



NYU

TANDON SCHOOL
OF ENGINEERING

Advantages of Prehealth at the School of Engineering

Any undergraduate major can be a “prehealth” major.¹ So long as a student meets the minimum requirements for admission to professional school, they can apply. In order to be ready for the Medical College Admissions Test (MCAT), a student should have completed certain courses indicated in the table below, including a recent addition of a social science component.

Preparing for the MCAT, of course, is not the only goal of your university education. A student must be ready with critical thinking and communication skills as well. At Tandon you have additional opportunities to expand your understanding of health and medicine, learning about health-related careers in their social, philosophical, and historical contexts. In addition, through advanced coursework in the sciences you can get a step up in the first year of medical or other health professional school.

Minimum Premed ²	Tandon Opportunities beyond the Basics
1. Two semesters of general chemistry with lab	CM-UY 1014 (General Chemistry I with lab) CM-UY 1024 (General Chemistry II with lab)
2. Two semesters of organic chemistry with lab	CM-UY 2213/CM-UY 2211 (Organic Chemistry with lab) CM-UY 2223/CM-UY 2221 (Organic Chemistry II with lab)
3. Two semesters of biology with lab	BMS-UY 1004 (Introduction to Cell and Molecular Biology) BMS-UY 2004 (Introduction to Physiology) Suggested Electives: BMS-UY 3114 (Genetics), BMS-UY 3514 (Advance Physiology), BMS-UY 3214 (Microbiology) and Human Anatomy (offered as BMS-UY 4844)
4. Two semesters of calculus-based physics (At Tandon, you are required to complete all three courses in the sequence along with two labs)	PH-UY 1013 (Mechanics) PH-UY 2023/2021 (Electricity, Magnetism and Fluids with lab) PH-UY 2033/2031 (Waves, Optics, Thermodynamics with lab)
5. Two semesters of calculus (for medical schools) One semester of statistics (some schools want two*)	MA-UY 1024 Calculus I for Engineers (MA-UY 914 if a student needs more preparation) MA-UY 1124 Calculus II for Engineers BMS-UY 3513 (Biostatistics) or other Statistics Courses (MA-UY 2224 Data Analysis accepted)
6. At least two semesters of English	EXPOS-UA 1 and EXPOS-UA 2, or equivalents Electives (such as EN-UY 2424W, Medicine and Literature)
7. Electives for MCAT preparation and knowledge of medicine*	CM-UY 3314 (Biochemistry I), CM-UY 3324 (Biochemistry II) STS-UY 2214, Medical Ethics and STS Electives (see next page) NEURL-UA 100, Introduction to Neural Science (Washington Square)
8. Preparatory application course <i>Not required for medical school but required for Tandon committee letter</i>	PHP-UY 4000 Prehealth Preparations (to be completed junior or senior year)

Students wishing to apply to medical school on the fastest timeline submit their application through the American Medical College Application Service (or AMCAS) after their third year of college. Although schools have a rolling application process, the earlier the application is submitted after the application is available June 1, the better. Students who do not wish to take a gap year will want to begin preparation for the MCAT exam in the summer of their second year and have time to retake the test, if necessary, during their third year. The fastest timeline is not necessarily better: a gap year (or more) can be a path to successful applications, involving research, master’s degrees, or work experience and is highly encouraged.

1. We use the term *prehealth* instead of *premed* to reflect options in pharmacy, physical therapy, dentistry, nursing, optometry etc.

2. Specific requirements vary by school and discipline. This column is based on University of California at Berkeley Career Center, “Medical School – Preparation,” accessed 8 April 2016 from <https://career.berkeley.edu/Medical/PrepPrereq.htm>

Frequently Asked Questions

- 1. Can I study away?** The NYU Global Academic Center in London has courses specifically geared toward the prehealth curriculum. In addition, after you have taken the MCAT, you could consider arranging your schedule to study away. Also, there are study away options in which you can complete electives during winter break and summer terms.
- 2. Should I use AP credit to fulfill my prehealth requirements?** Some schools frown upon AP credits for core prerequisites. Even if you have earned them, it is best to retake the courses in college (and get excellent grades in them). Another option is to take advanced courses in the same field to meet the minimum requirements.
- 3. What benefit is there to prehealth at Tandon compared to CAS?** Tandon has its own Prehealth Committee that offers mentoring and guidance throughout your studies; this complements the CAS Office of Preprofessional Advising's services and programs. Engineering professors train their students to think on their feet, and the tradition continues at NYU Tandon. You'll be in classrooms where students are learning to solve problems from scratch on exams, and this rigorous approach to math and science is excellent preparation for the MCAT and medical school. Our three-course introductory physics sequence covers material thoroughly and reinforces concepts that others may neglect. One can see from the percentages of admitted students that students with degrees in the hard sciences or mathematics are looked on favorably by medical schools, so our students are in a good position due to the engineering flavor of their curricula. In addition, we offer courses that address medical issues in their social, philosophical, and historical contexts.
- 4. What deficiencies do you see in medical school applications?** GPAs below 3.3 are a problem but having great grades does not always make an application compelling. Candidates sometimes lack knowledge of the medical profession and the historical/societal contexts of health and science. Courses in Science and Technology Studies that relate to medicine can help in this regard. Some applicants do not seem to have the study skills that would predict success in advanced study, so master techniques early on and excel in challenging upper-level electives later. Students sometimes do not have the credentials to back up their assertions (for instance, saying that one is committed to global health without any experience), but this is easily remedied by volunteering and other extracurricular experience after earning a competitive GPA.
- 5. What humanities and social science electives should I take to enhance my curriculum?** A selection of challenging and relevant courses will help you prepare for the MCATs. More than that, it will make you stand out in the application process and during your interviews. Some students make the mistake of choosing courses they perceive as easy to "protect" their GPAs, but this plan backfires. Instead, choose courses like the following that will broaden your horizons and sharpen your critical thinking, writing, and reading skills.

Tandon School of Engineering Courses	Courses Available through other Schools of NYU
EN-UY 2424W Medicine and Literature	ANTH-UA 35 Medical Anthropology
STS-UY 3234 The Phenomenon of Life	HIST-UA 202 History of Western Medicine
STS-UY 2214/W Medical Ethics	HIST-UA 175.001 History of Sexual and Reproductive Politics
STS-UY 2224/W Science and Sexuality	HIST-UA 547 Food and Drugs in Chinese History
STS-UY 2244/W Magic, Medicine and Science	HIST-UA 900.010 History of Medicine and Medical Research in the US
STS-UY 2254 Evolution	IDSEM-UG 1059 Disease and Civilization
STS-UY 2624/W Rhetoric of Science	IDSEM-UG 1519 Biology and Society
STS-UY 3204/W Science and Difference	IDSEM-UG 1294 Philosophy of Medicine
STS-UY 3214 Science and Feminism	PHIL-UA 91 Philosophy of Biology
STS-UY 3354 Brain, Behavior and the Mind	PHIL-UA 50 Medical Ethics
STS-UY 3904 Special Topics in STS (if appropriate)	PUHE-UE 1323 Environmental Health, Social Movements and Public Policy

- 6. What is the typical timeframe for applying to medical school?** The application process for medical or other health professional school has many important deadlines.

Two Years Before Starting School	The Year Before Starting School
MCAT in September	Secondary application essay questions
Committee application and recommendation letters	School Interviews in Fall or Spring
Committee interview in Spring	Decisions announced late Spring
AMCAS available June 1 st	

- 7. What if I don't get in?** Medical schools are extremely competitive and some students prefer to have a backup plan. Students can be ready to enter research or industry fields. There are also policy fields for those who have backgrounds in politics or sociology, which they garner from STS. Students who are determined to attend medical school will apply again in subsequent cycles after gaining more experience or earning a master's degree or post-baccalaureate certificate.