

Pre-Medicine

What is Pre-Medicine?

Pre-Medicine (Pre-Med) is a pre-professional program at Cornell College for students interested in pursuing a medical education. The program is designed to help students identify both prerequisites for admission to medical school and meaningful co-curricular experiences in and out of the medical field. The program is coordinated by Dimensions: The Center for the Science and Culture of Healthcare. Pre-medicine students are expected to meet regularly with the Associate Director of Dimensions and are strongly encouraged to attend pre-health events sponsored by Dimensions on and off campus.

Professional Resources

The following resources offer extensive, reliable information on preparing for the healthcare field, in addition to those found throughout the Dimensions Guide to Pre-Medicine:

- [Dimensions: The Center for the Science and Culture of Healthcare](#)
- [ExploreHealthCareers.org](#)
- [AAMC Medical School Admission Requirements](#) (A service paid for by Dimensions and accessed through the Associate Director of Dimensions)
- AAMC [Aspiring Docs](#)

Pre-Medicine Guide Outline

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What is a Physician?

Physicians diagnose and treat injuries or illnesses, examine patients, take medical histories, prescribe medications, order, perform, and interpret diagnostic tests, and counsel patients on diet, hygiene, and preventative healthcare. They can also conduct medical research, teach, and run medical centers (Bureau of Labor Statistics Occupational Outlook Handbook, 2015).

Two types of physicians are recognized in the United States; the allopathic physician (MD) and the osteopathic (DO) physician. Both physicians are found in all aspects of healthcare and are capable of fulfilling all physician responsibilities. There are no differences between an MD and DO from the patient perspective. Differences between those practicing allopathic and osteopathic medicine are found in each discipline's guiding principles.

[American Association of Medical Colleges \(AAMC\)](#)

[American Association of Colleges of Osteopathic Medicine \(AACOM\)](#)

Cornell College Health Professions Committee (HPC)

The [HPC](#) assists students applying to professional programs in healthcare. The committee should be utilized by all medical school applicants (current students and Cornell College alumni). The HPC process results in a Committee Letter of Recommendation sent to each school the applicant applies to, along with all other letters of recommendation. The Committee Letter of Recommendation is signed by the 4 members of the HPC:

- Barbara Christie Pope, PhD
- Craig Tepper, PhD
- Associate Director of Dimensions
- 1 Cornell College faculty or staff member of the student's choosing

The [HPC Committee Guide](#) is updated annually and should be reviewed by applicants before applying for the HPC. Students can find the most up-to-date version of the HPC Committee Guide on the Dimensions HPC website. Dimensions hosts workshops every year during 3rd or 4th block on the HPC and healthcare program application processes.

Applications are due to the HPC the summer before the intended application cycle begins. (For example, students hoping to start medical school in fall 2017 will submit all application materials to the HPC by July 1, 2016.) Visit the Dimensions website to learn more about the HPC application process.

[*Centralized Applications for Medical School*](#)

[American Medical College Application Service \(AMCAS\)](#)

[American Association of Colleges of Osteopathic Medicine Application Service \(AACOMAS\)](#)

[*Accredited Medical Schools*](#)

[Accredited Allopathic \(MD\) Medicine Programs in the United States](#)

[Accredited Osteopathic Medicine \(DO\) Programs in the United States](#)

Medical School Prerequisites

A specific major is not required for admission into medical school. Students are advised to major in a discipline they are both most interested and able to excel in.

A recent change in the MCAT prompted many medical schools to require the following courses for admission:

<i>Prerequisite (AAMC 2015)</i>	<i>Prerequisites for the University of Iowa Carver College of Medicine (2015 Cycle)</i>	<i>Course Equivalent at Cornell College</i>
1 year of English	2 courses (to include composition and literature)	ENG 111 (1 st Year Writing Course) & 1 additional writing course within the English department
Statistics*	N/A	STA 201 (Statistical Methods I)
1 year of general Biology with lab*	A complete introductory course in the principles of Biology with the appropriate labs and an Advanced Biology course. Recommended Advanced Biology Courses: Biochemistry, Molecular and Cell Biology, Human Physiology, Genetics, or Microbiology.	BIO 141 (Foundations: Cellular Biology) & BIO 142 (Foundations: Organismal Biology)
1 year of General Chemistry with lab*	A minimum of 2 years of Chemistry to include General and Organic both with labs, and Biochemistry.	CHE 121 (Chemical Principles I) & CHE 122 (Chemical Principles II)
1 year of Organic Chemistry with lab*		CHE 225 (Organic Chemistry I Lecture) & CHE 326 (Organic Chemistry II Lecture) & CHE 327 (Organic Chemistry Laboratory)
1 semester of Biochemistry*		CHE 334 (Biochemistry)
1 year of Physics with lab (does not need to be calculus-based)*	2 introductory Physics courses with lab	PHY 141 (Introductory Physics I) & PHY 142 (Introductory Physics II)
1 semester of introductory Psychology*	4 courses. Recommended courses: Behavioral Psychology, Foreign Language, and other courses that encourage a greater appreciation for diversity and cultural competency. At least 1 course should include a writing component.	PSY 161 (Fundamentals of Psychological Science)
1 semester of introductory Sociology*		SOC 101 (Sociological Thinking)

*Course content tested on [MCAT 2015](#)

The following courses at Cornell College are prerequisites for some of the aforementioned AAMC prerequisites and many medical schools:

BIO 205 (Cellular and Molecular Biology)

BIO 315 (Genetics)

BIO 329 (Human Anatomy & Physiology I)

BIO 330 (Human Anatomy & Physiology II)

BIO 326 (Microbiology)

Note: Most medical schools require additional courses than those stated by the AAMC to be considered for admission. Work with the Associate Director of Dimensions to explore program-specific prerequisites *early* to ensure you have time to satisfy courses needed before graduation. Be sure your Faculty Advisor is aware that you are Pre-Medicine. It is strongly recommended that you meet with your Faculty Advisor and [Dimensions staff](#) regularly to ensure you are meeting the requirements for both your major and medical school in the proper sequence.

AP Credit

Many medical schools will not accept AP credit as fulfillment of a prerequisite. If you enter Cornell College with AP credit, closely check the requirements of the medical schools of which you intend to apply. Some schools will accept AP credit for Calculus, Chemistry, or Biology *only* if an additional course of advanced study is taken.

Community College Credit

Medical schools prefer that applicants take all prerequisites at a 4-year institution. Students interested in earning credit at a community college should meet with their Faculty Advisor and the Associate Director of Dimensions *before* registration.

What makes a competitive applicant for medical school?

Admission into medical school is an incredibly competitive process. The 2014 national admission rate into medical school for MD and DO programs was just **41.2%**.

Medical schools today are looking for well-balanced applicants. Most medical schools offer a [holistic review](#) of medical school applications meeting the minimum GPA and MCAT score. Holistic review is an individualized way of assessing an applicant's capabilities by which balanced consideration is given to experiences, attributes, and academic metrics and, when considered in combination, how the individual might contribute value as a medical student and physician (AAMC, 2015).

Becoming a competitive applicant for medical school is a marathon, not a sprint. Students should not rush into a medical school application cycle. The "right" time to apply for medical school is unique for each applicant and representative of their individual aptitude for the sciences, experiences, and level of personal readiness to commit to the health profession.

Competitive medical school applicants:

- Earn high grades in prerequisites at a 4-year institution
- Demonstrate (from experience) they are aware of the physician's role in today's medical climate as compared to other healthcare providers
- Apply to medical school only when they feel they are ready to make a lifelong commitment to medicine and have the strongest application possible
- Research the schools they apply to assess "fit" and review prerequisites *before* applying
- Reflect on and make connections between experiences leading up to applying for medical school
 - Can discuss what they learned *from* their experiences rather than what they *contributed*
 - Demonstrate how they've applied what they learned in earlier experiences to experiences that followed
 - Are able to easily demonstrate and explain why experiences were personally meaningful
 - Demonstrate they understand the impact and purpose of their responsibilities in each experience
- Have high science and cumulative GPAs
- Earn a high MCAT score
- Balance clinical experiences and other activities they are passionate about
- Can speak from experience when asked the question, "What makes a good physician?"
- Can answer the question "Why do you want to be a physician?" clearly and easily, demonstrating self-reflection and realistic expectations of the physician role
- Have a parallel plan in mind: They know what they will do to demonstrate interest in and a commitment to medicine if they are not accepted into medical school in their first application cycle.

Take a moment to review the [AAMC's Core Competencies for Entering Medical Students](#) to learn more about the types of students medical schools are looking to admit.

Cornell College Pre-Medicine Sample 4-Year Timeline* (On MCAT exam)

Year in School	Cornell College Course	Additional Information
First Year	FYS CHE 121 CHE 122 BIO 141 BIO 142 ENG 111 1 additional English writing course	Your top priorities are becoming acquainted with your new surroundings, living arrangements, and course requirements. Students are strongly encouraged to get involved in co-curricular activities they are interested in or passionate about. (Activities do not all need to be medical-related.) New students should meet with the Associate Director of Dimensions at least once during their first year on campus. <ul style="list-style-type: none"> • Many students will begin exploring opportunities to shadow healthcare professionals, volunteer in the community, and take part in student organizations. Hours spent in co-curricular activities should be tracked for the medical school application. • Students are encouraged to start thinking about summer as early as October**. • Students should review professional resources from this document and the Dimensions website to familiarize themselves with medicine and the medical field. • Attend relevant Dimensions Pre-Health Workshops.
Second Year	PSY 161 STA 201 CHE 225 CHE 326 CHE 327 BIO 205 BIO 315	<ul style="list-style-type: none"> • Seek opportunities to work closely with faculty members on research and other projects outside of class. Narrow down co-curricular involvement to experiences that are most meaningful to you and that you are most passionate about (even if it's not healthcare related.) Move up to leadership positions or take on more responsibility in co-curricular activities. • Start looking at medical schools more closely to identify unique requirements of schools you are interested in. Read in detail about the medical school application cycles, the MCAT, and the Cornell College Health Professions Committee. • Attend relevant Dimensions Pre-Health Workshops.
Third Year	CHE 202 PHY 141 PHY 142 CHE 334 BIO 329 PSY 282 SOC101	<ul style="list-style-type: none"> • Continue to work up to leadership positions or take on more responsibilities in co-curricular activities. Continue to shadow in the medical field and volunteer in the community. • Be sure you've completed at least the minimum amount of shadowing hours required by medical schools you plan to apply to. • Register for MCAT and prepare by taking several full-length practice exams. (Dimensions can help you identify MCAT prep resources.) Students should sit for the MCAT in April, May or June of their third year on campus if they plan to apply to start a medical school immediately following graduation. • Prepare for Health Professions Committee if you intend to enter medical school immediately following graduation. Application deadlines should be verified with the Associate Director of Dimensions before the end of your junior year. (Example: Health Profession Committee applications are due summer 2016 if you hope to start medical school fall 2017.) • Attend relevant Dimensions Pre-Health Workshops.
Fourth Year	BIO 326 BIO 330 Complete graduation major/minor requirements.	<ul style="list-style-type: none"> • Complete secondary applications and on-campus interviews. • Attend relevant Dimensions Pre-Health Workshops.

*You should always begin with the course most aligned with your current ability. It is better to start a few courses back and earn an "A" than to jump right into the prerequisite course and earn a "B" or "C". This sample timeline includes many required, recommended, and prerequisite courses for medical school. Always consult specific MD/DO program prerequisites and with your Faculty Advisor before making course selections.

**Pre-Medicine students hoping to enter medical school immediately after graduation are strongly encouraged to use their summers wisely in preparation for MD/DO programs. This includes conducting research, volunteering in the community, shadowing or interning in the field of medicine, and/or working in the healthcare field.