

***PREPARATION FOR A CAREER  
IN MEDICINE***

***“A GUIDE FOR STUDENTS”***

***Prepared by Ted Johnson***

Former Chair of the Health Professions Committee



3/2013

## **Medical School Application Deadlines**

Application for Medical School (AMCAS advice)

**- January/February**

Start HPC Committee process. Fill out information form and distribute faculty evaluation forms. Start researching medical schools. Use books, Internet and consult with the HPC members. Select an MCAT test date and prepare in earnest for the MCAT.

**- April**

Interview with HPC Committee [all forms must be in your file by April 1<sup>st</sup> to secure an interview]. Take the MCAT in April or May if possible.

**- May**

Web-based application available. Start working on your personal statements and contract potential recommenders. Many schools will eventually require at least two recommendations in addition to the HPC evaluation.

**- June**

Applications start being accepted on June 1. Submit as early as possible. Keep track of deadlines. A final deadline for AMCAS application is November 15<sup>th</sup>.

**- August**

Early decision application deadline (August 1) for AMCAS application.

**- September/October**

Early decision applicants are notified of acceptance or non-acceptance. (October first.) Interviews start for medical school applicants.

**- October to December**

Final and secondary application deadlines vary from October 15 to December 15 depending on the medical school. Secondary application deadline varies by the medical school.

**- March**

Target for final acceptance of applicants.

**- May**

Accepted students must select one medical school by May 15.

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## PREPARATION FOR A CAREER IN MEDICINE

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*“Go confidently in the direction of your dreams.  
Live the life you have imagined.” Henry David Thoreau*

### PREFACE

This advising manual is intended for St. Olaf students who are in the process of deciding what path their future career will take in the health professions. You are embarking on a long journey; pay attention to the scenery, off ramps and rest stops along the way. Allopathic medicine (M.D.) will be the focus of this document. A brief overview of osteopathic medicine and dentistry is also included. The coursework and preparation for a career as a physician is difficult. The path to medical school is full of uncertainty, anxiety, self-doubt, and often disappointment. The medical landscape is constantly changing presenting challenges to both the student and the advisor. No typical "pre-med" exists, with each student presenting different questions and concerns within a backdrop of unbridled optimism. Many hurdles must be crossed before a student is successful at gaining admission to medical school, which in reality is the beginning of another long journey to a career as a physician. Students interested in medicine cannot be myopic but must consider other options and opportunities as they pursue medicine. A majority of pre-med students will find other rewarding careers during their pre-med studies.

The purpose of this document is to provide rudimentary information for the use of students interested in a career in medicine. If you are interested in investigating other careers in the biomedical field such as dentistry or physical therapy, consult the advising manual Finding Your Way in the Health Professions, available online ([www.stolaf.edu/depts/biomed/handbook/health\\_careers/index.html](http://www.stolaf.edu/depts/biomed/handbook/health_careers/index.html)). Any mistakes, omissions, or misinformation in this advising manual are the author's. Any unanswered questions or concerns may be directed to anyone on the Health Professions Committee (HPC).

### Health Professions Committee

The Health Professions Committee (HPC) is composed of faculty in Natural Science and Mathematics who are involved in teaching courses and advising students interested in health-related careers. Karen Renneke, Academic Administrative Assistant (AAA) in Chemistry supports the committee by scheduling activities, distributing materials to students and preparing the HPC Letter of Evaluation as part of the student's dossier when applying for entrance into health professions schools. The current members of the HPC for 2013 are:

Beth Abdella– Chemistry	Nicole Beckman- Nursing
Kevin Crisp (Chair) – Biology	Wes Pearson- Chemistry
Jay Demas– Physics	Minda Orina- Psychology
Diane Angel – Biology	Katie Ziegler-Graham-Mathematics/Statistics

# CONSIDERING A CAREER IN MEDICINE

## *How do I know if a career in medicine might be for me?*

First ask yourself what kind of future appeals to you. Do you want challenges, opportunities, and a chance to make a difference? Many bright and motivated college students describe a “dream career” with the following characteristics:

**Opportunity to serve** – Allows you to help people.

**Action** – Doesn’t tie you to a desk all the time.

**Respect** – You are an important part of your community.

**Security** – Allows you a good living with a secure future.

**Excitement** – Changes daily, so it’s hardly ever boring.

**Mobility** – You’re in demand wherever you choose to live.

**Flexibility** – Gives you lots of career options from the same education base.

Few occupations meet all of these standards. None meets them better than a career in medicine.

## *What is a doctor’s career like?*

Few fields offer a wider variety of opportunities. Most doctors’ professional lives are filled with caring for people and continuously learning more about the human body. Every day in communities around the country, doctors work in neighborhood clinics, hospitals, offices, even homeless shelters and schools to care for people in need.

But physicians also do many other things. Physician researchers are at work today developing exciting new treatments for cancer, genetic disorders, and infectious diseases like AIDS. Academic physicians share their skills and wisdom by teaching medical students and residents. Others work with health maintenance organizations, pharmaceutical companies, medical device manufacturers, health insurance companies, or in corporations directing health and safety programs. People with medical skills are in demand everywhere.

## *Would medicine provide me with a good living?*

Medicine has many rewards – personally, intellectually, and financially. On average, doctors make about \$160,000 a year, but this amount can vary depending on where physicians live and what type of medical specialty they practice. As the American health care system changes, fewer doctors are working for themselves and more are joining health care systems, often as salaried employees. In these organizations, physicians often can command salaries comparable to executives in other occupations.

## *I’ve heard a lot about primary care doctors lately. What are their careers like? What are some examples of specialist physicians?*

About one-third of the nation’s physicians are generalists – “primary care” doctors who provide lifelong medical services for you and all the members of your family. General internists, family physicians, and general pediatricians are all considered generalist doctors. They are the first doctors you consult for medical care. And they are trained to provide the wide range of services children and adults need. When patients’ specific health need require further treatment, generalist physicians send them to see a specialist physician.

Specialist physicians differ from generalists in that they focus on treating a particular system or part of the body. Neurologists who study the brain, cardiologists who study the heart, ophthalmologists who study the eye, and hematologists who study the blood are just a few examples of specialists. They work together with generalist physicians to ensure that patients receive treatment for specific medical problems as well as complete and comprehensive care throughout life.

Adapted from: Careers in Medicine, Association of American Medical Colleges. Current information can be located on <http://www.aamc.org/students/medstudents/cim/about/>

## **Successful Applicants**

Medical schools evaluate applicants utilizing several aspects of the applicant's academic record and activities. Five general areas will be considered in making decisions regarding acceptance in the medical school. They are as follows:

1. GPA- Grades are important as is course selection. The academic record should indicate rigor as well as breadth in course selection. Most successful applicants have above a 3.50 GPA.
2. MCAT- Scores on the MCAT are very important in the evaluation of applicants. Medical schools want scores, which indicate balance in all three areas. There is no magic number but a score below 9 in any section may result in an unsuccessful application.
3. AMCAS Application- Three major areas are evaluated with different weight given to each area depending on the medical school. Medical schools want evidence of significant long term service activities, exposure to patients in a health care setting and involvement in a research project (for most medical schools, research enhances the application but is not a requirement). Medical school admissions committee will also look for evidence of leadership, good time management skills, ability to multitask and a record of involvement in campus organizations ranging from music to student government. Medical schools want well rounded individuals who know why they want to be a physician.
4. Recommendations- Applicants use a HPC Committee letter and some medical schools require applicants to submit two to five additional letters of recommendation.
5. Interviews- After review of the applicant's application and recommendations, applicants may be invited for an on campus interview. Successful applicants are able to articulate why they are interested in becoming a physician and be able to clearly describe their "journey" on the path to a career as physician.

### **Additional resources**

- Getting into Medical School: A Guide for the Perplexed by Kenneth Iverson. Copies are available in the biomedical area of the Science library.
- "Explore Health Careers" <http://explorehealthcareers.org/en/home>
- American Association of Medical Colleges( AAMC)  
<https://www.aamc.org/students/careers.htm>
- The St Olaf Piper Center for Vocation and Career has a wide variety of resources and information.
- The Health Careers Center at the University of Minnesota has a series of online workshops.  
[www.healthcareers.umn.edu/](http://www.healthcareers.umn.edu/)

## **Advising**

Your primary advice regarding courses and preparation for future careers should be obtained from your faculty advisor. Faculty is equipped to give suggestions as to selection of sequence of courses that will match your abilities and interests. Advisors will give advice but the final responsibility for proper course selection and completion of graduation requirements rests with you. Take advising seriously; put effort into course selection, major and program requirements before you meet with your advisor. Additional advice and information may be obtained from any member of the HPC. You do not need to change advisors to an HPC faculty member. Obtain advice from those whose opinions you trust. Carefully consider the advice you are given, but also consider the bias of the person giving the advice.

"Filter the advice and filter the source." *James D. Fisk*

## **Time Table of the premedical journey**

### **First Year**

- Carefully consider career options with your advisor
- Register your interest in pre-med or other health profession, by email to Karen Renneke or use the form provided on the last page so that you receive the appropriate e-mails/mailings/notices and are considered for scholarships
- Initiate the sequence of courses required by the medical schools of interest; plan your course of study and possible career objectives with your advisor
- Get to know your professors; remember some of them will be writing letters of recommendation for you.
- Contact the Piper Center for Vocation and Career to acquire advice and guidance as you began this important journey.
- Plan any off-campus semester programs and internships

### **Second Year**

- Consider an internship in an area of medicine, during the interim or summer. Informational interviews with physicians or other health care professionals can be very insightful.
- Attend a pre-med students day at the University of Minnesota
- Acquaint yourself with the members of the HPC. Get to know your professors.
- Decide on a major by the end of your sophomore year
- Seek out opportunities to work with patients in a health care setting such as a nursing home or other health care setting. Volunteer or acquire your CNA and work in the facility.
- Investigate summer or semester research opportunities
- Develop your talents. Get involved in campus activities. Balance your life!
- Look through a sample MCAT tests to develop an awareness of the test
- Volunteer; participate in appropriate service projects and extracurricular activities
- At the end of your sophomore year, review your academic progress and revisit other career options; are you meeting your goals? “Walk the Talk”

### **Third Year (or Fourth Year if a Gap year is planned)**

- Complete all pre-medical requirements. Many successful applicants plan on a gap year, which allows flexibility.
- Consider an internship or the ID 255 Interim course within the Fairview system
- Prepare for the MCAT. Register for the MCAT in early spring. You may need a lighter load during the spring semester. Take the MCAT. Relax!
- Request an interview with the HPC early in the spring (see Karen Renneke). Obtain the forms from Karen Renneke or go to [www.stolaf.edu/depts/biomed/formsto\\_be\\_used\\_by\\_student\\_and\\_faculty-](http://www.stolaf.edu/depts/biomed/formsto_be_used_by_student_and_faculty-)
- Determine tentatively which schools you are interested in, taking into account residency, GPA, etc. (use the MSAR, [www.aamc.org](http://www.aamc.org)) and the websites of the medical schools of interest.
- Initiate the AMCAS web-based application in late May or early in June.
- Complete the AMCAS application as early as possible and request the appropriate transcripts be sent to AMCAS. Most medical schools are on a rolling admission, so the earlier the better.

Complete the secondary application once you receive it in a timely manner.

**Fourth Year** (summer after your third year or fourth year)

- Complete secondary applications and the application process ( request the HPC Committee recommendation and any additional recommendation letters). Confirm that the schools have a complete application. Be professional!
- If invited in the fall complete an interview with the medical school
- Be patient! Carefully consider other career options to maintain as many opportunities as possible. Consider a plan of action if you are not accepted your first time
- Enjoy your senior year! Celebrate a successful undergraduate experience.

*"There is a time for everything and a season for every activity under heaven." Ecclesiastes 3:1*

**Course of Study**

The official guide for admission requirements for medical school is the Medical School Admissions Requirements (MSAR) published yearly by the American Association of Medical Colleges ([www.aamc.org](http://www.aamc.org) or [http://services.aamc.org/AAMC\\_STORE/catalog.cfm](http://services.aamc.org/AAMC_STORE/catalog.cfm)). Copies of the current MSAR book are kept in the Biomedical Studies Resource Room Area in the Science Library. Students may want to purchase their own copies (approximately \$25) through the web site or other web sites such as Amazon.com. The Biomedical Resource Area has a wide variety of resources for student use ranging from videos, CDs, reference books, pamphlets, catalogs, to test preparation materials. Medical schools seek individuals from diverse educational backgrounds. There is no "one way to go" in completing the undergraduate degree. All medical schools recognize the importance of a strong base in the natural sciences as well as a solid background in the social sciences and humanities. An essay in the 1982 Premedical Handbook prepared by the St. Olaf Pre-Health Science Committee reprinted in Appendix A , gives thoughtful advice for a St. Olaf student interested in medicine.

Dan Marian, an experienced advisor, gave this advice:

*"I spend a lot of my time trying to convince students that college is an education, not an obstacle course on the way to a trade school, that they should enjoy learning, that they should enjoy college, have a (disciplined) social life, participate in their college and/or the off-campus community, get experiences where they can learn about themselves and their intended profession.....Giving everyone a list of courses I regard as giving them a loaded gun they don't know how to use; the lucky ones will only shoot themselves in the foot, but most shoot themselves in the head or heart."*

“.....Medical schools would like their students to become ‘total physicians,’ capable of understanding human needs as well as diagnosing disease; able to communicate and respond effectively and compassionately. A curriculum that demonstrates a desire to enhance your ability to deal with other human beings looks more favorable than one filled with nothing but science courses.....”

“Your electives should not only include recommended science courses but should also include a wide range of humanities, behavioral and social science courses that will give

admissions committee members an indication of your sincere desire to become a well-rounded individual. Nothing destroys a doctor-patient relationship faster than a doctor's inability to relate to his or her patient. Medical schools recognize the importance of personal attributes and look for individuals they feel will be both physician and humanitarian.”

Source: The Complete Medical School Preparation and Admissions Guide by A. Goliszek

## Choosing A Major

Students can major in any area of interest. Students should select majors and concentrations based on their abilities, interests and a major which will provide an academic base necessary for pursuing a variety of career options. An undergraduate course of study should not be focused exclusively on a future career in medicine but a springboard to examine a variety of careers related to medicine or outside of the medical arena. Students interested in medicine do not need to major in biology or chemistry. Table 18 reprinted from the AAMC website reflects <https://www.aamc.org/download/321496/data/2012factstable18.pdf> reflects the various majors in the application process.

**Table 18: MCAT and GPAs for Applicants and Matriculants to U.S. Medical Schools by Primary Undergraduate Major, 2012**



Average MCAT scores\* and GPAs for year 2012 applicants and matriculants to U.S. Medical Schools by primary undergraduate major are displayed below. Please e-mail us at [facts@aamc.org](mailto:facts@aamc.org) if you need further assistance or have additional inquiries.

Applicants, 2012	MCAT VR		MCAT PS		MCAT BS		Total MCAT		MCAT WS			GPA Science		GPA Non-Science		GPA Total		Total Applicants
	Mean	SD**	Mean	SD	Mean	SD	Mean	SD	25th %ile	Median	75th %ile	Mean	SD	Mean	SD	Mean	SD	
Biological Sciences	8.8	2.1	9.3	2.2	10.0	2.1	28.1	5.4	M	P	Q	3.45	0.42	3.68	0.29	3.54	0.34	23,766
Humanities	9.8	1.9	9.6	2.1	10.0	2.0	29.5	5.0	O	Q	R	3.41	0.44	3.66	0.30	3.55	0.32	1,940
Math and Statistics	9.3	2.0	10.7	2.3	10.4	2.0	30.4	5.4	N	P	Q	3.54	0.42	3.65	0.34	3.57	0.37	366
Other	8.8	2.2	9.3	2.3	9.7	2.2	27.8	5.6	M	P	Q	3.44	0.44	3.66	0.30	3.53	0.34	8,040
Physical Sciences	9.3	2.1	10.5	2.2	10.2	2.1	30.0	5.3	N	P	Q	3.49	0.41	3.62	0.32	3.54	0.35	4,825
Social Sciences	9.4	2.0	9.4	2.2	9.8	2.1	28.6	5.3	N	P	Q	3.38	0.45	3.59	0.33	3.50	0.34	5,075
Specialized Health Sciences	8.2	2.4	8.4	2.3	9.0	2.3	25.6	6.0	M	O	Q	3.39	0.44	3.62	0.33	3.50	0.35	1,254
<b>All Applicants</b>	<b>9.0</b>	<b>2.1</b>	<b>9.5</b>	<b>2.3</b>	<b>9.9</b>	<b>2.1</b>	<b>28.3</b>	<b>5.5</b>	<b>M</b>	<b>P</b>	<b>Q</b>	<b>3.44</b>	<b>0.43</b>	<b>3.66</b>	<b>0.31</b>	<b>3.54</b>	<b>0.34</b>	<b>45,266</b>

Matriculants, 2012	MCAT VR		MCAT PS		MCAT BS		Total MCAT		MCAT WS			GPA Science		GPA Non-Science		GPA Total		Total Matriculants
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	25th %ile	Median	75th %ile	Mean	SD	Mean	SD	Mean	SD	
Biological Sciences	9.7	1.7	10.4	1.9	10.9	1.6	31.0	4.0	N	Q	Q	3.64	0.31	3.78	0.23	3.69	0.25	10,005
Humanities	10.4	1.5	10.5	1.8	10.9	1.6	31.8	3.7	O	Q	R	3.59	0.33	3.73	0.25	3.66	0.25	977
Math and Statistics	10.1	1.5	11.4	1.8	11.3	1.6	32.8	3.8	O	Q	R	3.67	0.30	3.71	0.30	3.68	0.28	182
Other	9.8	1.7	10.4	1.9	10.8	1.6	31.0	4.0	N	Q	Q	3.62	0.32	3.75	0.24	3.68	0.25	3,297
Physical Sciences	10.0	1.6	11.3	1.8	11.0	1.6	32.4	4.0	N	Q	Q	3.65	0.30	3.71	0.25	3.67	0.26	2,337
Social Sciences	10.1	1.5	10.5	1.8	10.8	1.6	31.4	3.8	O	Q	R	3.58	0.32	3.69	0.27	3.64	0.26	2,305
Specialized Health Sciences	9.4	1.8	9.8	1.8	10.4	1.6	29.6	4.1	N	P	Q	3.62	0.32	3.77	0.22	3.69	0.25	414
<b>All Matriculants</b>	<b>9.8</b>	<b>1.7</b>	<b>10.5</b>	<b>1.9</b>	<b>10.9</b>	<b>1.6</b>	<b>31.2</b>	<b>4.0</b>	<b>N</b>	<b>Q</b>	<b>Q</b>	<b>3.63</b>	<b>0.31</b>	<b>3.75</b>	<b>0.24</b>	<b>3.68</b>	<b>0.25</b>	<b>19,517</b>

\* The table presents the most recent MCAT scores.

\*\* SD = Standard Deviation

Source: AAMC 12/17/2012

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*“A student’s choice of major should reflect a genuine intellectual curiosity and a passion for the discipline rather than a desire to please a medical school admissions committee..... Students at interviews need to explain their choice of major as something that they found intellectually exciting rather than a means to an end.” (M. McGrath, The Advisor, p. 16, March 2003)*

### **Student Myths About Medical School Admissions**

1. Medical school is easier to get into than it was ten years ago.
2. You must major in science.
3. Double majors, especially biology and chemistry, have higher acceptance rates.
4. A “C” in a pre-med requirement will keep an applicant out of medical school.
5. Having a parent or relative in medicine will insure acceptance to medical school.
6. You need to be wealthy to get into medical school.

### **Course Requirements for Medical School**

The courses required for application to medical school vary some from school to school. Preparation for the 2015 version of the MCAT (required by all medical schools) include the following courses: Some students may satisfy the Biology requirement with Bio 125 and 126.

MCAT requirements:

- |   |   |
|---|---|
| - 1 year of General Biology             | In 2013 will be Bio 150<br>and Cell Biology (Bio 227) or<br>Genetics (Bio 233). |
| - 1 year of General Chemistry           | Chem 125 (or 121/123) and 126*  |
| - 1 year of Organic Chemistry           | Chem 247/253 and 248/254  |
| - 1 course in Biochemistry              | Chem 379  |
| - 1 year of General Physics             | Physics 124 and 125   |
| - 1 course in Behavioral Science        | Psychology 125  |
| - 1 course in Sociology or Anthropology | Soc 121 or 128  |
| - 1 Critical Reasoning Course           | Statistics 212  |

Additional Medical School Requirements for some schools:

- Math 120 \*\*
- English – 2 courses /Composition and Literature\*\*\*

\*Ch-Bi 125,126, and 127 will replace Bio227, Chem125 and 126

\*\*Calculus/Math requirements vary from one year of calculus at research-oriented schools such as Washington University and Harvard to no calculus requirements at most schools. Chemistry 126 and Physics 124 require at least one course in calculus

\*\*\*St. Olaf General Education courses cover this requirement.

Students should check the requirements of the medical schools of interest early in their undergraduate studies. The MSAR, which is available in the Biomedical Studies Resource Area in the Science Library, is a current source of requirements of all U.S. and Canadian medical schools. Medical schools have variable requirements in regards to Advanced Placement (AP) courses. Many medical schools, including the University of Minnesota, do not accept CLEP credits for the required premed courses and a few schools do not accept AP credits. Check the MSAR to acquire specific information regarding AP/CLEP courses. All required “pre-med” lecture courses must be taken graded.

Listed below are the major requirements for the Minnesota, Iowa and Wisconsin medical schools :

**Minnesota** (must complete the required courses before matriculation)

**Minneapolis** (<http://www.med.umn.edu/medical-school-students/medical-school-admissions/prerequisites/index.htm>). AP or CLEP credits cannot be used for required courses but

advanced courses in those areas can be taken if AP credit exists.

- Biology 150 and Bio 227 or 233
- Chemistry 125 (or 121/123)
- Additional 4 courses from the following: Bio 227 or 233, Chemistry 126, Chemistry 247/253 and 248/254, Chemistry 379 (lab is not required). Physics 124 and 125. Two of these courses must be upper level.
- Humanities and social science: One upper level (II or III) course with a writing component (WRI).

Recommended electives: Biology 233, Chemistry 379, ethics, Psychology 125, statistics, foreign language, additional social and behavioral courses, independent learning courses.

**NOTE:** The MCAT requires one year of general chemistry, organic chemistry, physics and biology. The above requirements are for the U medical school.

- Class size 170, students may participate in the flexible MD program and finish in 3.5- 6yrs.

**Duluth** (<http://www.med.umn.edu/medical-school-students/medical-school-admissions/medical-school-selection-criteria/essential-and-desired-skills-and-knowledge/home.html>)

Same requirements as the University of Minnesota Minneapolis Medical School.

- Small-town or rural Minnesota applicants preferred. The primary goal of Duluth is to train primary care physicians who will practice in small towns or Native American communities in rural Minnesota.
- Class size 60
- Apply initially (AMCAS) to the University of Minnesota and after the AMCAS application is processed you will be able to designate Duluth, Twin Cities or both.

**Mayo Medical School** (<http://www.mayo.edu/mms/>)

- Biology 150 and 227 or 233
- Chemistry 125 (or 121/123) and 126
- Chemistry 247/253 and 248/254
- Chemistry 379 (Biochemistry lab is not required)
- Physics 124 and 125
- Class size 50

**Iowa**

University of Iowa (<http://www.medicine.uiowa.edu/md/requirements/>)

- AP or CLEP courses may be used
- Biology 150 and 233
- Chemistry 125 (121/123) and 126
- Chemistry 247/253 and 248/254
- Physics 124 and 125
- Mathematics 120 or Stats for Science (Stats 212)
- English: 2 courses
- Advanced biology courses recommended include Biochemistry, Molecular Biology, Cell Biology or Microbiology
- Four courses in social and/or behavioral sciences, humanities (Psychology, foreign language, sociology, etc)

- Class size 152

### **Wisconsin**

Medical College of Wisconsin (<http://www.mcw.edu/medicalschoo/prerequisites.htm>)

- AP may be used.
- Biology 150 and 227 or 233
- Chemistry 125 (or 121/123) and 126
- Chemistry 247/253 and 248/254
- Physics 124 and 125
- English - 2 courses
- Biochemistry is recommended
- Class size 212

University of Wisconsin

(<http://www.med.wisc.edu/education/md/admissions/premedical-requirements/110>)

- Biology 150
- Advanced Biology (+ lab): 1 course (Bio 227 or 233)
- Chemistry 125 (or 121/123) and 126
- Chemistry 247/253 and 248/254
- Chemistry 379 (lab is not required)
- Physics 124 and 125
- Statistics (Stats 212)
- Recommended courses in English, Psychology, Math 120 and Quantitative Analysis in Chemistry (Chem 255)
- Class size 171

Requirements for the remaining medical schools are listed in the MSAR.

### **Course Planning and Academic Loads**

Course planning and selection really depends on the student and their ACT/ SAT scores. Placement exams in chemistry, math, and physics should be closely adhered to especially for first-year students. Usually two science courses (if possible only 2 per semester) spread throughout the student's undergraduate program. Balance loads as much as possible taking into consideration any proposed off-campus semester or year plans. Summer school may be used carefully to lighten the load a bit and allow the student to broaden further their academic base. When considering applicants, medical schools do consider the rigor of the academic load and courses taken by the student. Pre-med students who take two science courses each semester usually will complete their pre-med requirements by the end of their junior year. Many students plan on incorporating a gap year and apply after their senior year. Most students take the MCAT in the spring of their junior year. Students, who for a variety of good reasons take the MCAT in the summer, may be at a disadvantage if they plan to apply in late summer. Students who take the August MCAT will not have a complete application until late September when the MCAT results are released which will put them at a real disadvantage for medical schools with a "rolling admissions" policy. Incidentally, a majority of students do not go directly to medical school after college but have gap years (1-3 years).

As discussed earlier, students can major in any area but most students complete the courses required for medical school by the end of their junior year. Many students major in

Chemistry or Biology, which provides students a rich base for future medical school courses. Students may also take the Chem-Bio sequence, which combines Chemistry 125, 126 with Biology 227. (Ch-Bi 125, 126 (interim),127).

### Chemistry Major

Students will select Chemistry 125 or 121 based on the Chemistry Placement Examination or they may take the Chem-Bio sequence Ch-Bi 125, 126 (interim) 127. If students initiate their chemistry major with Chemistry 121, they will continue with Chemistry 123 over the Interim and then Chemistry 126 during Semester II. Students majoring in Chemistry must complete Mathematics through 126 or 128. Seek advice from a chemistry faculty member for advice about electives, seminar attendance, and other opportunities. Listed below is a potential course of study for a student majoring in chemistry.

#### Majoring in Chemistry

##### First Year

Chem 125 (or 121/123 Interim)\*  
Math 120  
Religion or English or Great Con  
Foreign Language (?)

Chem 126\*  
Math 126  
Religion or English or Great Con  
Foreign Language (?)

##### Second Year

Organic Chem 247 (and 253)  
Bio 150  
2 electives

Organic Chem 248 (and 254)  
Bio 227 or 233  
2 electives

##### Third Year

Biochemistry (Chem 379)  
Physics 124  
2 electives

Biochemistry 385 or a Chem elective  
Physics 125  
1-2 electives (MCAT?)

##### Fourth Year

Analytical Chem 255 (and 256)  
or Physical Chem 371 (and 357)  
3 electives

Analytical Chem 255 (and 256)  
or Physical Chem 371 (and 357)  
3 electives

\* May take Ch-Bi 125, 126, 127

- Biochemistry, Physical Chemistry and Analytical Chemistry may be taken in any semester after the sophomore year.

### Biology Major

Students can either start with chemistry or biology their first year but starting in chemistry has the advantage of spreading out the requirements (i.e., Organic Chemistry and Physics will be taken in different years). Two possible approaches for students are shown below depending on whether a student starts with chemistry or biology. All students will usually be in math depending on their placement. Occasionally a student will come in with a year or semester of calculus completed

which will allow them to start with Bio 150 and Chemistry 125 their first semester. Students may also take the Chem-Bio sequence, which combines Chemistry 125, 126 and Biology 227 (Ch-Bi 125, 126 (interim), 127). Interims are usually used for electives with many biology students enhancing their major with off-campus biology courses during the upper-class years of study. A reminder that a student can major in any area, but the pre-med requirements should be completed by the end of the junior year in order to take the MCAT in the spring.

Listed below are the two options including just the science courses and a few requirements for someone majoring in Biology:

**Option One:** Starting with Biology

First Year

Bio 150	Bio 233
Math 120	Math (?)
Religion or English or Great Con	Religion or English or Great Con
Foreign Language (?)	Foreign Language (?)

Second Year

Biology 261 (?)	Biology 227
Chem 125 (or 121 with 123)	Chem 126
2 Electives (Psyc. Or Soc.)	2 Electives(Psyc. Or Soc.),Stats 212?

Third Year

Organic Chem 247/253	Organic Chem 248/254
Physics 124	Physics 125
2 Electives	2 Electives

Fourth Year

Biochemistry 379	Biology
Bio 243 (?)	Biology
2 Electives	1-2 Electives (MCAT?)

**Option Two:** Starting with Chemistry and majoring in Biology

First Year

Chem 125*	Chem 126*
Math 120	Bio 150
Religion or English or Great Con	Religion or English or Great Con
Foreign Language (?)	Foreign Language (?)
Some students test into second semester Calculus which allows them to take Bio 150 .	
*May take the combined Chem-Bio Sequence (Ch-Bi 125, 126, 127)	

Second Year

Organic Chemistry 247/253	Organic Chemistry 248/254
Bio 227 or 233	Bio 227 or 233
2 Electives (Psyc. or Soc.)	2 Electives (Psyc. Or Soc.)Stats 212

Third Year

Physics 124  
Biochemistry 379  
2 Electives

Physics 125  
Biology course  
1-2 Electives (MCAT?)

Fourth Year  
Biology  
Biology  
2 Electives

Biology  
3 electives

Course selection should be as broad as possible; life is unpredictable and breadth in courses will allow maximum flexibility. Double majors especially chemistry/biology have not been shown to be at an advantage for admission to medical school and will minimize the number of electives taken by a student. A Biomolecular Science Concentration, or a Neurobiology Concentration may fit the student's needs and should be explored.

Courses in biology, which are often recommended as electives, are Human Anatomy and Physiology (Bio 243), Microbiology (Bio 231) and Cell Physiology (Bio 341). Immunology (Bio 382) and/or Developmental Biology (Bio 372) have also been useful courses for students entering medical school. Students benefit a great deal from an off-campus internship in medicine or participation in ID 255, Hospital Health Care and the Physician, in the Fairview Clinics during the Interim. Off-campus semester programs, such as Biology in South India or the ACM spring semester in Costa Rica have been very beneficial to students interested in medicine.

### **Other Majors**

Students normally would take Chemistry 125 (or 121/123 Interim), Math 120 and Chemistry 126 their first year. During the second year, students would take Organic Chemistry (247 and 248) with lab (253 and 254). Biology 150 and 227 or 233 could be taken during the second year with Organic Chemistry or during the third year. Physics 124, 125 and Biochemistry (Chem 379) normally would be completed during the third year. General education courses, electives, and courses in their selected major would be added to the pre-med requirements.

### **Life Beyond the Courses**

Medical schools are looking for well-rounded individuals who are interested in a wide variety of areas and have demonstrated their interest in medicine and people. Students should take advantage of the many opportunities to obtain patient contact and observe the practice of medicine. It is relatively easy to assist a student in arranging an internship with physicians in their hometown, with alumni, or with physicians in the Twin Cities. Internships during the Interim in the student's sophomore or junior year work well. The Biology Department has a notebook containing a partial listing of past internships completed by biology students. The Piper Center can also supply information and assist with a web search for alums and is a good place to start. Students may also shadow physicians during the summer or semester breaks and formal registration for credit is not required. Informational interviews with several physicians or health care professionals can also be very useful in determining your goals and motivation.

Shadowing physicians is a passive activity and medical schools value the shadowing experience but want evidence of one on one patient contact working or volunteering in a clinic, nursing home or a related area. Medical Schools want students to have direct experience with patient's not just observation. Some student's volunteer at the Northfield Hospital Emergency Room, Health Finders in Dundas or an elderly care facility in Northfield. Students may also work as an Emergency Room Scribe, a nursing aide or a home health aid. Periodically the Three Links campus in Northfield provides Certified Nursing Assistant Classes at low cost usually through the South Central College in Faribault. A new opportunity to work and do research at the Hennepin County Medical Center (HCMC) has been generously supported by a gift from alumni Dr Gaylan Rockswold and Mary Garnaas Rockswold . The HCMC program provides clinical and research opportunities at HCMC over a 10-week period in the summer. The HCMC program provides clinical rotations, clinical research projects, and exposure to public health concepts. Application is in February through the Piper Center.

Students should maintain a high level of involvement in extra-curricular activities. They should be selective and involve themselves in activities they are genuinely interested in. Extensive involvement in a few activities ranging from music to athletics to Tri-Beta leading to leadership opportunities is most beneficial. "Padding" one's resume is usually quite obvious and can do more harm than good. Balance is important; over-extended students usually suffer academically. Students need to carefully plan and organize their extra-curricular activities to fit their academic load. Work experiences during the academic year and summer demonstrate to medical schools organization, initiative, motivation, and the ability to accept responsibility. Many opportunities exist to volunteer in a dental or medical clinic domestically or in an international setting. Some programs are available through St Olaf such as the Mission to Peru, while other programs are through religious organizations such as International Service Organization or private organizations such as Child Health International. These programs provide service-learning opportunities in a clinical arena. Some international programs such as Health Brigades are student organizations and students need to exercise caution in their involvement in clinical procedures. Only participate in clinical procedures that you are qualified to perform. Do not get involved in clinical procedures beyond those you have received training. A document is provided in Appendix B, which outlines appropriate patient care. Signing this document indicates your adherence to appropriate participation in clinical procedures. The document once read and signed can be given to Kevin Crisp or to the Piper Center. A job in the medical arena is very beneficial and can go a long way towards demonstrating interest in medicine. Students need to demonstrate broad cultural sensitivity and comfort with diversity. Many successful St. Olaf medical students have found off-campus courses or semester abroad programs very helpful and, in some instances, a critical component in their acceptance to medical school. Reflect on the experience. What did you learn about yourself? What did the culture teach you?

Many enrichment programs providing support and mentoring during the undergraduate years for students from underserved or disadvantaged urban or rural backgrounds or first generation students. Minnesota Future Doctors (<https://www.meded.umn.edu/futuredocs/>) is a program supported by the University of Minnesota – Minneapolis campus. The program is designed to give disadvantaged undergraduates exposure to medicine and how to be a successful applicant.. Contact Dr. Jo Peterson ([jopete@umn.edu](mailto:jopete@umn.edu)) for information (application deadline is in February).

Another source of support and information for disadvantaged students is [//www.aspiringdocs.org/](http://www.aspiringdocs.org/).

Medical schools are also interested in students who have demonstrated compassion and empathy through volunteer activities. Opportunities such as volunteering one-on-one with a hospice program or as home aid for an AIDS patient or with a local free clinic such as Health Finders in Dundas is considered optimal. Other examples of volunteer activity include crisis-line counseling, working with physically disabled or developmentally delayed individuals, volunteering at Laura Baker School, working with abuse victims, or troubled youth. Institutions like the University of Minnesota value one-on-one volunteering highly. The University of Iowa wants applicants to have at least three health care experiences. Volunteering will enhance the student's goal orientation and will assist them in focusing on their goals. Cooperation, organization, self-discipline, tolerance, increased empathy, and confidence are just a few of the areas where students will benefit from volunteering. Medical schools look for applicants that have done something meaningful for someone else. Students should make good use of their summers and spring breaks! Do not leave all your volunteering and service for the year you are applying. Medical schools want a long period of involvement with depth preferred over breadth.

Two quotes in a publication from the U. of Minnesota Medical Bulletin (Summer 1999, p. 20-21) by Madgetta Dungy, former Director of Admissions, are helpful.

"The Admission Committee wants to know who an individual is," ....  
"Academically, they have to be able to complete the rigors of medical education. However, we also want to see a demonstrated background of concern and service to others. What influences them and motivates them to a career in the practice of medicine? We look for people who are academically superior with a broad educational background, who have taken the opportunity to do volunteer services." (p. 20)

Dr. Dungy goes on to say,

"What makes a candidate competitive? Strength in academics and communication skills, strong faculty recommendations, volunteer experiences, participation in student organizations and/or research, intellectual curiosity, and demonstrating many positive personal attributes such as compassion, leadership, sensitivity, motivation for a career in medicine, and the ability to deal with stress." (p. 21)

Paul White, a recent Director of Admissions at the University of Minnesota, summarizes his view on successful medical school admission in Appendix C. The current "Desired and Essential Qualities of an Ideal Medical Student" from the University of Minnesota perspective can be found at website <https://www.med.umn.edu/medical-school-students/medical-school-admission/medical-school-selection-criteria/index.htm>.

Research experience, although not required, may be very beneficial to a student. The quality of the personal involvement in the research is more important than the discipline involved. Students may pursue a research project with a St. Olaf professor or with someone off-campus usually after the sophomore or junior year. The experience of conducting a research

project will help students clarify their goals and perhaps lead to an interest in clinical research or a combined MD/PhD. Some research-oriented medical schools such as University of Chicago, Washington University or Northwestern will give additional consideration to a student who has successfully participated in a research project.

In summary, medical schools prefer students with extracurricular experiences, hospital or clinical experiences, service, study abroad if possible and research. Students need breadth and relevant experiences; a passion for working with people in need should be obvious.

“Not everything that counts can be counted and not everything that can be counted counts.”

Albert Einstein

### **Knowledge of the Health Care System**

Students throughout the application process must be able to understand the role of the physician in the health care system. Students need to know the basic structure of the health care system and how patients utilize the system. The role of insurance, health maintenance organizations, the range as well as role of the various occupations involved in care of the patient are some of the concepts a premedical student should comprehend. Students need to know what the current health care issues are or “hot topics” as they go through the application process and especially when they are interviewed by the medical school. There are many ways to achieve the information such as conversations while shadowing physicians, reading the health/science sections of newspapers such as the NY Times or taking courses, which discuss health care such as the Economics of Health Care (Econ 245) or Medical Anthropology (Soc 267). Several websites listed below will be useful in acquiring knowledge about current health care issues.

- Access the section “Issues in Health Care” in <http://www.explorehealthcareers.org>
- AAMC’s “Washington highlights” <http://www.aamc.org/advocacy/washhigh/start.htm>
- American Medical News in <http://www.ama-assn.org/amedneds/>
- New England Journal of Medicine’s “The Next Generation” in <http://www.nextgenmd.org>

### **Medical College Admissions Test (MCAT)**

What follows is a brief overview of the revised MCAT, which will be offered in 2015; additional information can be obtained from members of the Health Professions Committee or at [www.aamc.org/mr5](http://www.aamc.org/mr5). The MCAT is offered in a computerized format and is a standardized multiple-choice examination designed to help admissions committees determine which applicants will perform optimally in medical school. The test is several hours long and is given in at least 20 test dates at 25 different times from January to September each year. Scores are released in 30 days after taking the test and can be obtained on-line. Most students take the test in the spring of their junior year. The 2015 MCAT consists of four sections, which are as follows (from the AAMC website [www.aamc.org/mr5](http://www.aamc.org/mr5)):

- Analysis and Reasoning Skills (replaces the Verbal section in previous editions)  
Students will analyze and reason through passages in ethics, cross-cultural studies, population health and the social sciences.
- Physical, Chemical and Biochemical Properties of Living Systems
- Molecular, Cellular and Organismal Properties of Living Systems
- Social and Behavioral Science (a new section)  
Students will be examined on their knowledge and use of those concepts in social and behavioral science, research methods, and statistics.

All sections are graded 1-15 and the 2015 version has eliminated the writing section. Further information and test dates can be found at [www.aamc.org/mcat](http://www.aamc.org/mcat). Results are released electronically within 30 days. Many resources about the MCAT are available through AAMC such as the MCAT 2015 Resources for Students([www.aamc.org/mcat2015](http://www.aamc.org/mcat2015)) and the third edition of the Official Guide to the MCAT([www.aamc.org/officialmcatguide](http://www.aamc.org/officialmcatguide)), which costs 30 dollars.

Students are advised to take the test in April or May, 16 months before they will matriculate. The August test dates put students at a real disadvantage in that their application will not be complete until late September, which may hurt their admission chances. September test dates cannot be used for the current application cycle. Students must prepare for the MCAT and taking it without preparation is not wise. A practice MCAT usually can be obtained in a computerized format from Princeton Review or AAMC and is regularly given by the Piper Center.

A correlation has been observed between the scores students obtain on the ACT and the MCAT, so if you did not do well on the ACT you will really need to prepare for the MCAT. There are many approaches to preparing for the MCAT. Preparation materials may be purchased from companies such as Kaplan, Princeton's Review or Exam Krackers. Supplement any of these books with practice tests, which can be purchased from any of the above or the Association of American Medical Colleges ([www.e-mcat.com](http://www.e-mcat.com)), which has a full array of on-line practice tests available for \$35.00 each at [www.e-mcat.com](http://www.e-mcat.com). The online tests also contain diagnostic feedback and test item solutions. (**Free** access is available for one practice test). Some students choose to take the expensive (approximately \$1800) on-campus MCAT preparation courses such as those offered by Kaplan (January) or Princeton Review (November). Kaplan also offers a comprehensive online self-study course (over \$1300). Students should not feel pressured to take the Kaplan or Princeton courses and, in most cases, students can do an excellent preparation by studying independently in an organized manner over a period of several months. In fact the highest scores in the past have usually been from students who studied on their own. Exam Krackers is designed for a self-study approach. Some students have found that the MCAT score can be improved by taking the opportunity to read the newspaper online (especially the NY Times), particularly the health and science sections which can provide insight into health care issues.

Studying for the MCAT is required and the test should never be taken to practice or to see "how I can do." Every score is reported or retained. A test can be repeated up to three times in a calendar year. Competitive scores depend on the student's GPA and choice of medical school. Medical schools vary on how they handle the multiple test results. For example, the University of Minnesota may look at all MCAT scores a student receives while Creighton looks at the highest scores. Most successful applicants have scores of 10 on each section. A score below 9 in

any section (table below for 2012 students) is usually a real problem in getting an acceptance to medical school . Osteopathic medical schools do not require as high MCAT scores as allopathic schools. The outcome of St Olaf students who received a score below 9 in any section of the MCAT is given below

MCAT	SCORES Less than 9	VR <9	BS <9	PS <9	Total %
GPA Range	3.8-4.0	100% 1/1	0% 0/1	100% 1/1	2/3 67%
	3.6-3.79	50% 2/4	----	0% 0/2	2/6 33%
	3.4-3.59	43% 3/7	0% 0/2	50% 1/2	4/11 36%
	3.2-3.39	50% 1/2	0% 0/5	0% 0/1	1/8 12%
	3.00- 3.19	0% 0/1	----	0% 0/1	0/2 0%
Totals %		7/15 47%	0/8 0%	2/7 29%	9/30 30%

The MCAT Program Office administers the MCAT and the registration fee is \$270 and applicants can register at <https://services.aamc.org/20/mcat/>. Registration in October to March for the spring test periods or for the June-August test periods. Register early to assure a seat at the computer test center of your choice. **Release your scores to the HPC Health Professions Advisor at St Olaf.** Questions can be answered by referring to the MCAT Essentials at [www.aamc.org/students/applyingmcat](http://www.aamc.org/students/applyingmcat) or the third Edition of the Official Guide to the MCAT Examination. A fee reduction or fee waiver program is available for disadvantaged students ([www.aamc.org/students/applying/fap/](http://www.aamc.org/students/applying/fap/)). Accommodation requests for learning disabilities can be obtained but accommodations such as un-timed tests are rarely given and it is unclear how medical school admissions view “un-timed” test results.

**Pre-Health Checklist:**

What does it take to get in? A difficult question and many times the process are unpredictable and seemingly unfair. Peter Van Houten a premed advisor developed the following checklist for students:

<b>PRE-HEALTH PROFESSIONS CHECKLIST</b>	
<b>What Schools Seek in Applicants</b>	Prior to my application to a health professions school, I have:
<b>Strong Academic Record</b>	Demonstrated mastery of the basic science requirements
	Demonstrated a broad and successful exposure to the humanities and social sciences
	Maintained or further developed my ability to read rapidly and understand sophisticated material in the humanities and social sciences (especially important for those taking a test like the MCAT)
	Demonstrated that I am likely to be a lifelong learner, and have shown “mature and independent scholarship,” etc.
<b>Firm and Clear Motivation</b>	Established a relationship with at least three faculty members (or in the case of fields like veterinary medicine or physical therapy, some professionals in the field) who know me well enough to write a comprehensive letter of evaluation for me
	Demonstrated that I care deeply about my fellow human beings and their welfare
<b>Outstanding Personal Qualities</b>	Demonstrated that I know what I am getting into, i.e., I understand the role of a DDS, MD, DO, OD, RN, PharmD, DVM, etc. from direct personal contact
	Demonstrated personal traits such as maturity, stability, integrity, responsibility, trustworthiness, leadership, enthusiasm, etc.
	Demonstrated that I have accomplished something worthwhile, and have skills and abilities that will allow me to contribute to the life of my health professions school and my intended profession
	Demonstrated the ability to carry out a sophisticated conversation (interview) with others considerably older than myself (faculty)
	Demonstrated that I can use another language and deal effectively with those of other cultural backgrounds

From National Association of Advisors in the Health Professions Newsletter, April 1999, p. 5

**Selection Criteria**

Medical schools consider the following when selecting students for admission:  
Academic record (GPA, rigor)

- MCAT scores
- Application and personal statement (activities, service, etc.)
- Recommendation letters (including committee evaluation letter and evaluation forms from the Health Professions Committee)
- Interview assessment
- Residence (for public-supported medical schools)

In 2012 there were 45260 applicants for medical school with 20478 acceptances (45%). The mean GPA of accepted students was 3.68 and a MCAT score of 31.2. The current MSAR will provide the most current mean GPA and MCAT scores. Medical schools consider a student's grades as a very important predictor of medical school performance. Medical schools take notice of improvement. If a student struggles and then shows gradual improvement, that is considered a positive factor in considering a student's application. A breakdown of the average GPA of 2012 accepted students for medical schools in this area was as follows:

- Mayo Medical School 3.85
- U. of Minnesota-Minneapolis 3.71 / Duluth 3.66
- U. of Iowa 3.74
- U. of Wisconsin 3.73
- Medical College of Wisconsin 3.73
- Creighton University 3.67
- Washington University 3.85
- Northwestern University 3.77

MCAT scores are reviewed by the medical schools and are compared to the students' GPA. In 2012 the mean MCAT score of successful applicants was VR = 9.8, PS = 10.5, BS = 10.9 with a WS of Q. The mean MCAT scores for 2012 accepted students of regional medical schools were as follows:

- Mayo Medical School (VR=10.6, PS=10.8, BS=11.4, and a WS of Q)
- U. of Minnesota-Minneapolis (VR = 10.1, PS = 10.96, BS = 11.3, and a WS of P/ Duluth VR=9.58,PS=9.7, BS=9.85)
- U. of Iowa (VR=10.3, PS=10.9, BS = 11.2 and WS of Q)
- U. of Wisconsin (VR = 10, PS = 10.3, BS = 11.1 and a WS of P)
- Medical College of Wisconsin in 2010 (VR=10,PS=10.4,BS=10.9 with a WS of P)
- Creighton University (VR=9.8, PS=9.7, BS=10.2 with a WS of P)
- Washington University (VR=11, PS=13 and BS=13, with a WS of Q)
- Northwestern University (VR=10.9, PS=12, and BS=12.2 with a WS of Q)

If the total MCAT scores are low or any section score is below 9, students should usually retake the test but only after preparing carefully. The scores will be reported as a retake to the medical schools. A useful reference is found in the Third Edition of The Official Guide to the MCAT Exam, where the probability of being accepted based on MCAT scores and GPA is given. Class Profiles for recent classes at the University of Minnesota and other schools of interest can be found on their web sites or in the MSAR. Appendix D gives the results for 2012 St Olaf applicants to allopathic medical schools.

**Factors stated in a 2006 NAAHP panel that the University of Iowa Admission's committee considers in their decision-making process**

**MCAT** – Scores below 8 are not preferred, and we don't "add" the scores. Each is considered separately. If the MCAT has been retaken, the more recent score is considered most heavily, but the first score will be taken into consideration. Scores that rise are preferred.

**GPA** – the average GPA of admitted students is 3.72 overall and 3.66 BCPM. Resident and non-resident averages are the same. We have graphs to plot the freshman-senior year, postbac courses, cumulative GPA and graduate work. We look for rising trends, major GPA, science GPA and number of courses taken that year (if they have a 3.0 listed for their senior year, but there's only one class that was taken in the summer, this is not considered a downward trend for a student with a 3.5 GPA overall. All grades are considered as they come to us from AMCAS (if a course is retaken, both grades count). A major downtrend or dip should be explained in our 3<sup>rd</sup> essay on the secondary application.

**Activities** – are they appropriate for a person who wants to be a physician? Are there clinical experiences included? Volunteerism? Are they many, but without a great deal of substance, or a few with many hours and continued connections? Are they leaders in their activities? Are they participating members but not leaders? Did they participate in research? Did they have to work to pay their way through school? Were they an athlete or musician (this might affect the time they had available to volunteer)?

**Essays** – Do these essays reflect insight into medicine, their experiences and their motivation to pursue medicine? Are they just lists of activities, or thoughtful, reflective essays?

**Recommendations** – Did they seem to know the applicant in a significant way? Was it a potential mentoring situation? Did the student take advantage of an opportunity to interact in a meaningful way? Is there an indication of communication skills? Teamwork? Are there hidden meanings in the letters?

**Interviews** – Our interviews are scored, but written comments are required to indicate how that score was derived. Were the answers insightful? Did they reflect activities in which the student participated, or did they utilize lists (such as character traits)? Nervous applicants are within our norms.

**Diversity** – How might this applicant add to the diversity of our classroom education? Are they geographically diverse? Socio-economically diverse? Second careers? Do they come from a culturally diverse background? Have they traveled extensively, or worked with underserved populations? Foreign language background? An unusual major in college?

**Other factors** – Does this applicant have misdemeanors or felonies? If so, is the explanation they provided insightful and reasonable? Did this applicant have extenuating circumstances (illness, death in the family, natural disaster, etc., that adversely affected their grades? Is there a reasonable explanation?

**Re-applicant** – All not-admitted applicants are offered an opportunity to talk with our admissions staff about the admissions committee decision. It is to their advantage to do this. Comments from the staff person are entered into the database, and are accessible by the committee members reviewing the file the next time. If the applicant follows the committee's recommendation, this is looked upon favorably.

### **Medical School – Which One Suits The Applicant?**

Careful consideration of the various medical schools should be conducted before the application is submitted. Medical schools are either public or private. Public medical schools accept a high percentage of their students from their state and residency is very important. Most out-of-state students are required to have higher GPA and MCAT scores in order to be considered. Some public medical schools accept a higher number (still a small percentage) of out-of-state students than others. In 2011 Minnesota accepted 15%, Iowa 32% and Virginia 50% non-residents. Refer to the MSAR text for a review of the applicant profile for each school. Some states in the western United States do not have public medical schools and participate in special programs such as WICHE or WWAMI ([www.wiche.edu/sep/psep/index.asp](http://www.wiche.edu/sep/psep/index.asp) and [www.washington.edu/medical/som/wwami/index.html](http://www.washington.edu/medical/som/wwami/index.html)) with medical schools in neighboring states. Please refer to the MSAR text for further information. Some selection criteria are less obvious; for example, the central mission of the U. of Minnesota-Duluth is producing small-town rural primary-care physicians. As a result, applicants from large cities such as Minneapolis/St. Paul and the suburbs are not likely to be accepted at Duluth. The AMCAS application is directed to the University of Minnesota and after processing the applicant will be asked to designate Duluth, Minneapolis or both. A summary of the undergraduate college attended and matriculation at the University of Minnesota (Minneapolis and Duluth) is given in Appendix E. The overall number of acceptances for the last eight years and the number of acceptances at various medical schools by St Olaf students is given in Appendix F. Private medical schools are usually not limited by geographical area and consider students from any state. As a result, private medical schools have a high number of applicants with some schools having over 10,000 applicants for 50-60 positions. International medical schools that are open to Americans are usually very expensive and are uneven in quality. Careful study and thought should be done before application is made to any international medical school. In Appendix G, a series of questions are listed which should be considered if you are planning to apply to an international medical school.

International students have a difficult time becoming successful applicants in U.S. medical schools. In 2012 only 228 non-US citizens were accepted in U.S. schools. Successful applicants usually have completed several years at a U.S. college and have excellent English language proficiency. Only 38% of the US medical schools accept applications from international students( <http://www.naahp.org/default.aspx?tabid=2559>) Financial aid at U.S. medical schools is usually federal in origin and not available to international students. MD-PhD programs usually provide non-governmental funding but not federal funding for international students. For international students, some medical schools may require prepayment of one year up to four years of tuition while others may require the applicant to present a detailed plan of their approach to financing medical school before considering the applicant.

Medical school is expensive, especially out-of-state tuition at a public medical school. Average debt in 2010 was \$160,000 with the U of Minnesota average student debt at \$134,493. Representative tuition and fees are given below:

	<u>Resident vs. Non-resident</u>	
U. of Minnesota Year One (2012)	37,508	45,258
Mayo Medical School (2013)	35,960*	35,960*
U. of Iowa (2012)	35,549	50,031
U. of Wisconsin (2011)	24,021	34,758
Medical College of Wisconsin (2012)	41,381**	41,381
Creighton University (2011)	48,284	48,284
Washington University (2011)	48,800	48,800

\* Scholarships and support (100% had a scholarship or grant, many had full scholarships)

\*\* A credit of 5400 is given to each in-state resident

In most medical schools, students complete the MD program in four years. The University of Minnesota offers a flexible MD program where students can finish in 3.5-6 years. Tuition is set the first year and remains constant throughout the student's time at the University. The University of Iowa allows students to spend a year in a research laboratory or in an abroad medical clinic, which will result in five total years to complete the MD. If an out-of-state student works a year in a laboratory they will be allowed to pay in-state tuition for the remainder of their MD program. Many medical schools allow students to take a year leave of absence to complete a MPH. In many medical schools, students can do clinical rotations abroad as part of their clinical program.

The age of the applicant is legally not a factor in considering an applicant. The age range varies considerably from school to school with a national average of 24. The average age at Mayo is 23.6, Northwestern 22.7, and the U of Iowa is 23, while at the U. of Minnesota Twin Cities the average age in 2011 was 24 (range 19-42). The gender, percent minorities and number of enrolled students at medical schools in this area is as follows:

- Mayo Medical School (50% women, 50 % minority, 51 students) (6 are MD/PhD, 2 O.S.)
- U. of Minnesota-Duluth (52% women, 12% multicultural, 60 students)
- U. of Minnesota-Minneapolis (54% women, 24% multicultural, 170 students) (7 MD/PhD)
- U. of Iowa (42% women, 11% minority, 148 students)
- U. of Wisconsin (48% women, 10 % minority, 163 students)
- Medical College of Wisconsin (45% women, 10.8 % underrepresented, 212 students)
- Creighton University (50% women, 10.8% minority 126 students)

An interesting web site <http://www.studentdoc.com/medsfind.html> is available which, based on your MCAT and GPA for selected medical schools, estimates how competitive you are as an applicant

## Application Process

Application to medical school may be done in two ways: the regular application or the Early Decision Program (EDP). The EDP application can only be submitted to one medical school and the applicant will have a decision on acceptance by October 1. EDP should only be considered if the applicant's grades (3.80 and above) and MCAT scores (33 or above depending on the school) are exceptional. EDP applications should be submitted before August 1 for most medical schools. Students must be available for interviews in August. If a student is not accepted by ED, they may then apply for regular admission at multiple schools but may be at a disadvantage due to “rolling admissions” by the medical schools. The Health Careers Center at the University Of Minnesota has a useful online planning workshop “Planning for Medical School” (<http://www.healthcareers.umn.edu/onlineworkshop.html>), which is approximately \$ 50 for non University of Minnesota students.

As part of the AMCAS application process, most medical schools will request a letter of recommendation from the college's Health Professions Committee. Students should contact Karen Renneke in Chemistry early in the spring of their junior year or senior year to request an interview with the St. Olaf Health Professions Committee. Applicants will fill out a student information form (Appendix H), submit a grade audit and distribute 3-5 reference forms (Appendix I) to St. Olaf Professors that know them well. All forms can be obtained on-line ([www.stolaf.edu/depts/biomed/forms\\_to\\_be\\_used\\_by\\_students\\_and\\_faculty](http://www.stolaf.edu/depts/biomed/forms_to_be_used_by_students_and_faculty)). Two members of the HPC will schedule a short (< 20 minutes) interview in April or May with the applicant. The committee will meet and discuss each applicant and determine a summary committee evaluation. A member of the HPC will compose a letter of evaluation. The HPC committee which is not released to the applicant can range from Outstanding to Fair. If the evaluation rating is low the applicant will often be encouraged by the HPC Chair to re-interview with the HPC after feedback is received and significant improvement has been achieved. Any student at St. Olaf can interview with the HPC committee and apply to medical school. Alumni who have graduated within three years can request an interview with the HPC. Many institutions restrict student access to the committee based on their GPA or MCAT scores and as a result, those institutions have a high rate of acceptance. St. Olaf's philosophy is to let the medical school make the decision regarding the applicant, not the Health Professions Committee.

Most students initiate their applications early in the summer after their junior year although an increasing number of students apply after their senior year and incorporate a gap year into their plans. AMCAS applications are available on early in May and should be submitted as early as possible due to rolling admission policies; applications can be submitted the first week of June. An applicant will be at a real disadvantage if the application is not submitted until the final due date. A majority of medical schools will not look positively on a late applicant. As one medical school Dean put it, “When you apply in July, you are applying for 100% of the slots while an applicant in the fall may be applying for 50% of the remaining positions.” Most medical schools currently use the AMCAS central application service, which is used for all the schools an applicant selects. The application is a web-based application, which can be found at [www.aamc.org/amcas](http://www.aamc.org/amcas). A few medical schools do not use the AMCAS

application. Students should refer to the current MSAR for a list of non-AMCAS schools. Information or questions about the AMCAS can be directed to [www.AMCAS.org](http://www.AMCAS.org) or call 202-828-0600. AMCAS launched a fan page on Face book in 2010 ([www.facebook.com/amcasinfo](http://www.facebook.com/amcasinfo)).

The application should be completed carefully and honestly. Special attention should be given to completing the personal statement section. This section should reflect the applicant's path and motivation for medical school. There is no one right way to write the essay. Many students do it chronologically; others center it on volunteer/service and shadowing experiences in a thematic manner. Some students center the essay on an event or activity that solidified their choice. Your essay should reflect your enthusiasm and commitment to medicine. It should demonstrate a caring relationship with others. Minimize the I's in the statement. Your essay should reflect why you want to be a doctor, how long, and how you know the profession fits you. Address who you are and why you are interested in medicine. Include details on your knowledge of medicine and your path to this point. Write it well without grammatical mistakes or spelling errors. Reread it and have others proof it; it must be error-free. Your essay should be cohesive and coherent. Don't be too creative but lighten it up so the reader will enjoy reading it and remember it. Minimize the use of quotations and use your limited space wisely. Essays will rarely get you in to medical school but if poorly written or too formulaic they can keep you out. Let others read it and ask if it reflects who you are and whether they can recognize it as you. Many publications address this section and members of the Health Professions Committee can be consulted for guidance in completing it (see Appendix J for more advice). Another section of importance is the work and activities section. Advice on completing this section is given in Appendix K. The AMCAS application asks applicants if they have received "institutional action" due to unacceptable academic performance or a conduct violation. Be honest! Use this as an opportunity to indicate what you have learned and how you addressed it in your life. Repeated offenses are a major problem and may keep you out of medical school. As part of the application process most medical schools conduct criminal background checks on applicants before matriculation. Official transcripts are needed from all educational institutions attended and should be sent by the institutions directly to AMCAS. Grades from international schools or courses taken through St Olaf do not require a separate official transcript.

In regards to letters of evaluation, indicate on the application if you are going to use the HPC committee evaluation and list the other individuals who will be submitting letters of evaluation. Most students unless they graduate more than three years ago should use the Health Professions Committee. Additional letters (3-5) will be from faculty, research supervisors, physicians, or supervisors in a work related setting. Recommendation letters in addition to the HPC Committee letter are very important and the individuals asked to write one should be carefully selected. The number of letters requested or allowed differs from school to school. Iowa only wants the HPC letter whereas Minnesota requests the HPC letter and may allow three additional letters. For letters of recommendation, ask each individual if they would be willing to write a letter. Give them the deadlines and any information (such as the student information form in Appendix H or a copy of the AMCAS application) that will assist them in writing the letter. Send them a thank you note once the letter (s) has been written. Advice on what should be included in a letter of recommendation is given in Appendix L. The University of Minnesota at Duluth wants one of the letters from an employer or a health care professional from a clinic or hospital. Letters to Duluth should address why the applicant would be a good fit for a small town or rural setting.

All applicants should complete the AMCAS Letter Request Form (a copy is given in Appendix M) for the HPC and for each individual writing a letter of recommendation. Send a copy of the Letter Request Form to Karen Renneke for the HPC letter and the Letter Request Form to each individual writing a letter. The letters are **not submitted with the AMCAS application** but can be submitted any time after the AMCAS application has been sent electronically. When the letter is received by AMCAS the applicant will be notified by email by AMCAS. AMCAS will collect the letters of evaluation and send them electronically to the medical schools. The fee for the application will be \$160 with a fee of \$34 for each additional medical school beyond the first applications. Application to medical school can be quite expensive, as each school requires an application fee and travel expenses to the interview. A Fee Assistance program (FAP) is available for students with demonstrated need ([www.service.aamc.org/fap](http://www.service.aamc.org/fap)). If Duluth is one of your choices, you will be able to indicate your interest in Duluth, Twin Cities campus or both after the AMCAS is submitted listing the University of Minnesota.

It is the student's responsibility to check periodically with AMCAS through their website or via the phone to make sure their application has been processed and is complete. If the application is not verified, the student needs to check on it and complete any missing component. The application, once complete and verified by AMCAS, is sent electronically to the medical schools selected by the applicant. Shortly after reviewing the application, the medical school will notify the applicant of any supplemental application materials, HPC Committee Evaluation, letters of recommendation or updated transcripts they require. Students need to complete the supplemental application materials as soon as possible (usually within 30 days) and send it to the school with the application fee (approximately \$45-\$100 per school).

An overview of the application process is given below:

1. Complete the AMCAS on-line application with the appropriate fee and official transcripts from all colleges the applicant has attended. Send the AMCAS Letter Request Form to the HPC and every individual writing a letter for you.
2. Application will be verified by AMCAS and will be sent electronically to the medical schools once MCAT scores and grade transcripts have been received.
3. The medical schools selected by the applicant will apply a formula using the GPA and MCAT scores. If the application meets their criteria, a secondary application will be sent to the applicant.
4. The secondary application needs to be completed in approximately 2-4 weeks with the application fee. Recommendations will be requested and the medical schools will download the Health Professions Committee letter and other letters electronically. Some medical schools do not use the AMCAS Letter Service and letters will need to be sent directly to the medical school when requested.
5. Once the secondary application and letters of recommendation has been evaluated, an interview may be requested.
6. After the interview, the application is presented to the Admissions Committee (20-24 members) by 1-2 members of the committee.
7. The applicant may be rejected, accepted or put on an "acceptable hold" or alternate list.

### **Tips from Michelle Sparacino –Former AMCAS Professional**

- Review transcript before submitting to AMCAS (look for errors or omissions)
- Use transcript request form from AMCAS (print out multiple copies)
- Do not enter courses onto the AMCAS application from memory!
- Once completed, check AMCAS application for errors prior to submission. Once the send button has been selected; you cannot edit or change your application.
- Check your application status online or call using the voice response system. Application processing goes through the following steps:
  1. Not transmitted (before submission)
  2. Hold or Active (once transcripts have been received)
  3. Verification: Once active, it can be put back on Hold if a discrepancy is seen. Will be put on Active status once the problem is resolved. Can be returned if major errors have been made. For example, all courses were not entered from the transcript.
  4. Processed: Application has been processed and transmitted to the selected medical schools. Time from Active status (Step 2) to Processed is 3-6 weeks.
- Check email frequently. Disable filters so AMCAS transmission will go through. AMCAS only communicates Processed status by email.

A composite of the characteristics or factors that medical school admission committees look for in an applicant is presented below in no particular order. You will not have all of these characteristics. (See the MSAR for additional information).

- Enthusiasm for the field of medicine, which should be apparent in the application.
- Evidence should exist for depth and reflection. Reflect on what you have learned from each of your important experiences.
- Good time and stress management skills.
- Leadership experience and potential; others-centered. Ability to work in a team.
- Evidence that you have expanded your horizons while in college. Well rounded with subject matter outside the minimum requirements. Rigor.
- Desire to serve others as evidenced by volunteer work/service. Unique contribution that you bring. Do without being told (professional baseball player doesn't need to be told to play ball).
- Caring and committed. Dedicated to something. Passion.
- Intellectual curiosity perhaps seen as research activity.
- Personality that shows through the application (interesting person).
- Exposure to a diverse group of people. Abroad experience is helpful. (U of MN, approximately 25% has abroad experience)
- Good communication skills.
- Motivation: what is driving you? Potential as a life-long learner.
- Make the committee aware of your breadth in art, music, etc.
- Personal integrity and a highly developed ethical sense.
- Self-confidence, not arrogance.

- Don't leave questions unanswered or unexplained gaps or absences, but don't overdo it.
- Qualitatively look at consistency – does the student's AMCAS personal statement match what they have done

Students should never assume their file is complete. Most medical schools will indicate when the file is complete. However, it may be necessary to contact the Admissions Office to check on the file. Many students have not been accepted because a letter was missing or a form was not received. If you need to contact a medical school, be professional in your interactions with the medical school personal. Many medical school admission committees seek feedback on applicants from the administrative staff. Remove any offensive pictures or comments from your Face book page or change any unusual answering machine message.

After carefully considering the student's GPA, application and MCAT scores, the medical school may request an interview. The application process is long and full of gaps with no responses (“black holes”) from the medical school. Be patient and hopefully your credentials will result in an interview. Keep it in perspective, in a typical application cycle the University of Minnesota will have approximately 3550 applicants, 2100 will receive secondary, 400-600 will be invited for an interview with acceptance given to 240-250 to arrive at a final enrollment of 170. Interviews are usually scheduled early in the fall depending on when the application is received. After the first interview the student's profile is presented to the medical school admissions Committee. Mayo summarizes the interview using the following categories:

- Personal Characteristics
- Communication Skills
- Altruism
- Mutual Respect/Appreciation of Diversity
- Capacity for leadership and teamwork
- Dutifulness/Work ethic/Inner Strength
- Understanding and Commitment to a Career in Medicine
- Analytical reasoning

The interview is very important and should be given careful consideration. The applicant is encouraged to seek help from members of the HPC or other professors concerning the interview process. Some advice on preparation for the interview and interview tips can be found in Appendix N. The St Olaf Piper Center is a good resource and will conduct practice interviews. A useful website is [www.interviewfeedback.com](http://www.interviewfeedback.com) or [www.studentdoc.com](http://www.studentdoc.com). Good Luck!

### **Acceptance or Non-Acceptance**

After the interview an applicant may not hear from the medical school for weeks or, in most cases, months. Many students will interview in October and hear from the school in March or April. Students will be accepted or not accepted, put on a "wait" list or a holding category. Around May first the student may be asked if they want to be on the official waiting list and are usually given the opportunity to update their file. In many cases a student on the waiting list may not receive final word until late August. If a student is accepted they will have a designated period in which to decide on accepting or rejecting the acceptance. The AAMC and most

medical schools will conduct criminal background checks before students matriculate. Acceptance requires that the applicant submit a refundable deposit. A student may initially hold multiple acceptances but must select one medical school by May 15 and submit a more substantial deposit. A financial aid application may be submitted to the medical schools before final acceptance is received. Most financial aid is in the form of loans ([http://services.aamc.org/msar\\_reports](http://services.aamc.org/msar_reports)), usually Stafford loans ([www.fafsa.ed.gov](http://www.fafsa.ed.gov)). Once accepted, the student should contact the medical school's Financial Aid Office. A few scholarships exist such as the Torrison Scholarship (\$ 5000), which is for accepted students who are active members of the Evangelical Lutheran Church in America (see Kevin Crisp for details). The average debt loads for a medical student for 2010 is \$160,000. Mayo Medical School gives substantial financial aid with a total debt load of \$50-60,000. Many good references and information is available including excellent advice in the MSAR. See [www.aamc.org/mdz](http://www.aamc.org/mdz) for advice on financial planning and a new web site (<http://aamc.financialliteracy101.org/resources/list/>), which provides a tool kit for financial information and resources..

Some schools such as the U. of Minnesota allow students to defer entrance for one year but the reasons for the deferment must be significant. Other medical schools such as Creighton usually do not allow deferments. If students are not accepted it is beneficial for them to contact the school in May or June to set up an appointment to discuss why their application was unsuccessful. Appendix O has a copy of the 2012 letter from the University of Minnesota a student receives if not accepted and the general information about feedback about the application. With the trend at many schools such as Colorado and Wisconsin towards older students, age and/or experience may be a major factor. Reapplication is encouraged at most schools, and, in some cases, a necessity to gain admittance. Students should determine what has changed in their approach or application before reapplying. Students must demonstrate that they are different and have made the recommended changes. Re-applicants may have to use the login created with the first application. Medical schools may review the old applications and the current application.

*NOTE: The University of Minnesota-Minneapolis has a unique policy. After two rejections, a student cannot reapply for a period of two years. The student may then apply once more, outlining carefully how their application and profile differ from previous applications. No applications are accepted after the Third application. Mayo rarely accepts re-applicants.*

# 10 Common Mistakes

- Reprinted from Pfizer Medical School Manual

[http://www.positiveprofiles.com/content/pandp/tier\\_3/pandp\\_students\\_manual.asp](http://www.positiveprofiles.com/content/pandp/tier_3/pandp_students_manual.asp)

1. Inadequate preparation for MCAT exam, MCAT performance mirrors SAT performance. If you are an average standardized test taker, consider an MCAT review course.
2. Late application. Submit applications early. This requires excellent planning and coordination of transcripts, MCAT's, recommendations, and applications. Ideally, you should begin planning two years before you intend to enroll.
3. Poor performance in core sciences. To be competitive, A's and B's in core sciences are generally required. An occasional C gets by, especially if accompanied by excellent MCAT's.
4. Lack of volunteer or health service experience. It has become a general expectation that candidates will pursue experiences that demonstrate growth as a caring, service-oriented individual in the field of health care. This experience exposes your commitment to a life of medicine.
5. Poor choice of references. A single poor reference, even subtly stated, can send an application off track. Nurture relationships with future references early. Carefully assess the level of an individual's support for you. Consider choosing those who have already demonstrated concrete support for you through grades or other forms of recognition.
6. Poor personal essay. Write a clear, concise, well-organized, and interesting statement. Check its grammar, punctuation, spelling, and clarity. Seek qualified or expert critique and revise accordingly.
7. Failure to monitor application status. The application process is complex and requires sequential coordinated actions. Ensure that your completed application materials are submitted and confirm their receipt by July or August.
8. Inadequate research of school. Some of the US medical schools will ideally suit your personality, interests, and talents; others will not. Thoroughly research medical colleges by reviewing literature, visiting campuses, and conferring with pre-medical advisers, alumni, and current medical students. Also, consider factors such as in state versus out-of-state admission rates.
9. Inadequate preparation for your interview. Although the interview commonly carries a quarter of the decision weight, and can actually collapse an otherwise qualified applicant, many students continue to "wing it." Careful research, preparation, and performance are necessary. The cardinal sins: appearing arrogant or disinterested.
10. Lack of post-interview follow through. In some schools, all verbal, written, and physical contacts are captured in your application file. A thank you note to the Dean of Admissions and your interviewer is always appreciated. Gratitude is a becoming attitude in everyone, and a thank you letter leaves a favorable impression on the people who may accept you. Occasional respectful contacts to check on the status of your application are generally received as an expression of continued interest.

### **Variations: Other Careers in the Medical Arena**

A wide variety of careers are available with over 5000 programs listed in the Health Professions Education Directory, prepared by the American Medical Association, which is available in the Biomedical Resource Area in the Science Library. Another source of information is Pfizer Guides to Careers in Healthcare, which covers Nursing, Pharmacy, Physicians, and Public Health. Check out [www.explorehealthcareers.org](http://www.explorehealthcareers.org) for additional information or the websites in Appendix P. A rich variety of careers exist and the Biomedical Studies Area in the Science Library has information, catalogs, etc. Consult the *Finding your way in the Health Professions* manual available online for information on other health professions other than being a physician.

### **Special MD Programs**

<http://services.aamc.org/currdir/section3> and [www.aamc.org/students/considering/research/mdphd/start.htm](http://www.aamc.org/students/considering/research/mdphd/start.htm)

Many programs exist allowing the individual to obtain an MD and a second advanced degree. The most prevalent is the Medical Scientist Training Program (MSTP), which leads to a combined MD and Ph.D. About 170 new students each year enter the combined program at 33 schools. The University of Minnesota takes 6-10 students per year. The program is highly competitive and is designed for students interested in a career in biomedical research and academic medicine. The program takes a minimum of seven years with full financial support. Most applicants have had extensive undergraduate research experience, high MCATS (over 30, usually 33-39) and a high GPA (over 3.7). Some programs require the GRE in addition to the MCAT. Applications usually are made to both the medical school and graduate school. Another resource is the recently published *Biomedical Graduate School: A Planning Guide to the Admissions Process* by D. J. McKean and T. Johnson.

The U. of Illinois at Urbana-Champaign has a unique MD/PhD. where the Ph.D. can be in any area from English to Biology (<http://www.med.uiuc.edu/msp/>). Other institutions have MD/JD; an increasing number offer an MD/MPH, MD/MBA, and an MD/MHI in Health Informatics.

### **Osteopathic Medicine**

Osteopathic practitioners approach medicine based on the musculoskeletal system. Doctors of Osteopathy (DO) incorporate osteopathic manipulations and structural diagnosis in addition to the techniques used by allopathic physicians. DO are fully licensed to diagnose, prescribe and conduct surgery. DOs and MDs exist as equals and, with the increasing emphasis on primary care, DOs are a "hot" area. Most states allow DO students to take DO or MD boards and in some states such as California they are equal. Currently there are 26 schools of osteopathy at 34 locations with a total enrollment of 20663 in 2012. Residencies can be done in allopathic or osteopathic hospitals. Shadowing a DO physician is an excellent approach to determining if osteopathy fits you. The undergraduate course requirements are the same as those for allopathic medical schools.

The MCAT is required. The average GPA of matriculating students in 2011 was 3.48 and the average MCAT was 8.66 VR, 8.52 PS and 9.33 BS. All osteopathic schools use a centralized application service called AACOMAS, which costs \$175 with \$32 for each additional school. The AACOMAS can be obtained at <http://www.aacom.org>. Information concerning osteopathy can be obtained by accessing <http://www.aacom.org> on the web. Each year 8-10 St Olaf students are accepted into an osteopathic school,

**Dental (DDS)** ([www.adea.org](http://www.adea.org))

The opportunities in dentistry have increased with a variety of career variations. Students now complete the following courses for the U. of Minnesota:

- General Chemistry (125/126) 1 year
- Organic Chemistry (247/253 and 248/254) 1 year
- Biochemistry (379) (no lab required) 1 semester
- Physics (124/125) 1 year
- Math 120 or Statistics (Required for 2015 DAT) 1 semester
- General Biology (Bio 150, 233 or 227) 1 year
- English 2 semesters
- Psychology (125) 1 semester

Preferred electives include Microbiology, Immunology, Human Anatomy and Physiology, Animal Physiology, and Art (such as Art 223 Metal Casting). The University of Minnesota encourages students to take a histology course. An online course is offered through Colorado State University (Histology VS 331). Information is available at <http://www.learn.colostate.edu/courses/course.asp?course=VS+331> or [Sherry.stewart@colostate.edu](mailto:Sherry.stewart@colostate.edu).

Job shadowing or an internship in a dental office may be an important factor in choosing dentistry as a career or getting in. Setup an internship through your advisor. The American Dental Association will facilitate contact with a local practicing dentist go to <http://www.ada.org/got/careers>. Volunteering in an international dental clinic through a mission group, International Service Learning ([www.isl.org](http://www.isl.org)) or student lead programs like Health Brigades can be very useful. Follow the guidelines for participation developed by the American Dental Student Association (<http://www.adea.org/GoDental/Pages/default.aspx>). The Agreement found in Appendix B can also be used. Give the signed form to Kevin Crisp or the Piper center.

In the past three years there were 12000 applicants per year and approximately 4950 attended. The average GPA in 2011 for enrollees was 3.50.

Students must take the Dental Admissions Test, (DAT) the test is scheduled at the student's convenience at testing centers. Most students take the test in the summer or fall after their junior year. The application to take the DAT (\$285) can be completed by using [www.ada.org](http://www.ada.org). The computerized DAT consists of four sections: Natural Science, Perceptual Ability, Reading Comprehension and Quantitative Reasoning. A good source of practice tests is [www.scholarware.com](http://www.scholarware.com) or [www.acethedat.com](http://www.acethedat.com). The DAT can only be taken three times. In 2011 the DAT Average was 19-20 (MN 19.66), DAT Perceptual Ability 19 (MN 20.27), Reading Comprehension 20.68 at MN and Total Science 18 (MN 19.73). Dental schools also use a standardized application service located at <http://www.adea.org/aadsas> Applications cost \$227 for the first school and \$72 for each additional school.

The U. of Minnesota dental web site is <http://www.umn.edu/dental>. More information may be obtained from the Health Professions Committee. Most dental schools prefer having the HPC letter submitted as part of the application plus one additional letter of recommendation. If the HPC is not used the applicant should submit four letters of recommendation. Each year St Olaf has 7-10 students admitted to dental school.

## APPENDIX A

### A Philosophical Approach

#### *The Liberal Arts Education\**

Education is a social process.....  
Education is growth.....  
Education is not preparation for life;  
Education is life itself.  
--John Dewey

A liberal arts education aims at providing more than pre-professional training. It strives to nurture an understanding of life, an understanding of both yourself and the world around you. It teaches you the art of living. As a liberal arts college, St. Olaf does not provide an education within one specialized field of interest, but rather, provides a foundation of knowledge in a multitude of fields. A St. Olaf education aims at developing your understanding of the entire range of human achievement.

The ambitions of the St. Olaf student who hopes to enter medicine must be founded on these principles. Preparation for medicine involves learning much about human nature and knowledge. Preparation for medicine is not necessarily a study within the scientific field, and it is not therefore, a specialization within one area of study. Within the principles of a liberal arts education, St. Olaf extends a variety of academic opportunities for the premed to pursue those personal interests aside from the required studies. The premed student should avoid specialization. Medical school will provide all the specialization needed. Rather, the premed should take advantage of the countless new experiences within the academic and cultural environment of this liberal arts college.

When the time comes to apply to medical school, the student will be one among approximately 40,000 applicants, from which about 15,000 are selected. Applicants each have the difficult task of distinguishing themselves from the other candidates, and revealing their own individuality. Evaluating an applicant's diversity is indeed one of the most important criteria in the medical school selection process. Applicants, who have demonstrated their individuality in their college years through displayed interest and participation in a variety of subjects and activities, have moved one step closer toward acceptance.

Since diversity is a criterion from which medical schools evaluate an applicant's zest for life and learning, by all means, be different. Consolidate this strategy in the master plan for your preparation for medicine.

\*1982 Pre-medical Handbook, St. Olaf College

## Appendix B

### Appropriate Student Participation in Providing Patient Care During Clinical Experiences Abroad

Acquiring clinical experience is a vital part of student preparation for careers in medicine, dentistry and other health care professions. Many students are now taking advantage of opportunities to gain experience in foreign countries where regulations concerning what students cannot do are less stringent, poorly defined or the existing regulations unenforced. While some students have gained excellent experiences abroad, and valuable service has been provided to people in need, the potential for harm and abuse in these situations cannot be ignored. Participation of inadequately trained students can have negative consequences including:

- **Harm done to the patient.** Our goal is to always help those in need, and the first step in that direction must be to avoid causing harm. As a student, it may be difficult to know what might cause harm so you must carefully avoid situations where there is any possibility that you might hurt someone.
- **Legal trouble with local authorities.** Even if a local doctor is supervising, or says that it is OK for you to perform a procedure, violation of local laws is still a punishable offence.
- **Putting your acceptance to professional schools at risk.** Many students think that the more in-depth clinical experience they have, the stronger their applications will be. However, taking on tasks that are beyond your training will make you look unethical, foolish and irresponsible to admission committees, and thus diminish or eliminate your chance for acceptance.
- **Losing money to a fraudulent company.** There are many companies that will, for a fee, help place you in a foreign clinic. Be aware that these companies are in the business of making money first, and where money is to be made there will be some who do so dishonestly. Check out these companies very carefully before signing any contracts. If an agency is pushing the idea that you will actually get to practice medicine while abroad, rather than simply observe and learn, you should have serious reservations about its ethical practices.
- **Physical harm to yourself.** Engaging in medical practices without sufficient training and protection can under certain circumstances result in harm to you as well as to the patient.

Although we cannot provide a list of every appropriate and inappropriate activity students may encounter, please consider carefully these broad guidelines to help choose your course of action:

1. The primary purpose of student clinical experience is observation, not hands-on treatment. You are there to learn, not to treat.
2. While it may be possible for students to learn and provide some basic patient care, more advanced techniques are far beyond the scope of a short training period. For example, students should not diagnose diseases, dispense medications, use scalpels or perform any invasive techniques. In dentistry, providing anesthesia and tooth extraction are among the procedures in which students should never engage personally.
3. There will always be disparity in what individual students are ready to do. Some students will be better prepared to take on more advanced patient care (from previous EMT training, for example) than others. Therefore, just because one of your peers has been

able to successfully perform a particular task does not mean that you are also ready to tackle it. Be aware of your limitations and do not try to exceed them.

4. Always keep the welfare of the patient foremost in your mind, not the perceived opportunity for proving yourself to an admissions committee. Ask yourself how you would feel if you were in the place of a patient and a college student with no significant medical experience were about to perform this procedure on you. If this thought makes you feel uncomfortable, it is probably not an appropriate task for you to be doing.

You should also be aware that it is not necessary to travel abroad to serve those in dire need. There are many opportunities to help the poor and other underserved groups here in the US. There are likely many worthwhile volunteer opportunities in your community, with many more around the country. Many professional schools will be more impressed with what you can do to help close to home rather than while abroad.

By signing below, you are stating that you have received, read and understood these guidelines.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## APPENDIX C

### KEY POINTS ON MEDICAL SCHOOL ADMISSIONS

Paul T. White, J.D.

Former Director of Admissions at the University of Minnesota

A strong candidacy for medical school admission encompasses preparation in a variety of areas. Developing a strategy that strengthens these areas is one of the keys to success.

- I. What is successful undergraduate preparation?
  - A. Excellence in Academics
    1. A cumulative GPA of 3.5, and a 3.5 in the sciences
    2. A diverse course of study, including the fine arts, the humanities, social and behavioral studies, English, and foreign languages, in addition to the sciences
  - B. Strong reading, writing and communication skills
  - C. Strong recommendations from academic faculty that address your personal as well as academic attributes
  - D. Human service experiences, volunteer experiences
  - E. Knowledge of the field of medicine
  - F. Research experiences (Optional)
  - G. A rigorous curriculum that prepares students for the MCAT
  - H. Following the advice of pre-medical advisors
  - I. Participation in:
    1. Pre-health student organizations
    2. Workshops with guest speakers on campus
    3. Field trips to professional schools
    4. Seeking role models from your school site who have pursued medicine
- II. What are some of the personal attributes used in selection?
  - A. Positive self-concept
  - B. Demonstrated leadership
  - C. Demonstrated ability to work with diverse people
  - D. The ability to deal with stress
  - E. Evidence of maturity
  - F. Demonstrated sensitivity to others
  - G. Demonstrated motivation for a career in medicine
  - H. Positive and well-developed communication skills
- III. Requirements to be considered by the Admissions Committee
  - I. An applicant must hold an earned baccalaureate degree prior to matriculation
  - J. An applicant must have taken the MCAT.
  - K. An applicant must have completed the required courses identified on the courses requirements sheet.
  - L. An applicant must have completed at least two years of academic coursework at an accredited U.S. institution.

## APPENDIX D

### 2012 St. Olaf Applicants\* to US Medical Schools

Acceptance Rate (All Applicants) = 46/80 (58%)  
 Acceptance Rate (First Time Applicants) = 40/63 (64%)  
 Acceptance Rate (2011,2012 Graduates) = 29/41 (71%)  
 Applicants who used the HPC Committee = 43/65 (66%), not used 3/13 (23%)  
 2 MD-PhD students, 10 students accepted into DO schools (not included).

#### Acceptance by GPA

<u>Overall GPA</u>	<u>Acceptance/Total (%)</u>	
3.9-4.0	7/7(100%)	
3.8-3.89	7/8 (88%)	If GPA greater than 3.6 27/38 = 71%
3.6-3.79	13/23 (56%)	
3.4-3.59	14/24 (58%)	
3.2-3.39	2**/10 (20%)	
3.0-3.19	0/3 (0%)	

#### Acceptance by MCAT Scores (out of 45)

40-45	0	
38-40	2/2 (100%)	
36-37	7/8 (82%)	
34-35	6/8 (75%)	
32-33	9/12 (75%)	if MCAT greater than 30 34/48 (71%)
30-31	10/18 (56%)	
29-30	8/18 (44%)	
27-28	4/11 (36%)	
< 27	0/6 (0%)	

If GPA is over 3.6 and MCAT is over 30 then 23/29 = 79%

#### Accepted Students

Mean GPA 3.70 (3.22 – 3.99)

#### Not accepted

3.48 (3.01 – 3.73)

#### Mean MCAT Scores

VR 10.1 (7– 14)	9.4 (7 – 12)
BS 11.4 (9 – 14)	10.2 (6 -14)
PS 10.8 (7 – 14)	9.6 (6 - 13)
Total 32 (27 – 39)	29.2 (19 – 36)

#### Re-applicants who retook the MCAT

- Improved their scores 12/23 (52.2%) were accepted
- Did not improve their scores 2/10 (20%) were accepted

\*Reported scores of allopathic students who released their scores  
 \*\* Both had taken additional courses after graduation

Acceptance/AMCAS Application Date (Date AMCAS Application was Processed)

June	15/24	62%
July	14/18	78%
August	7/15	47%
September	6/12	50%
October	1/2	50%
November	1/5	20%
December	0/2	0%

Number of medical schools per applicants  
 Accepted students 14.3 (1-31)  
 Nonaccepted students 11.8 (1-26)

Osteopathic Schools 10/17 (59%)

	<u>Accepted to DO Schools</u>	<u>Not Accepted</u>
Mean GPA	3.42 (3.15-3.79)	3.33(2.95-3.71)
Mean MCAT Scores	28.2(26-31)	24.3(20-29)

Accepted/Applied Junior and Senior St Olaf Applicants to MD Programs  
2012  
(Students who released their results to the HPC)

MCAT Total	Above 38	36-38	33-35	30-32	27-29	Below 27	Column Totals	% Accepted by GPA
GPA 3.8-4.0	---	100% 5/5	100% 6/6	100% 3/3	100% 1/1	----	15/15	100%
3.6- 3.79	100% 1/1	50% 1/2	0% 0/2	80% 4/5	60% 3/5	0% 0/1	9/16	56%
3.4- 3.59	---	100% 1/1	100% 2/2	67% 2/3	33% 1/3	---	6/9	67%
3.2- 3.39	---	----	----	0% 0/1	0% 0/1	---	0/2	0%
3.00- 3.19	---	----	---	---	----	---	----	
Column Totals	1/1	7/8	8/10	9/12	5/10	0/1	30/42	
%accep by MCAT scores	100%	88%	80%	75%	50%	0%		71% Accepted
		National Accep./ 2012 Applied	20478/ 45260	45%				

## APPENDIX E

### University of Minnesota Medical School / Undergraduate Colleges Attended

Primary Undergrad Schools	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Totals 2000-2012
University of Minnesota-TC	30	28	33	27	44	36	29	47	39	30	41	45	49	478
Saint Olaf	11	6	11	6	11	6	4	7	13	4	9	12	11	111
University of Wisconsin - Madison	7	5	9	9	9	9	7	5	12	14	5	11	17	119
University of Notre Dame	4	2	5	4	4	2	1	4	5	1	3	6	1	42
Carleton	11	6	9	5	7	5	4	6	11	11	8	5	7	95
Gustavus Adolphus	6	3	2	8	1	4	5	4	2	1	4	4	4	48
University of St. Thomas	8	6	4	5	8	6	3	9	3	2	6	4	5	69
Macalester	2	6	6	2	4	3	6	4	3	1	6	3	5	51
Northwestern University	4	3	1	4	4	2	6	5	1	4	2	3	1	40
Saint Johns University	3	3	3	3	3	3	1	5	1	7	1	3	2	38
Primary Undergrad Schools with $\geq 3$ students accepted for Fall 2012														
University of Minnesota - Twin Cities	49													
University of Wisconsin - Madison	17													
Saint Olaf College	11													
Carleton College	7													
University of St. Thomas	5													
Macalester College	5													
Gustavus Adolphus College	4													
Creighton University	4													
University of Michigan-Ann Arbor	3													
Augustana	3													

## Appendix F

### St. Olaf Students Accepted to U.S. Medical School\*

<u>2012</u> MD 46 (25 men, 21 women) DO 4 (3 men, 1 women)	<u>2008</u> MD 49 (21 men, 28 women) DO 4 (2 men, 2 women)
<u>2011</u> MD 44 (20 men, 24 women) DO 10 (3 men, 7 women)	<u>2007</u> MD 48 (28 men, 20 women) DO 2 (2 women)
<u>2010</u> MD 50 (24 men, 26 women) DO 2 (2 women)	<u>2006</u> MD 38 (18 men, 20 women) DO 3 (1 man, 2 women)
<u>2009</u> MD 36 (12 men, 24 women) DO 4 (3 men, 1 woman)	<u>2005</u> MD 40 (17 men, 23 women) DO 4 (2 men, 2 women)

Average number per year over this 8-year period was 44 for MD and 6 for DO programs.

Students who released scores to HPC

Students were accepted at the following US medical schools for 2010,2011,2012,and 2013.

Albert Einstein/ 0,1,1, Arizona/1,0,1, Boston/1,2,1,1 Brown/2,0,0,1 Case Western/3,1,3, Chicago/1,0,0, Cincinnati/0,1,2, Colorado/2,1,2, Connecticut/0,1,0,1 Creighton/21,13,20,9 Drexel/4,4,4,2 Duke/1,0,1, Eastern Virginia/6,5,6,1 Emory/1,1,1, Georgetown/0,2,1,2 George Washington/1,1,1, Harvard/0,0,1,1 Illinois/1,0,1,2 Iowa/8,6,6,5  Jefferson	Medical/1,0,1,1 John Hopkins/0,0,0,1 Kansas/1,0,1,1 Loma Linda/0,1,1, Loyola/1,1,1,2 Louisiana State/0,0,1, Marshal/0,1,0, Mayo/2,2,2, Medical College of Wisconsin/6/4/8/1 Mercer/1,0,1, Miami/1,0,1, Michigan/1,4,1,1 Michigan State/0,1,0, Minnesota /20,21,23,20 Mississippi/0,1,0, Missouri/0,1,0, Mount Sinai/0,1,0, Nebraska/1,1,1, New Mexico/0,0,0,1  New York	Medical/1,0,4, New York University/1,0,0,1 North Carolina/0,1,0, North Dakota/0,1,0, Northwestern/2,3,3,1 Ohio State/1,2,2, Oregon/0,1,1, William Beamont/3,1,0, Penn/1,0,1, Penn State/0,0,0,3 Pittsburgh/1,0,0, Rochester/1,2,1, Rush/2,5,2,1 Saint Louis/6,2,6,2 South Carolina/0,0,0,1 South Dakota/1,1,1,2 Temple/0,0,1, Texas/0,1,0, Texas Tech/0,1,0, Texas Southwestern/0,0,0,1	Tufts/1,1,0,  Tulane/2,3,0,1 Uniformed Services/1,0,1, UCSF/0,0,1, Utah/1,0,1, Vanderbilt/0,0,0,1 Virginia/1,0,1,2 Virginia Commonwealth /0,0,1,1, Virginia Tech/1,0,1, Wake Forest/3,2,3, U of Washington /0,0,1, Washington University/2,1,2, Wisconsin/4,2,4,
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## Appendix G

### QUESTIONS FOR STUDENTS WHO ARE CONSIDERING ATTENDING AN INTERNATIONAL MEDICAL SCHOOL

Questions by Suzette Combs

These are not “yes or no” questions. As you answer them, use specific, relevant personal experiences to illustrate your answers. Even if you have no experiences that are an exact match, think of experiences that may have allowed you to develop transferable skills. This is the time to be perfectly honest with yourself.

- Will your financial situation support the necessary monetary investment? Do you understand the financial consequences of not finishing the program?
- Are you well versed in communication with faculty through meetings and email?
- Do you have significant experience functioning outside of your physical, emotional, and cultural comfort zone?
- Are you able to embrace adventure and unexpected events and see them in the larger context of medical training?
- How important is it to you that everything ALWAYS goes “according to plan?” How do you react when things do not go as planned?
- How do you deal with obstacles?
- On a scale of one to ten, how much do you want to be a health care professional.
- Where do you want to practice medicine?
- What type of medicine do you plan to practice?
- Do you require an “American” standard of living in:
  - Housing
  - Food
  - Transportation
  - Entertainment
  - Climate control
  - Creature comforts
  - Communication
- Have you investigated several schools?
- Have you spoken with current students and graduates of the schools you are investigating?
- Do you have a realistic concept of the rigor of medical training, the additional challenge of studying in another country and the willingness to get help if you need it?
- How have you investigated other career choices?
- How extensively have you traveled?
- Do you possess adequate and positive experiences interacting with people who differ from you academically, philosophically, culturally, and/or socio-economically?
- Are you in relatively good health?
- Do you have the maturity to accept sole responsibility for the completion of your medical education and the actualization of your career goals?
- Will your family and friends support your decision to attend an international medical school?
- Are you prepared to spend a significant period of time (for months at a time) away from your family and friends? Are your family and friends prepared for this as well?
- Have you ever dealt with a MAJOR issue without the physical presence of close family or friends?
- Will your motivation, tenacity; academic ability and work ethic sustain this endeavor?
- Is it possible to visit the school before you make a decision?
- WHAT DOES YOUR ADVISOR THINK?

# Appendix H

## INFORMATION SHEET FOR HEALTH PROFESSIONS COMMITTEE

(Return to Karen Renneke – Chemistry RNS 336)

\*Information disclosed on this form or on any attached materials may be subject to discussion during your HPC interview and/or included in your committee Letter of Evaluation. Information you do not wish to share with the schools to which you are applying should not be disclosed on this form. If you have concerns about disclosing any particular data to your target programs, feel free to discuss it with the HPC chair; all such conversations will be kept confidential.

Today's Date \_\_\_\_\_

Applicant \_\_\_\_\_ Graduation Year \_\_\_\_\_  
Please print

Home town/Primary Residence \_\_\_\_\_ State \_\_\_\_\_ Email \_\_\_\_\_

\*I request and authorize the Health Professions Committee to prepare a committee Letter of Evaluation for me for submission to professional schools to which I apply. I understand that the Health Professions Committee has access to my transcript, my test scores, and that it may request a report on disciplinary action from the Associate Dean of Students. This statement is provided in accordance with The Family Educational Rights and Privacy Act of 1974. (<http://www.stolaf.edu/offices/registrar/ferpa.html>) I waive my right of access to the Health Professions evaluation letter and the dossier prepared on my behalf.

Applicant Signature \_\_\_\_\_ Date \_\_\_\_\_ A copy was sent to the Registrar on \_\_\_\_\_ (date). Waiver applies to evaluation form written on behalf of the HPC within a year of this date.

1. Major(s) \_\_\_\_\_ Concentration(s) \_\_\_\_\_

2. Future career plans

a. Short-range goals

b. Long-range goals

3. Motivation for your health professions career (may add an extra page)

4. Experiences

a. Employment (since high school)

- On campus

- Summer

b. Experience related to health professions (i.e., volunteer, internships, and informal observations)

c. Research experience (when, where, topic)

d. Leadership experience (when, where)

5. Extracurricular activities (music, athletics, service organizations, religious life, etc.)

6. Hobbies and special skills (computer, photography, etc.)

7. St. Olaf faculty only to complete the evaluation form (3-5 names). **It is your responsibility to see to it they receive the form and complete it. Form must be received by April 1<sup>st</sup> to ensure an interview in the spring.**

a. \_\_\_\_\_

d. \_\_\_\_\_

b. \_\_\_\_\_

e. \_\_\_\_\_

c. \_\_\_\_\_

8. Anything else the committee should know.

9. Do you intend to apply for early decision? Yes \_\_\_\_\_ No \_\_\_\_\_

**Please attach a current unofficial grade audit to this form**

<http://www.stolaf.edu/services/hpc/>

Updated 8/6/12

# Appendix I

## Evaluation FORM St. Olaf College

Applicant \_\_\_\_\_  
Please Print

In accordance with the Family Rights and Privacy Acts (Buckley Amendment), I understand that I have the right of access to this evaluation but have chosen to waive that right.

Waiver with applicant signature is on file.

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**Instructions:** Please complete the information on both sides of the form and sign. Submit through email or paper form.

Name of Evaluator (please print) \_\_\_\_\_

Signature \_\_\_\_\_ Date: \_\_\_\_\_

Position \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

My association with this applicant has been:

\_\_\_\_\_ Instructing: # of classes only \_\_\_\_\_ # of class & lab \_\_\_\_\_ # of labs only \_\_\_\_\_  
\_\_\_\_\_ Academic advising: # of years \_\_\_\_\_  
\_\_\_\_\_ Research  
\_\_\_\_\_ Internship supervisor  
\_\_\_\_\_ Socially  
\_\_\_\_\_ Other: (please specify)

I know the applicant: Very well \_\_\_\_\_ Fairly well \_\_\_\_\_ Slightly \_\_\_\_\_ Not at all \_\_\_\_\_

I have known the applicant for \_\_\_\_\_ years.

### **To the faculty member providing this evaluation:**

The Health Professions Committee will use this evaluation form together with other evaluation forms received for the above named student to prepare a composite letter of evaluation to be submitted to professional schools to which the student applies. The committee would appreciate your candid evaluation of the student. Use the form on the back of this sheet and record your evaluation in the space provided. The completed form will be submitted to the professional schools requested by the student as part of their dossier. **Please return the completed form to Karen Renneke (RNS 336) within 1-2 weeks of receiving this form.**

**Section I**

Indicate your evaluation of the applicant based on comparison of the applicant to other \_\_\_\_\_ students you may have known.

FACTORS	Exceptional Top 2%	Excellent Top 3- 10%	Very Good Next 25%	Good Next 25%	Fair Bottom 40%	No Basis for Judgment
MOTIVATION: Genuineness and depth of commitment						
MATURITY: Personal development, ability to cope with life situations						
EMOTIONAL STABILITY: Performance under pressure, mood stability, and constancy in ability to relate to others						
INTERPERSONAL RELATIONS: Ability to get along with others; rapport, cooperation, attitudes toward supervision						
EMPATHY: Sensitivity to needs of others, consideration, tact						
LEADERSHIP: Ability to motivate and inspire others						
JUDGMENT: Ability to analyze a problem, common sense, decisiveness						
CHARACTER: Integrity, ethical and moral standards.						
RESOURCEFULNESS: Originality, skillful management of available resources						
RELIABILITY: Dependability, sense of responsibility, promptness, conscientiousness						
COMMUNICATION SKILLS: Clarity of expression, articulation						
PERSEVERANCE: Stamina, endurance.						
SELF-CONFIDENCE: Assuredness, capacity to achieve with awareness of own strengths and weaknesses						

Section II: Describe in the space below your overall impression of the suitability of this applicant for \_\_\_\_\_ School admission. Consider the qualities in the grid above and comment on any of the qualities listed. (MUST be typed, **NOT** handwritten, please do not attach another letter or page, just use the space below ONLY).

**Section III: Summary Evaluation of Applicant**

Potential for success in \_\_\_\_\_, and becoming a superb \_\_\_\_\_.

Outstanding candidate       Very Good candidate       Poor candidate  
 Excellent candidate       Fair candidate

## APPENDIX J

### AMCAS Essay Advice Some Dos and Don'ts

#### Dos

1. Do accentuate the positive.
2. Do be confident in your statements: facts are facts.
3. Do speak of motivation and interest in medicine.
4. Do say what there is about medicine that makes you suitable for it. For example, do you like the mix of science and people?
5. Do use specific examples as evidence of what you have said.
6. Do fill up the page (but don't overfill or add extra pages) even if you must double space and bring in the margins.
7. Do use a portion of this space to explain anomalies and other parts of the application if it is important to do so (consult with members of the HPC).
8. Do make it grammatically correct and literate; check your spelling.

#### Don'ts

1. Don't call attention to negatives; don't make excuses. (There is a difference between this statement and number 7 above.)
2. Don't, whatever you do, leave this space blank.
3. Don't come across as being arrogant or overbearing.
4. Don't belabor a single point.
5. Don't try to be witty. Although you may be the class wit, this is not the place for it.
6. Don't try to use language (phrases, vocabulary) that you're unaccustomed to.
7. Don't get too personal about such matters as religion, politics, your education or lack of it. This is not the place for an emotional catharsis.
8. Don't say you want medicine because you want to help people and leave it hanging there. Many occupations let you help people. Why not go for a master's degree in social work?
9. Don't say something just for the sake of saying something. This can be easily detected and will certainly not be in your best interests.
10. Don't repeat yourself.

\*From: Preparing for Medical School by Brice Corder, Ambleside Pub., 1983

#### **Another Viewpoint: The Personal Statement for Medical School**

##### Ideas for Getting Started

- Pretend you are writing to a friend, not an admissions committee.
- Describe those people and events that have influenced you.

- Ask a family member or friend what qualities or experiences distinguish you from other applicants.
- Develop a theme or thesis to organize your essay; you can repeat or reinforce common elements or images to unify your story.
- Describe a time when you had a positive impact on another person. How did you and the person change as a result?
- How do you know (not simply why do you know) you want to be a doctor?
- What were major turning points or decisions in your life?
- How has your interest in medicine developed and changed over time?
- What challenges did you face growing up?
- What are your goals? Why?

### **DO.....**

- ...make it interesting. Use specific anecdotes, concrete examples.
- ...provide information not included elsewhere in your application.
- ...let the reader draw a conclusion by giving evidence of strengths and attributes.
- ...be clear about your message.
- ...describe experiences in terms of what they meant to you.
- ...ask family members and friends for feedback.
- ...use strong action verbs and vivid images.
- ...let your personality come through.
- ...allow time to write, revise, leave for a while, and revise.
- ...be obsessive about proofreading.

### **DON'T.....**

- ...just list activities.
- ...tell the reader that you are compassionate, motivated, intelligent, etc.
- ...focus only on childhood experiences.
- ...lecture the reader.
- ...make excuses for poor grades.
- ...succumb to the “I” disease.
- ...overwork the essay to the point of losing your own voice.

From Harvard Website – Office of Career Resources

### **AMCAS Essay**

One of the most important parts of the AMCAS application is the personal statement section. This is where intangible selection factors that will be discussed in the chapter on extracurricular activities can really stand out and make the admissions committee take notice. This is also the part of the application that could convince a medical school that, regardless of some other shortcomings, you have what it takes to become a good physician. Take a good deal of time on this part. Don't just write an autobiographical sketch and expect it to be acceptable the first or even the second time around. Read and reread it several

times, making changes and corrections as you read. Put it aside for a few days and then come back to it again with fresh ideas and better ways to phrase sentences. Many times, when you go back to something you've written several days earlier, mistakes will literally leap out of the page at you. As you rewrite your sketch, emphasize key ideas and don't try to be too modest. Your sketch is one of hundreds – maybe thousands – of autobiographical sketches and needs to be better than any other.

One can't emphasize enough how very much this area of the selection process could mean and how you should do everything you can to ensure that, after reading your autobiographical sketch, an admissions committee will be convinced of your potential as a medical student. After you've written the best sketch you can possibly write, have an English major read and edit it for grammatical errors. A blatant error can make the most understanding committee member have second thoughts about your conscientiousness. Some items to be included in your autobiographical sketch that committee members specifically look for are:

- Unique background and life history. Don't dwell on your family background too much unless it's interesting enough to catch a committee member's attention.
- Unusual experiences such as travel abroad, service in the armed forces, etc.
- Unique work experiences such as laboratory research or scientific projects. Always include where you did your volunteer work as well as when you did it and what exactly you did.
- Publications of any kind. If you have an unpublished manuscript, tell what the title is and give its status (in preparation, in press, etc.).
- Volunteer work at a hospital or a social organization that served the needs of individuals or the community. Make sure you mention where you did your work and what it was that you did.
- Statement of future goals, aspirations and objectives.

Medical schools like to have a diverse student body with varied experiences and unusual backgrounds. Try to convince the admissions committee that you're the kind of individual who will add something special to the incoming freshman class. Without being obnoxious, make yourself stand out among the other applicants so that the admissions committee will feel compelled to grant you an interview and find out a little more about you. Many times, the decision of whether or not to grant an applicant an interview is based on the contents of his or her sketch. If you're on the borderline, make your sketch work for you by giving it all the attention it deserves. A good friend of mine who interviews many medical school candidates had the following to say about autobiographical sketches:

“When I read an autobiographical sketch, what I don't want to see is a long exposé about why the student wants to become a doctor. I want to read about his or her accomplishments. After all, a 21-year-old individual has no real experience in medicine so I don't care to read about medicine. I want to see whether that person is caring, motivated, an independent thinker who inspires others to act. Medicine is a very heavy-pressure career, and a person who chooses medicine must have demonstrated the ability to make decisions, be independent, and assume a good deal of responsibility. Those are the qualities that need to shine through on the autobiographical sketch. A student who was in charge of a school cafeteria wrote one sketch I remember well. He supervised 60 students and was responsible for scheduling work assignments and vacations and had to make sure everyone knew what to do during the workday. When I interviewed him several months later, we spent most of the time talking about his work at the cafeteria! I knew from his sketch and the ensuing interview that, even though he didn't have any experience in medicine, he would make a fantastic doctor.”

When you're writing your autobiographical sketch, don't make the mistake of thinking that personal accomplishments don't mean much to an admissions committee member – many times they mean everything! If you've done anything that shows you to be a creative, take-charge, responsible person who leads and inspires others to accomplish goals, include that in your sketch. Any committee

member who reads about a person like that would be crazy not to think, “Hey, medicine could use someone like that.” Look at the sample autobiographical sketch included with the AMCAS form at the end of this chapter. See if you can pick out the important points that I said are important when writing your sketch.

\*From: The Complete Medical School Preparation & Admissions Guide by Andrew Goliszek, Ph.D.

### **Addendum to Instructions on Autobiographical Essays**

1. Try to have an interesting introductory paragraph. Write something, which will pull your reader in and make them WANT to read the rest of the essay (even though they have to).
2. Remember that it is likely that an admissions officer has read hundreds of these. The more readable it is, the easier you make their job (and the more they like you).
3. In considering what experiences to include, it is best to mention four or five experiences in a little bit of detail rather than 10 or 20 in the form of a list. When you describe your experiences, you should mention what you learned in general, what you learned about yourself, how it made you feel, and what you liked or disliked. While this is not an exact formula, these kinds of things reveal a lot about you.
4. Include experiences, which describe the breadth of the characteristics, which you possess. Don't just focus on one area.
5. Include the factors or circumstances, which led to your being interested in medicine.
6. If you happen to discuss activities, which relate to Christianity, you may wish to use neutral terms, which don't convey religious emphasis. For instance, instead of Small Group Discipleship leader, say you were the leader of a small support group for students. Sometimes Christians use a lot of lingo and non-believers don't even understand what they are talking about. A secular admissions committee may not understand a “calling”.
7. Related to #6, be careful in emphasizing missionary service too much. Remember that medical and dental schools consider financial aspects in their admissions process. Each student represents a financial obligation, either from their private funds or from the state or federal government, for part of the cost of the medical or dental education. The prospect of a student receiving such support and promptly leaving for a foreign country with degree in hand can cause the admissions committee to question letting you in the first place. State-supported schools may be especially sensitive on this issue.
8. A number of helpful materials are available in the office. Essays written by previous premeds are available for your perusal. Also there are books in the office, which contain chapters on writing the essay.
9. When you have re-written your essay, let someone whose opinion you value read it and critique it. A parent, your pastor, a professor, or perhaps a close friend can give valuable suggestions or provide insight. When you are content with the final content, form and style, go with it!

\*Modifications of David Bruce's comments by Robert Waltzer, Health Professions Coordinator, January 1991

## Appendix K

### Work and Activities Section of the AMCAS Application

(One medical school admission perspective: adapted from advice given by Lilano Montano, Asst Dean of Admissions at Cornell Medical College).

- Medical schools want brevity with meaningful information. The more the medical school knows, the better equipped to make decisions.
- Lilano Montano’s “map” for students filling out the section
  - Think carefully about which kind of experiences were really meaningful to you – don’t try to fill out space. We are very good at recognizing BS.
  - High school activities are important only to underline continuity during college at increased levels of participation, leadership or responsibility (e.g., you’ve played a musical instrument, participated in the high school orchestra and are now in the college orchestra, etc.)
  - Don’t repeat what is obvious from answers to things like experience type, title description, contact name and title or organization name (e.g. don’t repeat in the description that you worked on research with Dr. So and So – that information is above the description of your experience).
  - If the organization in which you participated is not well known, give a brief description followed by the role you played there, especially if it involved any type of responsibility.
  - If you made Dean’s list (or any type of honor like that) for more than one semester, use the description area to list the other semesters.
  - If you received any scholarship, fellowship or other honor that is not nationally recognizable, describe it briefly. Don’t waste paper on scholarships that are awarded to half the population at the school.
  - If you were just a member of an organization, let us know how many meetings/week you attended and why you joined.
  - If you list a publication, make sure it’s been accepted for publication and cite it properly. If the paper is just being “prepared for submission” or “submitted,” include this fact as part of the research description in the part where you listed the research activity.
  - If you listed a research experience that extends through the academic year as well as summer, use the description area to let us know the time invested during each of those periods (e.g., full time during the summer, 10hrs/week in the fall/spring blah, blah, blah)
  - Remember that each experience you list is “up for grabs” if you are invited to interview – you might be asked anything about it and it can make or break you.

### My two cents (Ted J)

- Discuss why experience or activity was significant in your development and if relevant how it will contribute to your ability to be a physician.

- Comment on leadership roles, organizational skills, teamwork, teaching opportunities, and F
- Bullet statements can be used but proof read carefully to eliminate “poor grammar” and misspellings.
- Don’t list trivial activities just to fill the space or complete the number of entries allowed in the AMCAS. Ten solid activities are much better than 15 weak entries.
- Use the section to add to your profile and background. Make the entries interesting and worthy of an interview.
- Activities and work experiences are preferred to listing of scholarships or Dean’s lists.
- Be careful when listing high school activities. Don’t overshadow your college activities with high school involvement. You want to appear consistent and committed.
- Continuous commitment over a period of time is more impressive than a few hours spent in a wide range of activities. Multiple years of commitment is much more impressive than heavy involvement only during the year before you apply.
- If an activity is a future/pending activity it can only be included if you have received training for the future activity. List the start date as the day you began training and the end date as “until present”.

## Appendix L

### Advice on writing Letters of Recommendation

Outlined below is a short overview written by Louis C. Rice in the 1994 CAAHP newsletter of what medical schools want addressed in a recommendation letter:

"Medical schools appreciate highly-personalized and in-depth letters of recommendation from professors in the basic sciences. They prefer letters from faculty of professorial rank, and they prefer letters of recommendation to address the following issues:

- a. Under what circumstances have you known the applicant and for how long?
- b. What are the chief attributes and/or deficiencies of the applicant?
- c. How does the applicant get along with peers, staff and faculty?
- d. Is the applicant working up to full potential?
- e. How does the applicant compare with other pre-med students whom you know?
- f. How strongly motivated is the applicant toward a career in medicine?

Medical schools would also like personalized recommendations from professors in the non-sciences to assess aptitude and abilities in the arts, humanities and social sciences.

Medical schools will accept letters of recommendation from employers, supervisors, and/or persons in a position of authority who have monitored a candidate's performance in a job setting or extracurricular activities.

Medical schools will, however, accept whatever a student sends them, regardless of whether the letters are written by someone who knows the student, whether they are written by a full professor or a teaching assistant, whether they are a scientist, a non-scientist, a personal friend or a politician. The extent to which such letters enhance prospects for admission to medical schools is, of course, open to speculation.

Finally, medical schools prefer an original letter on office letterhead from the recommender. They are not so unrealistic, however, as to assume they will receive many such letters. They do expect a clear copy on "good" quality paper and they expect typewritten recommendations. Of course, they accept poorly reproduced and handwritten letters, but these do little to enhance the profile of the candidate."

Another medical school's perspective on what a recommendation letter should stress is the following:

- Critical thinking / Independent study
- Communication skills
- Computer literacy
- Teamwork
- Appreciation of diversity / Liberal arts perspective
- Patience
- Ethics
- Motivation, stress management skills
- Stamina
- Knowledge of medicine / Life of a physician

## APPENDIX M AMCAS LETTER REQUEST



### AMCAS LETTER REQUEST

Application Year 2013

July 5, 2012



Letter ID

**AAMC ID:**

**Last Name:**

**First/Middle Name:**

**AMCAS Letter ID:**

**Letter Type:** Committee Letter

**Please Note: Medical Schools may require your letter(s) to be on official letterhead and include your signature.**

**TO:**

Karen Renneke  
St. Olaf College  
1520 St. Olaf Avenue  
Northfield, MN 55057  
United States of America

With this form, I am requesting that you forward my letter of evaluation to the American Medical College Application Service (AMCAS), which collects all letters on behalf of medical schools participating in the AMCAS Letters Service. Below is more information from AMCAS on how to submit the letter.

**How to Submit Letters to AMCAS**

- **AMCAS Letter Writer Application**  
Create an account, upload your letter, enter the AAMC ID and Letter ID numbers printed on this form, and you're done. To securely upload a PDF using the AMCAS Letter Writer Application, visit <https://services.aamc.org/letterwriter>
- **Interfolio**  
AMCAS can collect letters sent using Interfolio if the student requesting this letter is an Interfolio user or your institution/organization uses Interfolio to deliver letters of evaluation.
- **Mail**  
Please include this form (do not staple) with your letter(s) and mail to:

**AMCAS, attn: AMCAS Letters  
AAMC Medical School Application Services  
P.O. Box 18958  
Washington, DC 20036**

- **VirtualEvals (NAAHP members only)**  
If you use VirtualEvals, be sure to enter the AAMC ID and AMCAS Letter ID numbers printed on this form when you upload your letter.

**About AMCAS Letters**

The AMCAS Letters Service is a centralized service that allows medical schools to receive all letters of evaluation electronically from AMCAS. This service also allows letter authors to send letters to AMCAS, rather than to individual medical schools (as long as those schools participate in AMCAS Letters). For more information about this service, including a list of participating medical schools, please visit [www.aamc.org/amcasletters](http://www.aamc.org/amcasletters).

For more information about AMCAS, visit [www.aamc.org/amcas](http://www.aamc.org/amcas).

## APPENDIX N

### HEALTH PROFESSIONALS INTERVIEW TIPS

Adapted from the Health Professions Advising Center

College of Liberal Arts and Sciences

**University of Florida**

*Homework before the Interview:*

1. As soon as your interview is scheduled, make travel arrangements and inform your professors of your upcoming absence.
2. List three questions you would ask the interviewer if given the opportunity. These could be general field-related inquiries or related to the school interviewing you, but they should reflect sincere interest in the profession or school. You could visit the AAMC's "31 Questions I Wish I Had Asked" at <http://www.aamc.org/stuapps/appinfo/31ques.htm> for ideas.
3. Visit the Center for Experiential Learning (CEL) and schedule a mock interview. This will give you the chance to answer questions in an interview setting, have it recorded and critiqued by a third party. Do not memorize answers to questions. Rather, rehearse answering health-related questions so you are ready for ANY question.
4. Make sure you know where you are going and how to get there. Plan to arrive early in case you get delayed. If you have a chance, try to find the meeting place the day before the interview so you do not get lost on the interview day.
5. Find out the format of the interview day. Sometimes this will be sent to you in the invite letter. Otherwise, you should call the admissions office and discuss how the day is structured. How many interviews will there be? Will they be one-on-one? Will it be an open file or closed file interview? Will there be a tour? Is breakfast or lunch served? Will you have the opportunity to meet with current medical students? What time will you be finished? The more you know about the day, the fewer surprises there will be and the more comfortable you will feel.
6. Talk to others who have interviewed at the school. What was it like? Were there any surprises they might not have anticipated? Log onto <http://interviewfeedback.com/> and read comments from other students who have interviewed at that particular school.
7. Read through the web site thoroughly. This could help generate questions you might have for the faculty/staff and students.
8. Read over your primary and secondary applications (you kept copies right?). Anything you listed on your application is a possible interview question. Be prepared to discuss anything and everything on your application.
9. Think critically about your strengths and weaknesses (in your academics, experiences, personality, social skills, etc.) You should be able to recognize and discuss your strengths without sounding full of yourself. Conversely, you should be able to recognize your weaknesses as areas that could use improvement, but do not deter from your qualifications. What have you done to address your weaknesses?
10. Know some current issues facing health care today. You do not need to be an expert but you should be able to identify areas of concern for the health care industry. Read the newspaper, look at <http://www.medscape.com>, and ask the health care providers you are working with what they feel are the most pressing issues they deal with daily.
11. Exercise and eat well for at least a week before the interview. You will be mentally and physically alert and will deal better with stressful situations.

### *The Day of the Interview:*

1. Dress appropriately. For men, the standard dress is a business suit or dress slacks and a blazer. Women should wear a dress or suit. There is no need to overdress. Keep jewelry, body piercing, makeup, and cologne to a minimum. **When in doubt, less is best.** Shoes should be polished and all clothes should be well pressed. Women should wear a low pump heel because there could be a fair amount of walking. If you plan to wear panty hose, carry an extra pair in case you get a run. One in three job interviewers have stated that applicants were turned down for shoddy or inappropriate appearances. So take your attire seriously.
2. Be sure that your hands are clean and your fingernails are well scrubbed and/or manicured. Give the interviewer a firm handshake – not a broken hand. Arrive 15 minutes early.
3. Wait to sit until invited by the interviewer. Once seated, try not to pump your foot up and down when crossed. Be respectful.
4. Make sure to get your interviewer's name so that you may send them a thank you card.
5. If you have the opportunity to meet with current students, talk to them as much as possible. While the school is shopping for students, you are also shopping for schools and want to have enough information to make a good decision after you leave.
6. Pay attention to the school's facilities, the city, the students, community, housing, etc. Is this where you want to spend the next four years of your life?
7. Maintain eye contact with the interviewer. Do not look at your feet, the floor, or your hands. This may give the perception that you are less than confident about your talents.
8. Be very careful about your language. THINK before you answer. The interviewer wants to hear thoughtful answers. Focus on the question – don't be too wordy or talk around the subject at hand. You do not have to fill every minute of the interview with words. You are allowed to think in silence. Also, please be careful about repeating words or phrases; (i.e. "like," "hopefully," "you know," "interestingly enough"). "Like I said," is incorrect grammar; "as I said" is correct if you need to use the phrase.
9. Do not be afraid of saying "I don't know." It is better than making up a meaningless answer.
10. Keep enthusiasm and energy level reasonably high throughout the interview process.
11. Be consistent. Think about earlier responses and rephrase them to elaborate information cited. Use examples to support your claims.
12. If asked about information on your application, use this as a time to expound on it, not just repeat it. Describe what you did, questions that you had while doing it, what you learned, etc.
13. You may be asked about ethical issues. Remember that ethical decisions are not your opinions. They are based on an ethical framework and may or may not be what you THINK should be done. Ethical decisions should be based on what is the right thing to do.
14. Relax. While this is certainly an important event, it is not a life or death situation. It is natural and healthy to be a little nervous. Be confident, not overly so, that you have made it thus far and have some strengths they are looking for.
15. Answer questions honestly. Do not try to be what they want. Your "persona" may be rejected. This will keep you from thinking afterwards if only I had been myself I probably would have a better chance of being offered admission.

### *After the interview:*

1. Before leaving, make sure you know what the remaining steps in the selection process. What is the timeline? When will you hear a decision? How does the alternate list work?
2. Thank you cards are not necessary but recommended. A nice thank you card will be perceived well. If you decide to send thank you cards, remember to send them to each interviewer.
3. If a decision is not made for quite some time, you may wish to update the admissions office of new activities, new transcripts, etc. Significant events are worth noting but do not bother them with trivial experiences.
4. Take a moment to reflect on your interview experience, the negative and the positive, to learn from the process. What would you do differently? What would you keep the same? Maybe you were too fidgety. Maybe you rambled. Maybe you could have kept better eye contact. There's nothing you can do about those now, but you can certainly improve your next interview.
5. Visit [interviewfeedback.com](http://interviewfeedback.com) and record your experience.

## APPENDIX O

### University of Minnesota Letter of non-acceptance and advice on the next steps

#### UNIVERSITY OF MINNESOTA

*Twin Cities Campus*

*Medical School Admissions*

*G-254 Mayo Memorial Building  
420 Delaware Street S.E.  
Minneapolis, MN 55455*

*Office: 612-625-7977  
Fax: 612-625-8228  
www.meded.umn.edu  
Email: meded@umn.edu*

December 2012

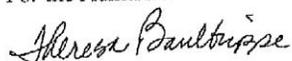
Dear

Your application to the University of Minnesota Medical School-Twin Cities has been evaluated thoroughly by the Admissions Committee. We regret to inform you of the Committee decision not to offer you a position in the 2013 entering class.

Understandably, you may have questions about this decision. The attached information sheet provides information that may be of value to you. Should you have questions, our office will provide specific feedback to email requests at any time by writing [meded@umn.edu](mailto:meded@umn.edu). Requests to schedule an office or telephone appointment may be made after May 15, 2013, the date by which all applicants will have been notified of their status. These requests can be made by email (see above) or by phone at (612) 625-7977.

We wish you the best in your future endeavors. Thank you for your interest in the University of Minnesota Medical School-Twin Cities.

For the Admissions Committee,



Theresa Baultrippe, M.A.  
Interim Director  
Medical School Office of Admissions  
University of Minnesota

TB/hs  
encs.

### General information for those not accepted to the University of Minnesota Medical School

Thank you for applying to the University of Minnesota Medical School. Like other medical schools, applicant numbers exceed class size. Our school receives approximately 20 applications for each place available; therefore, it is strongly recommended that each applicant have an alternative career plan in case she or he is not accepted into medical school.

The University of Minnesota Medical School process relies upon the efforts of two dozen members of the faculty Admissions Committee, which has sole authority for selecting our medical students. The Admissions Committee works extremely hard to assure that the admissions process is fair and equitable to each applicant.

Experience suggests that those not accepted to the Medical School may have questions about their application covered by the guidelines below. If you wish to re-apply to the University of Minnesota Medical School, first make a realistic appraisal of your qualifications to assess whether you have significantly improved areas of weakness.

- In preliminary screening, the Admissions Committee determines the competitiveness of each applicant's qualifications, including **MCAT scores** and **academic performance**.
  - If your MCAT scores are lower than the 60<sup>th</sup> percentile and you wish to re-apply, we strongly advise you to retake the MCAT. (Information can be found at [www.aamc.org/students/applying/mcat/](http://www.aamc.org/students/applying/mcat/))
  - The evaluation of an applicant's academic record by the Admissions Committee includes consideration of all course work, difficulty, grade trends, and so on. While a poor semester may be corrected by later academic work, those whose grades are consistently below 3.00 are in a less competitive position. Applicants still in college should attempt to improve their academic records.
  - The middle 50% of applicants invited to interview had GPAs that ranged from 3.29 to 3.92 and MCAT scores that ranged from 29 to 37. While there were applicants invited to interview with lower GPAs and MCATs, these students had either significant medical and non-medical experiences or outstanding graduate-level grades, or a combination of both.
  - If you have already graduated from college, you may want to consider additional upper-level science course work. The Admissions Committee recognizes that additional course work may not be possible for financial reasons; any occupation or job is looked upon favorably by the committee.
- Additional critical elements in the application help define the unique qualities of each applicant. The **personal statement** highlights motivation and life experiences. **Human service activities** demonstrate personal service to others. **Exposure to medicine** ensures applicants are making informed career choices. **Interviews** assess maturity, communication skills, personal integrity, and motivation for a career in medicine. **Letters of recommendation** also must be of high quality.
- **Residency** status also may be taken into account in evaluating your application, as some preference is given to Minnesota residents. The Medical School does not make decisions about legal residency; for information, consult the University of Minnesota-Office of Admissions and Records, 240 Williamson Hall, University of Minnesota, Minneapolis, MN 55455-0374.

We prefer to wait to provide feedback until you have received final decisions from each of the schools to which you applied during the current application cycle. However, if you would like specific feedback or have additional questions prior to May 15th, please send an e-mail to the Admissions office ([meded@umn.edu](mailto:meded@umn.edu)). After May 15, we will begin scheduling office or telephone appointments with members of the Admissions Committee. At that time you may schedule an office or telephone appointment by calling our office at 612-625-7977 or sending an e-mail to [meded@umn.edu](mailto:meded@umn.edu).

2013  
TB/hs

# Appendix P

## Key World-Wide Web Sites

### Allopathic Medicine

- Association of American Medical Colleges (<http://www.aamc.org>) and (<https://www.aamc.org/students/aspiring>)
- AMCAS Application Information ([www.aamc.org/amcas](http://www.aamc.org/amcas))
- MCAT Resources ([www.aamc.org/mcat](http://www.aamc.org/mcat))
- Student hub of AAMC (<http://www.aamc.org/students>) ([www.studentdoctor.net](http://www.studentdoctor.net))
- AMA Student Information (<http://www.amsa.org/premed>)
- Student Information (student run) ([www.studentdoc.com](http://www.studentdoc.com))
- Free online publication “Next Generation” (<http://www.nextgenmd.org/>)

### Athletic Training

- National Athletic Trainers’ Association (<http://www.nata.org>)

### Art Therapy

- American Art Therapy Assoc., Inc. (<http://www.arttherapy.org>)

### Audiology

- Audiology Foundation of America (<http://www.audfound.org>)
- American Academy of Audiology (<http://www.audiology.org>)
- American Speech-Language-Hearing Association (<http://www.asha.org>)

### Chiropractic Medicine

- Association of Chiropractic Colleges (<http://www.chirocolleges.org>)
- American Chiropractic Association (<http://www.americhiro.org/>)

### Cytotechnology

- [www.cytopathology.org](http://www.cytopathology.org)

### Dentistry

- American Dental Education Association (<http://www.adea.org>)
- American Dental Association (<http://www.ada.org>)
- American Student Dental Association (<http://www.asdanet.org>)

### Emergency Medical Technician

- National Association of Emergency Medical Technicians (<http://www.naemt.org>)

### Genetic Counselor

- National Society of Genetic Counselors (<http://www.nsgc.org>)
- A World of Genetics Societies (<http://www.faseb.org/genetics>)

### Genetic Technologist

- Association of Genetic Technologists (<http://www.agt-info.org>)

### Health Administration

- Association of University Programs in Health Administration (<http://www.aupha.org>)
- Health Administration ([www.ache.org](http://www.ache.org))

### **Health Information Management**

- American Health Information Management Association (<http://www.ahima.org>)
- Medical Informatics
- ([www.amia.org](http://www.amia.org)) or ([www.aace.org](http://www.aace.org))

### **Medical Technology**

- American Society for Clinical Laboratory Science (<http://www.ascls.org/>)
- American Society for Clinical Pathology (<http://www.ascp.org>)

### **Music Therapist**

- American Musical Therapy Association (<http://www.musictherapy.org>)

### **Naturopathic Medicine**

- American Association of Naturopathic Physicians (<http://www.naturopathic.org>)

### **Nursing**

- American Association of Colleges of Nursing (<http://www.aacn.nche.edu>)
- Nurse Practitioner (<http://www.aanp.org> or [www.nurse.org](http://www.nurse.org))

### **Nutrition**

- American Society for Nutritional Science (<http://www.asns.org>) or (<http://www.faseb.org/asns/graddir/gradfram.html>)

### **Occupational Therapy**

- American Occupational Therapy Association (<http://www.aota.org>)

### **Optometry**

- The Assoc. of Schools and Colleges of Optometry (<http://www.opted.org>)
- Othopists (PA Equivalent) (<http://www.othoptics.org>)

### **Osteopathic Medicine**

- American Assoc of Colleges of Osteopathic Medicine (<http://www.aacom.org>)

### **Perfusion**

- American Society of Extra-Corporeal Technology (<http://www.amsect.org>)

### **Pharmacy**

- American Association of Colleges of Pharmacy (<http://www.aacp.org>)

### **Physical Therapy**

- American Physical Therapy Association (<http://www.apta.org>)

### **Physician Assistant**

- American Academy of Physician Assistants (<http://www.aapa.org>) or (<http://www.appap.org/>)
- Physician Assistant Education Association (<http://www.paeaonline.org/>)

### **Podiatric Medicine**

- American Association of Colleges of Podiatric Medicine (<http://www.aacpm.org>)

### **Public Health**

- American Public Health Association (<http://www.asph.org>) or ([www.whatispublichealth.org](http://www.whatispublichealth.org))

### **Rehabilitation Counselor**

- National Rehabilitation Counseling Association (<http://nrca-net.org>)

### **Respiratory Therapist**

- American Association for Respiratory Care (<http://www.aarc.org>)

### **Speech-Language Pathologist**

- American Speech-Language-Hearing Association (<http://www.asha.org>)

### **Sports Health Care/Sports Medicine**

- ([www.nata.org](http://www.nata.org))
- American College of Sports Medicine (<http://www.acsm.org>)

### **Surgical Technologist**

- Association of Surgical Technologists (<http://www.ast.org>)

### **Veterinary Medicine**

- Assoc. of American Veterinary Medical Colleges (<http://www.aavmc.org>)
- American Veterinary Medical Association ([www.avma.org](http://www.avma.org))

**Sign up for Health Professions E-Mail Alias**

To receive email updates and information regarding information relating to any health professions please add your name below.

Name: \_\_\_\_\_

Email address: \_\_\_\_\_

Year of Graduation: \_\_\_\_\_

Major: \_\_\_\_\_

Health Profession interested in: (check one)

\_\_\_\_\_

Pre Dental

\_\_\_\_\_

Pre Medical

\_\_\_\_\_

Pre Vet

\_\_\_\_\_

Pharmacy

\_\_\_\_\_

Other (please specify): \_\_\_\_\_

Email the information or please print this out, and send it to, Karen Renneke, RHS 336 or email her at [renneke@stolaf.edu](mailto:renneke@stolaf.edu).

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