

Preparation for Applying to Medical School

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The practice of medicine is a prestigious career that offers many rewards. It is also a very demanding profession that requires much time and dedicated effort, with not a few frustrations. Your first step toward that objective is to gain admission to a medical school. This is a challenging process that will require your best effort. You will be competing with some of the brightest and most highly motivated students in the country for a limited number of medical school openings. In recent years, a little over 40% of applicants nationwide were accepted into medical school. It is not unusual for students to apply more than once before succeeding. You need to make up your mind now that this goal is your top priority and then sustain that commitment through the next four years.

You would be wise to find out all you can about medicine and applying to medical schools. The Preprofessional Advisory Committee is prepared to assist you with that, through workshops and individual advisement. There is also a wealth of information available in print and on the internet. Many of the information sources are listed in the third part of this document. I recommend beginning with a book called "Medical school admission requirements" and Corder's "Medical professions admissions guide". The "Pfizer medical school manual" is another terrific source of information; it can be seen online at www.positiveprofiles.com/resources or a printed copy can be purchased. Direct experience in a hospital or clinic is also an excellent way to learn first-hand about medicine.

This introductory guide is divided into four parts. The first part describes the areas in which applicants are judged by medical schools and the best ways to prepare yourself. The second part describes the process used to submit an application. The third part is a timeline that you can use to plan your preparations. Finally, there is a compilation of information sources, both in print and on the internet.

I Admission Criteria

There are six main areas in which medical school admissions committees evaluate applicants. This section describes those areas and recommends ways to prepare yourself. The areas are:

Academic achievement in college	Knowledge and commitment to health care
MCAT scores	Personal attributes
Letters of recommendation	Medical school interview

Academic achievement in college

Medical schools look for a high grade point average in college coursework in general and in science courses in particular. In recent years the average GPA (both overall and science) for successful applicants has been in the A- range (3.5 - 3.6). Schools do not require students to major in a particular field and accept applicants from a broad spectrum of majors. About two thirds of all medical students majored in the natural sciences in college, although, such a major is not necessary either for admission to or for success in medical school. Humanities and social science majors have been equally successful on both counts.

Applicants are generally required to have taken the eight science and two English courses listed in Table 1. Several additional science, math or non-science courses are frequently recommended and occasionally required. The nature of these courses varies widely; common examples are listed in Table 2. Most successful applicants have taken additional advanced science courses in order to be better prepared for the MCAT exam and for their medical studies.

Research experience in the sciences will enhance your application. Many students choose to carry out a laboratory research project during their undergraduate program. There are opportunities for student research available both at D'Youville and at nearby Roswell Park Memorial Institute.

The Bachelor of Science in Biology at D'Youville is designed to meet the above needs fully. Another major will also serve, if care is taken to include all of the courses listed in Table 1, preferably with the addition of several advanced math, biology and/or chemistry courses.

Table 1. Courses generally required for admission to medical schools.
(Wischnitzer, 1993)

2	General chemistry, including lab	2	General physics, including lab
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| 2 | Organic chemistry, including lab | 2 | English |
| 2 | General biology or zoology, including lab | | |

Table 2. Courses frequently recommended by medical schools.

Many medical schools recommend that applicants take several additional science, math, or non-science courses. Various combinations of the following are most commonly recommended. (Culled from Wischnitzer, 1993)

advanced mathematics (such as calculus)	vertebrate zoology
statistics	physical chemistry
biochemistry	quantitative analysis
genetics	social and behavioral sciences
developmental biology	humanities
cell and molecular biology	

MCAT Scores

The Medical College Admission Test (MCAT) is used by U.S. medical schools and by most Canadian medical schools to help admission committees gauge the aptitude of prospective students for medical education and their preparation in the basic sciences. The test is composed of four parts: Verbal Reasoning, Biological Sciences, Physical Sciences, and a Writing Sample. The questions in the biological and physical sciences are posed as problems in order to test both basic knowledge and problem-solving ability. Each of the first three sections is graded on a 15 scale. The average scores of successful applicants in recent years have been about 10 for each of those sections.

To do well on this test, it is essential that you have a strong command of the fundamentals of biology, chemistry and physics and facility with expository writing. Naturally, that means you need to do well in the appropriate science courses. In addition, you should undertake intensive test preparation prior to taking the exam. D'Youville provides a noncredit review course in the spring semester to help you with this preparation. You also have the option of taking a commercial test preparation course from companies like Kaplan and Princeton Review.

The Association of American Medical Colleges publishes a guide to the MCAT online. It is called "MCAT Essentials" and can be downloaded for free. It also has six practice tests available for your use. Prices vary. Some of the practice tests are also available as online tests. You can use one test for a month for \$10, or you can access four tests for longer periods for \$80. Diagnostic feedback and a solution for each question are included. Visit www.aamc.org/mcat for any of these items.

The MCAT is administered on just two days a year – once in April and once in August. The exact dates vary from one year to the next. Most applicants are well advised to take the test in April, so that consideration of their application is not delayed by tardy test scores. You must register more than a month in advance of taking the test. Test dates and registration dates are available at www.aamc.org/students/mcat/registration.htm. You must register online at that web site.

Letters of Recommendation

Letters of recommendation are generally required from faculty members and others knowledgeable of your academic promise, character and commitment to medicine. The medical schools are trying to get a portrait of you that goes deeper than just transcripts and test scores. The Preprofessional Advisory Committee at D'Youville has a policy of drafting a consensus letter that includes input from all members of the committee. Such consensus letters better reflect the combined judgment of the department and often carry more weight with admissions committees. The committee usually interviews a student before drafting the letter.

Knowledge and commitment to health care / Clinical experience

Medical school admissions committees will expect you to have substantial medical experience in clinical settings. This kind of experience is valuable because it allows you to see for yourself what a medical career entails. Medical schools frequently view your effort as an indication of your commitment to a medical career. The work may be volunteer or paid. A wide range of volunteer opportunities is available in hospitals and clinics in western New York.

Personal Attributes

Admissions committees will undoubtedly be interested your attributes and accomplishments. Certainly maturity and strong moral character will be important to them. Active involvement in community service can be indicative a concern for others. A distinctive ability or accomplishment may help you to stand out from others with equal academic qualifications. During your college career you should develop those special attributes that are most important to you. Don't spend your time trying to figure out what medical schools want. Focus on the things that you find most satisfying and rewarding. Then make an effort to highlight your special attributes and experiences in your application essay and interviews. See Wischnitzer (2000) for a fuller discussion of this topic.

Medical School Interview

The medical school interview is an opportunity for the admissions committee to meet you face to face and probe your ideas and attitudes. It is wise to prepare

for your interviews so that you can present a lively, coherent and compelling discussion of your interests and views about medicine. A mock interview with your advisor can help to focus your preparations.

II Application Process

Most U.S. medical schools utilize the American Medical Colleges Application Service (AMCAS). This service allows you to fill out a single application, which is then forwarded to all the medical schools you designate. They charge a substantial fee. AMCAS uses an application form that is filled out online. The form is accessible beginning in April each year at www.aamc.org/students/amcas. The application form asks for information in seven areas: biographical information, post-high school experiences, a short personal essay, a list of high schools and colleges attended, transcript request forms, a list of courses and grades, and a certification and submission section. You can see the specific information required in each section by printing up an application worksheet available at the web site cited above. Most medical schools will also ask you to fill out a supplemental application at a later date.

A few U.S. medical schools do not utilize AMCAS. They include the medical schools of Columbia University, Brown University, New York University, as well as some in Texas, Missouri and North Dakota. If you wish to apply to these schools, you must use their application forms. The five medical schools in Ontario, Canada use the Ontario Medical School Application Service (OMSAS). OMSAS also uses an application that is filled out online; it is available starting in early July each year at www.ouac.on.ca/omsas.

Osteopathic medical schools have their own application service known by the acronym, AACOMAS. This is also an online service. It is accessible at aacomas.aacom.org.

III Suggested Timeline

This timeline is presented as a model schedule designed to help you plan your undergraduate years. It should not be seen as a rigid schedule and may be modified to meet your special needs and circumstances.

Freshman Year

- > Make a tentative plan for your coursework over the next four years using the model schema and the advice of your advisor.
- > Develop good study habits and work hard at your courses to lay the foundation for a strong undergraduate academic record.
- > Improve your understanding of current events and general knowledge by getting into the habit of reading newspapers, news magazines and books on a regular basis.
- > Obtain several of the suggested reference works and begin to acquaint yourself with the process of applying to medical schools.
- > Consider seeking volunteer or paid summer or school-year work in a medical setting, such as a hospital or clinic. Or consider undertaking a biological or medical research project at D'Youville or at another site such as Roswell Park Memorial Institution.

Sophomore Year

- > Familiarize yourself with the Medical College Admissions Test (MCAT) and the AMCAS application procedure. Information on both is available from the Association of American Medical Colleges at www.aamc.org or www.tomorrowsdoctors.org.
- > Begin to investigate which medical schools you would like to apply to.
- > Consider taking an additional writing course if you need to improve your writing skills.
- > Begin or continue volunteer or paid work in a medical or research setting (see freshman year).
- > Begin an intensive review for the MCAT in the summer following your sophomore year or in your junior year.

Junior Year

- > Begin or continue your intensive review for the MCAT.
- > Request letters of recommendation. If you desire a consensus letter from the Preprofessional Advisory Committee, you should arrange to meet with them for an interview.

- > Decide what medical schools you will apply to. Consider applying to 8, 10 or more schools.
- > Register for the April administration of the MCAT. You should register several months earlier to help insure you get assigned to a nearby test site. You must register on line at www.aamc.org/mcat.
- > Begin to fill out your AMCAS application, including the two essays. AMCAS uses an online application form, which is available beginning in April at www.aamc.org/students/amcas/. You may want editorial help from your advisor in composing the essays.
- > Take the MCAT exam during the April administration.
- > Submit AMCAS and non-AMCAS applications in midsummer following your junior year.
- > Fill out and submit any supplemental applications, which will be sent out by medical schools after they receive your AMCAS application.

Senior Year

- > Practice for interviews with the help of your advisor.
- > Investigate financial aid possibilities.

IV Sources of Additional Information

Publications

American Association of Medical Colleges. MCAT Essentials. Can be downloaded for free at www.aamc.org/mcat.

- * Corder, B.W., ed. 1998. Medical professions admissions guide: strategy for success. Fourth edition. National Assoc. of Advisors for the Health Professions. P.O. Box 1518, Champaign, IL 61824-1518 or www.naahp.org/pubs.html

- * Hassan, A., ed. 1998. MCAT: the science of review: a complete preparation for the Medical College Admissions Test. Williams and Wilkins. Available at: 1-800-634-4365 or www.wwilkins.com/testprep
 - * James, E.J. and K.E. Hamilton, eds. 1996. Getting into medical school: a planning guide for minority students. Williams and Wilkins, Baltimore, MD. Available at: 1-800-634-4365 or www.wwilkins.com/testprep
 - * Medical school admission requirements
Available from: Association of American Medical Colleges, One Dupont Circle, N.W., Suite 200, Washington, D.C. 20036 or www.aamc.org
 - * Minority student opportunities in United States medical schools. 1998. 14th edition. Available from: Association of American Medical Colleges, One Dupont Circle, N.W., Suite 200, Washington, D.C. 20036 or www.aamc.org
 - * Plantz, S.H., N.Y. Lorenzo, and J.A. Cole. 1998. Getting into medical school today. Fourth edition. Macmillan, N.Y.
- Rothstein, R., A. Koh, S. Klotz, M. Syptak and D. Warren. 1995. Kaplan MCAT all-in-one test prep plus medical school admissions. Bantam Doubleday Dell, N.Y. 276 p.
- * Wischnitzer, S. 2000. Barron's guide to medical and dental schools. Ninth edition. Barron's Educational Series, Inc., N.Y.

* = available at the D'Youville Library

Internet Sources

American Association of Colleges of Osteopathic Medicine
www.aacom.org

American Medical Student Association – Premed page.
[www.amsa.org / premed](http://www.amsa.org/premed)

Association of American Medical Colleges – Applicant information
www.tomorrowsdoctors.org or www.aamc.org/students/

Ontario Medical School Application Service
www.ouac.on.ca/omsas

Pfizer medical school manual.
www.positiveprofiles.com/resources/manual/index.html
(an extensive and very useful guide)

The osteopathic source.
www.primenet.com/~pulse/thesourde.html

University at Buffalo Medical School
www.smbs.buffalo.edu

US Premeds
www.uspremeds.com

- has links to many other useful sites, including all U.S. and Canadian medical schools