

The Pre-med Program

"Pre-med" is shorthand for the academic program students take to prepare for entering medical schools. (One should not talk of a "pre-med major" but should say "pre-med program" or "pre-med student" or just "pre-med") Students in the pre-medicine program must obtain a major from a department such as chemistry, biology, mathematics, history, etc. Although medical schools require a major, they do not specify what that major must be. Medical schools list specific courses only. The specific courses that they list are:

- General chemistry with lab, (2 semesters)
- Organic chemistry with lab, (2 semesters)
- General biology with lab, (2 semesters)
- Physics with lab, (2 semesters)
- College level math (some schools also specify calculus),
English.

If the student has no choice of major in mind, we suggest chemistry or biology because they do occupy a major place on the [MCAT](#). Other majors are fine provided the specific courses above are taken.

Admission to medical school is very competitive and depends on three major factors: (1) grade point average, (2) MCAT score, and (3) clinical experience. (1) and (2) are controlled by your academic preparation and (3) is controlled by your volunteer/job experience in the medical field. All three areas are very important.

Suggested Curriculum

Listed below is a possible schedule of courses for the Pre-med major. Actual schedules may differ. Each student should consult an adviser when planning a schedule. Most science courses have a lab component with a different course number. The total number of credits for lecture and lab are shown.

FRESHMAN Year

Fall

Course title	Area	Course No.	Credits
English Composition	English	1010	3
General Biology	Biology	1110	4
General Chemistry	Chemistry	1110	5
Math (pre-calculus or calculus)	Math	1730 or 1910	4-5
Freshman Experience	APSU	1000	1

Total Credits: 16-18

Spring

Course title	Area	Course No.	Credits
English Composition	English	1020	3
General Biology	Biology	1120	4
General Chemistry	Chemistry	1120	5
Humanities Core			3

Total Credits: 15

SOPHOMORE Year

Fall

Course title	Area	Course No.	Credits
Organic Chemistry	Chemistry	3510	4
Physics	Physics	2010	5
American History	History	2010	3
Microbial Diversity	Biology	3050	4

Total Credits: 16

Spring

Course title	Area	Course No.	Credits
Organic Chemistry	Chemistry	3520	4
Physics	Physics	2020	5
American History	History	2020	3
Humanities Core			3

Total Credits: 15

JUNIOR Year

Fall

Course title	Area	Course No.	Credits
Biochemistry	Chemistry	4310	4
Genetics	Biology	4130	4
Humanities core			3
Additional course in major (biology, chemistry, etc.)			4

Total Credits: 15

Spring

Course title	Area	Course No.	Credits
Cell and Molecular Biology	Biology	4440	4
Biochemistry	Chemistry	4320	4
Psychology	Psychology	1010	3
Fundamentals of Public Speaking	Communication	1010	3

Total Credits: 14

SENIOR Year

Fall

Course title	Area	Course No.	Credits
Social Science core			3
Additional courses in major (biology, chemistry, etc.)			4
Electives			7

Total Credits: 14

Spring

Course title	Area	Course No.	Credits
Electives			8
Additional courses in major (biology, chemistry, etc.)			8

Total Credits: 16

Other suggested biology and chemistry courses include human physiology, analytical chemistry, physical chemistry, and other upper division biology courses such as histology and embryology.

The MCAT

The [MCAT](#) should be taken during the spring of the junior year or during the summer between the junior and senior year. The exam is now administered by computer at testing sites. Whereas in the past there were only 2 testing dates, now there are many. Most of the testing dates are in April through September. There is an application form and process for taking the MCAT, including a fee to pay. The test must be taken at specific testing centers. In this area, that is usually in Nashville at a Vanderbilt site or at another Nashville college site. It's a little shorter than it used to be and some dates have double administrations on the same day. Weekdays as well as Saturdays are used for testing.

The MCAT is divided into four sections: reading comprehension, biological science (biology and organic chemistry), physical science (physics and general chemistry), and essay writing. The first three of these sections are graded on a scale of 0-15 comparing the student with all others taking the test on the same day. In other words there is no "passing" score but a comparison score rating one against the current cohort of pre-meds. Med schools definitely want students who are in the upper half (above eight) in all sections. Currently, state-supported schools in the south are looking for 9.5 to 10 in all sections. Very selective schools demand and get students in the 11-13 range. The essay is graded by a panel of readers on a scale of J through T; on a recent take, the median score was O and the 75th percentile was Q nationwide.

Many review books on MCAT are available and are very helpful. Professional review courses are good but are expensive and usually located in Nashville. Basically, bright students who are adept at taking standardized tests and who do a lot reading fare well on the test. Much time should be given to preparation for this exam.

Application

The application process itself is rather lengthy. With very few exceptions, MD schools use the American Medical College Application Service ([AMCAS](#)). This involves filling out a lengthy application form and telling them what schools to send it to. At the same time, the student must arrange for official transcripts from all colleges attended to be sent to AMCAS. They will not process the application until transcripts are received. The application should be sent in as early as possible – the end of June is a good target date. Osteopathic schools (DO) use the AACOM application service ([AACOMAS](#))

Some think that it is advantageous to take the MCAT early in the year (April) rather than toward the end of the testing year (September). Med schools will process a student's application as soon as both the AMCAS package and the MCAT scores are received. It is possible that several slots of a class will be filled before the August or September MCAT scores are received, so those applicants are vying for the remaining slots in the class. All med schools overbook their classes with the knowledge that a certain percentage of those accepted will decline and go elsewhere. To replace these, certainly some of the late applicants (i.e., August/September MCATs) will get in; but the odds of being accepted may be better for the early applicants. On the other hand if the student is not ready in April and needs the summer to review and prepare, then by all means he/she should wait until later in the summer. Often APSU students are in that situation.

Our successful applicants go to a variety of schools. Ten years ago most of our TN resident students went to UT Memphis or Quillen at ETSU while our KY residents went to UK at Lexington or Louisville. All of these schools are MD degree granting schools. Now we have students spread out all over the United States going to MD and DO degree granting schools. [The DO degree is in osteopathic medicine.] Another place where many of our military oriented students apply is the Uniformed Services University for Health Sciences (USUHS) in Bethesda, MD.

Our graduates are well prepared and survive wherever they attend. In the past seven years APSU students have matriculated to Mayo, ETSU, UK, West Virginia (DO), Washington University in St. Louis, Louisville, Arizona (DO), Philadelphia College of Georgia (DO), Samford of South Dakota, Debusk (DO), Kansas City (DO), Wake Forest, Virginia College (DO), and Lake Erie (DO). As you can see osteopathic schools are becoming more popular with our students. I recommend exploring this option as well as the MD schools.

The medical schools get the AMCAS application and the MCAT scores at roughly the same time. If they like what they see, they will get back in touch with the student and ask for supplemental information. This is the time that the school evaluation committee gets involved. Our procedure is to give the student a minimum of three check-sheet recommendation forms to pass out to faculty of his/her choice. At least two of these should go to science faculty. These forms will come back to the pre-med advisor. When all three have been returned, I make a composite, write a cover letter and forward the letter and composite evaluation to the medical school.

Recommendation letters can also be sent. Recently AMCAS has started allowing recommendation letters to be sent at the same time as the original application, but not all medical schools have elected to participate in this program. If they do not, I collect the recommendation letters (usually no more than 3) and submit them with the school evaluation when supplemental information is requested.

If the student "passes" the initial application and the supplemental, he/she is invited to the school for a personal interview. This usually involves a one-day tour and an interview by at least two people: the first by someone connected with admissions and the second usually by a practicing physician. Often, a third interview is done by a medical student at the school. Finally if the student "passes" this hurdle, he/she is offered a place in the class. The whole process from application/ MCAT to acceptance takes six months or longer.

A very good reference is *Medical School Admission Requirements (MSAR)*, published each year by [Association of American Medical Colleges](#). The first part of the book is general information that you will find very helpful. The remainder of the book is a description of all the medical schools in the country, listed alphabetically by state. Each school has a two-page spread covering General Information, curriculum, Entrance Requirements, Selection Factors, Financial Aid, Minority Information, deadlines, tuition, data re: number applicants and number acceptances, and other information. Other books, such as Plantz, *Getting into Medical School*, are very informative from the student's standpoint.

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See the APSU pre-med web site for more info

<http://www.apsu.edu/robertsonr/premed/premedadvisement.htm>