

IOWA

Pre-Medicine Guide



Physicians diagnose illnesses and prescribe and administer treatment for people suffering from injury or disease. Physicians examine patients, obtain medical histories, and order, perform, and interpret diagnostic tests. They counsel patients on diet, hygiene, and preventive health care.

There are two types of physicians: M.D.—Doctor of Medicine and D.O.—Doctor of Osteopathic Medicine. M.D.s also are known as allopathic physicians. Both M.D.s and D.O.s may use all accepted methods of treatment, including drugs and surgery. D.O.s place emphasis on the body's musculoskeletal system, preventive medicine, and holistic patient care.

Physicians may work in one or more of several specialties, including, but not limited to, anesthesiology, family and general medicine, general internal medicine, general pediatrics, obstetrics and gynecology, psychiatry, and surgery. (From the online *Occupational Outlook Handbook*)

Most colleges of medicine (including the University of Iowa College of Medicine, which is an M.D. program) require a baccalaureate degree as part of the admissions requirement. A degree in medicine is a four-year professional degree. Students follow medical school with three or more years in residency (specialized clinical training).

Sample Pre-Medicine Four-Year Academic Plans

Plan A: Starting with General Chemistry and Pre-Calculus

Year 1:

CHEM:1070 General Chemistry
MATH:1440 Math for Biological Sciences

CHEM:1110 Principles of Chemistry I
MATH:1460 Calculus for Bio. Sciences*
SOC:1010 Introduction to Sociology**

Year 2:

CHEM:1120 Principles of Chemistry II
BIOL:1411 Foundations of Biology
PSY:1001 Elementary Psychology**

CHEM:2210 Organic Chemistry I
BIOL:1412 Diversity of Form and Function
PSY:2130 Advanced Psychology--Pre-Med.**

Year 3:

CHEM:2220 Organic Chemistry II
PHYS:1511 College Physics I
BIOC: 3110 Biochemistry***

CHEM:2410 Organic Chemistry Lab
PHYS:1512 College Physics II
Advanced biology course***
Take **MCAT** in spring or summer

Summer:
Apply to
medical
school

Year 4:

Courses to complete major

Courses to complete major

Plan B: Starting with Principles of Chemistry and Calculus

Year 1:

CHEM:1110 Principles of Chemistry I
MATH:1460 Calculus for Bio. Sciences
or MATH:1850 Calculus I*

CHEM:1120 Principles of Chemistry II
BIOL:1411 Foundations of Biology
SOC:1010 Introduction to Sociology**

Year 2:

BIOL:1412 Diversity of Form & Function
CHEM:2210 Organic Chemistry I
PSY:1001 Elementary Psychology**

CHEM:2220 Organic Chemistry II
CHEM:2410 Organic Chemistry Lab
PSY:2130 Advanced Psychology—Pre-Med**

Year 3:

PHYS:1511 College Physics I
BIOC:3110 Biochemistry***

PHYS:1512 College Physics II
Advanced biology course***
Take **MCAT** in spring or summer

Summer:
Apply to
medical
school

Year 4:

Courses to complete major

Courses to complete major

*Calculus is not required for the UI College of Medicine, but is required for most science majors. The major will determine which math class is taken.

**While sociology and psychology are not prerequisites for most medical schools, topics from sociology form 30 percent and topics from psychology form 60 percent of one of the MCAT tests. To be well prepared, students may wish to complete SOC:1010 Introduction to Sociology, PSY:1001 Elementary Psychology, and PSY:2130 Advanced Psychology for Pre-Med.

***One semester of biochemistry is required by the UI College of Medicine and can count toward its advanced biology requirement. The two-semester Biochemistry sequence (BIOC:3120/3130) also is an option for biochemistry majors and/or well-prepared students. Additional advanced biology courses are desirable as time and interest permit.

Note: The UI College of Medicine requires two courses in English and four courses in social and behavioral sciences/humanities. These may be satisfied by the courses a student selects for the General Education Program. Other medical schools may have different prerequisites—check websites for the individual medical schools or see your pre-medical adviser for more information.

Academic Guidelines

Competition for places in medical school is keen, and admissions committees are able to choose from among many talented students. The mean cumulative GPA for the entering 2017 class at the UI College of Medicine was 3.77 and the mean science GPA was 3.70. Students whose academic records fall well below the averages are unlikely to be accepted to medical school.

Non-Academic Guidelines

Important non-academic factors include good moral character, excellent interpersonal skills, a deep commitment to health care, evidence of leadership potential, and service to others. Successful applicants likely will have volunteered or worked in a health care setting with patient contact, job-shadowed physicians, participated in organizations that serve others, held leadership positions, and learned how to conduct research and work independently.

UI College of Medicine Admissions Profile 2017:

(152 students admitted)*

Mean cumulative GPA: 3.77

Mean science GPA: 3.70

*The UI College of Medicine gives preference to residents of the state of Iowa: the entering class is typically 70 percent residents and 30 percent non-residents. Students should research the residency preferences at the medical schools to which they are applying.

The Application Process

Applications for allopathic medical schools are initiated through the centralized, online American Medical College Application Service (AMCAS) (www.aamc.org/students/). Applications for osteopathic medical schools are begun through the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS) (www.aacom.org).

Applications should be submitted one year prior to the year for which a student is seeking admission. Since many medical schools (including UI) have rolling admissions, it is in a student's best interest to apply early (after June 1). The application deadline for regular admission at the UI College of Medicine is November 1. Students applying to allopathic medical schools should consult the Medical School Admissions Requirements (MSAR), available for purchase online through the AAMC website.

Early Decision

The Early Decision Program (EDP) is available at participating medical schools. The UI College of Medicine does not offer an Early Decision Program. Applicants interested in applying through EDP to other medical schools should consult the MSAR for availability and pay attention to application deadlines. EDP is typically more selective than regular admission, with applicants needing very strong academic and non-academic profiles to be competitive.

Diversity in Medicine

Many medical schools, including the UI College of Medicine, seek to recruit a diverse class of students, including students from groups underrepresented in medicine. The AAMC particularly encourages African-American, Latino/a, and Native American students to apply, as these populations make up 25 percent of the population, but only 12 percent of medical school graduates.

The UI College of Medicine participates in a summer enrichment program, Summer Health Professions Education Program (SHPEP), <https://medicine.uiowa.edu/shpep>. SHPEP's goal is to strengthen the academic proficiency and career development of students underrepresented in the health professions.

Entrance Examination Requirement (MCAT)

The Medical College Admission Test (MCAT) is a standardized, computer-based exam and is required for admission to both allopathic (M.D.) and osteopathic (D.O.) programs.

The MCAT consists of four sections: Biological and Biochemical Foundations of Living Systems; Chemical and Physical Foundation of Biological Systems; Psychological, Social and Biological Foundations of Behavior; and Critical Analysis and Reasoning Skills.

Preparation consists of successful completion of the pre-medical courses, as well as self-study, taking MCAT practice tests, and/or participating in a formal MCAT test preparation course.

Letters of Evaluation/Recommendation

Applicants typically obtain letters from science faculty members, faculty members from the applicant's major department, faculty from other departments, research supervisors, and volunteer coordinators. Some medical schools require two letters from science faculty. Students applying to osteopathic medical schools should have one letter from a D.O.

The UI College of Medicine requires three letters: two academic and one of the student's choice. At least one of the academic letters should be from a science faculty member and one should be from the student's major department (this could be the same letter if the student is a science major). UI does not have a pre-medical committee; instead, students request individual letters from their evaluators.

Interviews

Medical schools usually require personal, on-campus interviews as part of the selection process. Selected candidates will be contacted to arrange an interview. Interviews vary by school; applicants should check with the schools to which they have applied for the interview timeline. Practice interviews are available through the UI Career Center in C310 Pomerantz Center.

Criminal Background Checks

The AMCAS application asks applicants whether they have a record of felonies or misdemeanors, and this information is then communicated to the medical schools. Students should make careful decisions throughout their undergraduate years, since charges for drug and/or alcohol use or possession, as well as other charges, can have negative consequences for admission. Many medical schools (including the UI College of Medicine) conduct a Criminal Background Check on all admitted students. Students found to have been dishonest on their applications are not admitted.

Citizenship/International Students

Only citizens or permanent residents of the United States are eligible for admission to the University of Iowa College of Medicine, with the exception of candidates with asylum status. Few U.S. medical schools admit non-citizens, so non-citizen students should thoroughly research such a decision and discuss it with their pre-medical advisers early in their undergraduate years.

Pre-Medicine Coursework Checklist

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|--|--|
| _____ MATH:1010 Trigonometry or | _____ CHEM:1110 Principles of Chemistry I |
| _____ MATH:1440 Math for Bio. Sciences or
higher math course | _____ CHEM:1120 Principles of Chemistry II |
| _____ BIOL:1411 Foundations of Biology | _____ CHEM:2210 Organic Chemistry I |
| _____ BIOL:1412 Diversity of Form & Function | _____ CHEM:2220 Organic Chemistry II |
| _____ Adv. Biology (BIOC:3110 Biochemistry*) | _____ CHEM:2410 Organic Chemistry Lab |

Two semesters of physics—choose one sequence:**

- _____ PHYS:1511 College Physics I and PHYS:1512 College Physics II **or**
_____ PHYS:1611 Introductory Physics I and PHYS:1612 Introductory Physics II **or**
_____ PHYS:1701 Physics I and PHYS:1702 Physics II

Two courses in English Composition/Literature

1. _____
2. _____

Four courses in Social and Behavioral Science/Humanities:***

1. _____
2. _____
3. _____
4. _____

*One semester of biochemistry is required by the UI College of Medicine and can count toward its advanced biology requirement. The two-semester Biochemistry sequence (BIOC:3120/3130) also is an option for Biochemistry majors and/or well-prepared students. Additional advanced biology courses are desirable as time and interest permit.

**Most students enroll in the PHYS:1511-1512 sequence. The calculus-based sequences PHYS:1611-1612 or PHYS:1701-1702 (physics majors only) are also possible. See your adviser for help in choosing the appropriate sequence for your major.

***Topics from sociology will form 30 percent and topics from psychology will form 60 percent of one section of the MCAT. To be well prepared, students may wish to complete SOC:1010 Introduction to Sociology, PSY:1001 Elementary Psychology, and PSY:2130 Advanced Psychology—Pre-Med. Students should consult their pre-medical advisers for more information.

Note: The above are prerequisites for the UI College of Medicine. Other M.D. and D.O. programs may have different requirements. Check the websites for individual schools or contact your pre-medical adviser for more information.

Academic Advising Center, 2017-2018

