taken in ANY order.***
 - **BIOL 12 (Cell Structure and Function)**
 - **BIOL 13 (Gene Expression and Inheritance)**
 - **BIOL 14 (Human Physiology (can be substituted with BIO 2 (w/out a lab))**
 - **BIOL 15 (Gene Variation and Evolution)**
 - **BIOL 16 (Ecology)**
- Other courses in Biology
 - *Microbiology is an additional requirement for Vet School
 - Upper-level courses in biology can strengthen one's foundation and an application but are not a requirement (discuss with an advisor)

General Chemistry

Medical School Requirement= 2 terms w/labs

At Dartmouth

- **CHEM 5 AND 6**
- With a more advanced background, one might exempt out of one or both classes (through Entrance Placement Exam). However, one MUST still take at least one chemistry course at the college level (CHEM 10 is an option)
 - MATH 3 (or MATH 1&3) is a pre-req
 - If you choose to delay general chemistry until sophomore year and you plan to enter medical school in the fall after you graduate, you could lock yourself into 6 consecutive enrolled terms without an off-term. (Please review what [Application Timelines](#) actually look like, and what it means to 'go straight through.' It is definitely better to delay general chemistry if you need more preparation, or are not yet sure you wish to pursue a health profession! Most students do not go "straight through" but have one or more "gap" years. Please discuss this with a Pre-Health advisor to help develop a working strategy.

Organic Chemistry

Medical School Requirement= 2 terms w/labs

At Dartmouth

❑ **CHEM 51 AND 52**

- Students who have more advanced knowledge in chemistry or intend to major in chemistry can consider Honors Orgo (CHEM 57 AND 58)
- CHEM 5 and 6 are pre-reqs

Biochemistry

Medical School Requirement= 1 term (lab is optional)

At Dartmouth

❑ **BIOL 40 w/out lab OR CHEM 41 w/lab**

- BIOL 40 requires BIO 12 as pre-req and is taught through the Biology Department
- CHEM 41 requires CHEM 51&52 or 57&58 as pre-reqs and is taught through the Chemistry Department
- Neither course is more rigorous than the other, although both are challenging. Speak to an HPP advisor to consider which option is best for you

Physics

Medical School Requirement= 2 terms of general physics w/ labs

At Dartmouth

❑ **PHYS 3 AND 4**

- This is the typical sequence for most pre-health students. However, if considering a major in physics, chem, engineering or just really like physics, consider taking PHYS 13 AND 14
- With a more advanced background one might exempt out of one or both classes. However, one MUST still take at least one physics course at the college level
- Calculus (MATH 3 or exemption) is a pre-req for PHYS 3&4

Additional Courses

Although psychology and sociology are not required courses for entrance to medical school, many medical schools value your exposure to the social sciences. In addition, the MCAT contains a Psychological, Social, and Biological Foundations of Behavior section that makes up 25% of the total score. Therefore, it is important to familiarize yourself with these materials by either taking the courses below or having a plan to study them on your own.

Psychology

At Dartmouth

- **PSYCH 1**-Recommended (by Psychology dept as closest match to material on MCAT)
- **PSYCH 6**
 - Neuro majors that have taken PSYCH 6 (Intro to Neuroscience) do not necessarily have to take PSYCH 1 as well. PSYCH 6 provides some useful material and should be complemented with self-study on psychology materials (less neurobiology) for MCAT preparation.

Sociology

At Dartmouth

- **SOCY 1 or 2**, or one of the several health related SOCY courses.
 - 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.

AND WHAT ABOUT....?

AP CREDIT –EXEMPTIONS CREDIT AP credits are no longer accepted at Dartmouth. However, 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 + 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 need not 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. **PLEASE DISCUSS THIS WITH YOUR PRE-HEALTH ADVISORS.** Additional biology and/or chemistry courses are recommended by most schools and required by a few schools. Learn the requirements of the schools you might be interested in during your first year!