Hamilton College

Information for Students



Considering Careers in the Health Professions

Health Professions Advisory Committee 2012-13

Welcome to Hamilton College and the health professions advising program. Hamilton offers a multitude of opportunities to help you prepare for your desired profession, and there is no one formula you must follow to find success. Many of you are certain of the profession you want to pursue, and others have many possible careers to investigate before a choice is made. The health professions advising program is here to assist you. We will present programs throughout the year to give you information, and you will have every opportunity to choose classes that are meaningful to you while you develop the strongest credentials possible. Whether you are interested in dentistry, medicine, physical therapy, physician assistant programs, public health, veterinary medicine or any of the other health professions, our advising program is designed to offer you information, encouragement and guidance, will help you gain clinical experience, and will assist you in your post-graduate planning. It is your responsibility, however, to seek advising and make your questions known.

The Health Professions Advisory Committee

Leslie North, the Coordinator of Health Professions Advising, chairs the Health Professions Advisory Committee. Her office is in the Career Center, **Bristol Center #304**, and you can make an appointment with her any time you wish to discuss your plans, seek advice on course choices, or plan summer activity. **To make an appointment with Ms. North, look at her calendar** https://my.hamilton.edu/healthprofessions to identify a mutually convenient meeting time and call 859-4584 to schedule an appointment. It is a good idea to meet with Ms. North early in your first year to draw up a tentative four-year plan. This exercise is particularly valuable for students who are unsure of their major and for those who intend to study abroad. Feel free to call on her, or any member of the Health Professions Advisory Committee, for advice and support.

One of the main functions of the Health Professions Advisory Committee is to prepare a committee recommendation supporting each applicant's candidacy to professional school in the health sciences. The recommendation is designed to present a complete description of your accomplishments. In order to do this, the committee reviews the academic records and supporting letters from professors, employers and coaches, reviews each candidate's extracurricular and co-curricular resume, and the disciplinary records of the College.

The members of the Health Professions Advisory Committee are:

Leslie Bell, Associate Director of the Career Center
Robert Kantrowitz '82, Professor of Mathematics
Robin Kinnel, Childs Professor of Chemistry Emeritus, and past Chair of the HPAC
Tara McKee, Associate Professor of Psychology
Sue Ann Miller, Professor of Biology
Leslie North, Chair, Coordinator of Health Professions Advising
John O'Neill, Edmund A. LeFevre Professor of English Emeritus
Ann Silversmith, Professor of Physics
Douglas A. Weldon, Stone Professor of Psychology

Many students preparing for the health professions focus exclusively on the coursework required for admission and fail to recognize the equally important non-academic requirements. All medical/dental/vet schools want to see evidence that you are a caring, concerned person who is eager to spend your career in service to others. You can consider ongoing service activity to be an unwritten requirement. The admission committees will look just as closely at your personal qualities and resume of activities as they do your GPA. Demonstrating your integrity, reliability, resilience, communication skills, desire to learn and eagerness to serve others will be as important as your grades and test scores.

Although we encourage you to pursue your personal interests in your extracurricular activities (e.g. sports, music, writing, campus leadership) we suggest that you also choose several community service activities. Such activities might include volunteering at your hometown hospital, working at a soup kitchen near campus, tutoring high school students, ASB (alternative spring break), or serving as a campus EMT. You know your strengths and interests, so be creative and find your niche. There is no one "correct" activity that will guarantee admission to medical school. Hamilton's COOP (Community Opportunity and Outreach Project) and HAVOC (Hamilton's Association for Community Outreach and Charity) offer scores of service activities from which to choose.

Clinical experience in a hospital or appropriate health care setting is also critical. This work allows you to learn about your future profession at the same time you are developing professional communication skills. Hamilton students interested in medicine often spend one of their summer breaks at the Burke Rehabilitation Hospital in White Plains, NY or participate in a one-week HELP partnership at St. Elizabeth's Family Residency Program in Utica. Students often shadow a physician or dentist or veterinary doctor at home during January winter break or over the summer, and arrangements can also be made to shadow during the academic year.

Keep in mind, too, that many of the top professional schools favor students who have some research experience. Over 90 Hamilton students stay on campus each summer to work in the labs of faculty members. Medical schools also sponsor summer research programs for undergraduates, as do many universities. See Leslie North for additional information.

Standards of behavior

All health professions schools require a high standard of personal and academic integrity. Failure to maintain such standards at Hamilton College will be reported to the professional schools. Any incidents that result in suspension, probation or other sanction from the Honor Court or Judicial Board will be discussed in your committee letter of recommendation. When you request that a letter of recommendation be written, you will sign a form releasing any pertinent disciplinary or academic information in the Dean of Student's Office. The HPAC will use this information in preparing your recommendation. Although we certainly do not expect that you will encounter any academic or disciplinary action while at Hamilton, it is necessary to caution you that failure to act honestly and responsibly might jeopardize your career plans. If you are unclear about the academic rules (e.g. when you can collaborate with a lab partner) speak up and ask!

You need not major in science to apply to medical/dental/vet school. You must, however, take the courses that demonstrate competency in the basic sciences. The minimum requirements are expected to change in 2015, but for now it is best if you prepare by taking:

- Two semesters of Biology: Bio 101/102; or Biology 115 (requires strong results in AP Bio and the permission of the instructor) and an elective; Biochemistry is also very important.
- Two semesters of Physics: Physics 100-105 (algebra-based) or Physics 200-205 (calculus-based sequence designed for physical science majors; or 190-195 for Physics majors).
- Four semesters of college Chemistry: Chem 120 (or 125 for students with a strong AP or IB background), Chem 190 (Orgo I), Chem 255 (Orgo II), and one of *either* Chem 265 (Inorganic and Materials) or Chem 270 (Biological Chemistry).
- Two semesters of English: An English 100 class plus one other course in English; **or** any combination of classes in the English and Comparative Literature departments. (Writing 110 or two strong writing intensive classes can often be substituted for one semester of English.)

In addition, many medical schools ask that you demonstrate proficiency in mathematics. For students who wish to minimize mathematics, we suggest one semester of calculus (Math 113 or 114) and one semester of Statistics (Math 253). Additional courses important to medical schools include biochemistry (will be required after 2015), psychology, or the other social and behavioral sciences. Several vet schools require biochemistry, microbiology and genetics. All professional schools value the critical thinking and communication skills you will inevitably acquire in the normal course of completing a degree at a challenging liberal arts college.

Please contact Leslie North to make a plan for completing the requirements for veterinary medicine, nurse practitioner programs, optometry, pharmacy, physician assistant, physical therapy; the prerequisites for these programs very specific and differ from those listed above.

Course planning—your concentration

All the health professions seek students who are broadly educated and who do well in the required science courses. There is no one "right" major that will give you an admission advantage. Statistical data comparing the undergraduate concentrations of the candidates who applied for entrance to medical school in 2011 show that candidates majoring in the humanities were accepted at rates at least as high as those who majored in science. This means that students majoring in Spanish or English or Philosophy or Sociology were as likely to be admitted to medical school as those majoring in Chemistry or Biology or Neuroscience.

In choosing your concentration, we encourage you to select a discipline that you find exciting and challenging and one in which you think you can excel. If you choose a major that is not interesting to you, you risk doing less than your best, thereby hurting your credentials. The bottom line is that you should *not* choose a major to impress an admissions committee. Make decisions based on your individual preferences and personal strengths.

Please note: the absence of distribution requirements at Hamilton College is a great benefit to our premed students. Hamilton students can immediately begin exploring possible majors and, at the same time, start completing courses that are required for professional school.

Whether or not you have decided on a major, you should begin planning your coursework early. Try to make a tentative plan for all four years at Hamilton, keeping in mind that you will want to get the most from the academic and extracurricular opportunities Hamilton offers while simultaneously preparing for professional school. Some things you should consider as you plan your coursework over the long term are:

- What are your academic strengths and weaknesses?
- What are your likely majors?
- Do you want to spend a semester or an academic year studying abroad?
- Are you planning to participate in varsity sports?
- How will you use your summers and vacations to explore your desired profession?

Your plan for your coursework will also depend greatly on *when* you plan to enroll in professional school. In the United States the average age of those entering medical school is 24.4 years. Many Hamilton graduates choose to spend a year or two doing medical research or clinical work, participating in service programs (AmeriCorps, Teach for America), or pursuing a Fulbright or Watson Fellowship. As long as you have taken at least four science courses at Hamilton, the Health Professions Advisory Committee will be happy to assist you with the application process and offer you a recommendation whenever you decide to apply.

We suggest that you elect the required premedical courses in whatever pattern will allow you the best mastery of the material. The MCAT/DAT are achievement tests that will measure your knowledge in the physical and biological sciences as well as critical analysis and reasoning skills. (As of 2015 the MCAT will also test your understanding of the principles of behavioral and social sciences. See: https://www.aamc.org/students/applying/mcat/mcat2015/.) Graduate programs don't care if you choose to take the premedical courses within the first two or three years, or spread them out over four years or five. They do want you to see an academic record that documents your ability to succeed in a challenging curriculum.

If you are determined to enter professional school immediately after graduation, you must take the basic science courses within three years to be prepared for the MCAT/DAT in spring or early summer of your junior year. This means "doubling up" on prerequisite science courses somewhere along the line. To help you present excellent credentials when you apply, it's a good idea to begin fulfilling the science requirements in your first year. You can decide to elect two sciences in your first year if you are fairly certain you know your desired major. Other students may want to choose one science while exploring classes in a variety of disciplines. Students who plan to study abroad gain the greatest flexibility by choosing two sciences in the first year. Those who plan to make a significant commitment to an extracurricular activity, such as a fall or winter sport, should consider whether they will have sufficient time to do well if they elect two sciences/two labs in the first year. Remember that you are establishing a resume of credentials that will play an important role in determining your acceptance to professional school. Choose your courses thoughtfully. Advising is a highly individual process, and each student is different. You should feel free to call on both your primary faculty advisor and Leslie North for assistance in planning a program that is tailored to your personal goals. But there is no reason to be nervous—you wouldn't be here if you weren't ready for the challenge!

Schedule A and B demonstrate a path to taking the MCAT/DAT in the spring/summer of the junior year and to attend grad school immediately after graduation. These schedules are appropriate for students who enjoy the sciences and who are fairly certain they know their intended major:

Schedule A	Year 1	Year 2	Year 3	Year 4
Fall semester	Chem 120 or 125	Chem 255 (Orgo II)	Physics 100 or 200	Major
	Biology 101 or 115	Major	Major	Senior Project
	Elective or Math	Elective	Major	Elective/Major
	Elective or English	Behavioral science?	Elective	Elective
Spring semester	Chem 190 (Orgo I)	Chem 265 or 270	Physics 105 or 205	Major
	Biology 102 or other	Major	Major	Senior Project
	Elective	English/Comp. Lit	Behavioral science?	Elective
	Elective	Elective	Elective	Elective
			MCAT/DAT	
Schedule B	Year 1	Year 2	Year 3	Year 4
Fall semester	Bio 101 or 115	Chem 120/125	Chem 255 (Orgo II)	Major
	Physics 100/190/200	Elective	Major	Senior Project
	Math or English	Major	Major	Elective/Major
	Elective	English	Elective	English
Spring semester	Biology 102 or other	Chem 190 (Orgo I)	Chem 265 or 270	Major
	Physics 105/195/205	Elective	Major	Senior Project
	Math/Elective	Elective	Major	Elective
	Elective/Major	Major	Elective	Elective
	-		MCAT/DAT	

There are myriad paths to professional school. The following schedules demonstrate paths that allow students to explore various disciplines before declaring a major, and are appropriate for students who have not had advanced work in the sciences in high school, or have made a significant extracurricular commitment:

Schedule for students interested in exploring a health career—MCAT/DAT in Spring of Senior Year

Schedule C	Year 1	Year 2	Year 3	Year 4
Fall semester	Bio 101	Chem 120/125	Chem 255 (Orgo II)	Physics 100/200
	Elective or English	Elective	Elective	Senior Project
	Elective	Elective	Major	Major
	Behavioral science?	Elective or Math	Major	Major
Spring semester	Bio102	Chem 190 (Orgo I)	Chem 265 or 270	Physics 105/205
	Elective	Behavioral science?	Elective	Senior Project
	Elective or Math	Elective	Major	Major
	Elective	Elective	English	Elective
				MCAT/DAT

Schedule for exploring a health career--MCAT in Spring of Junior Year

Schedule for exploring a health careerwear in Spring of Julior Teal				
Schedule D	Year 1	Year 2	Year 3	Year 4
Fall semester	Chem 120/or125	Chem 255 (Orgo II)	Bio 101	Major
	English	Elective	Physics 100/200	Senior Project
	Elective or Math	Major	Major	Major
	Elective	Elective	Behavioral science?	Elective
Spring semester	Chem 190 (Orgo I)	Chem 265/or 270	Bio 102	Major
	Elective/Major	English	Physics 105/205	Senior Project
	Elective or Math	Major	Major	Elective
	Behavioral science?	Elective	Major	Elective
	!	!	MCAT/DAT	

Schedule for a semester abroad —MCAT /DAT in Spring of Senior Year

Schedule E	Year 1	Year 2	Year 3	Year 4
Fall semester	Physics 100/190	Chem 120/125	Semester Away	Chem 255 (Orgo II)
	Biology 101/115	Behavioral science?	-	Senior Project
	Math	Major		Major
	English	Elective		Major
Spring semester	Physics 105/195	Chem 265	Chem 190 (Orgo I)	Major
	Biology 102 or other	Major	Major	Senior Project
	Math	English	Major	Major
	Elective	Elective	Elective	Elective
				MCAT

Popular schedule for a semester abroad —MCAT in Spring of Senior Year

Schedule F	Year 1	Year 2	Year 3	Year 4
Fall semester	Chem 120/or 125	Chem 255	Major	Physics 100/200
	Biology 101/115	Elective	Major	Senior Project
	Math	Elective	Elective	Major
	Elective or English	Behavioral science?	Math	Elective
Spring semester	Chem 190	Chem 265 or 270	Semester Away	Physics 105/205
	Biology 102 or other	Major		Senior Project
	Elective	English		Major
	Elective	Elective		(Elective
				MCAT study
				_

faq's

Q: What are the consequences of taking premedical courses at another institution during summer school?

All other things being equal, it is better to take your required premedical courses at Hamilton. First, by taking these courses at Hamilton, you will have professors on campus who know you well in the courses of greatest interest to the admissions committees. Through these professors and their letters, the Health Professions Advisory Committee will know you better and will be able to make a more convincing recommendation to the medical schools that you are applying to. Summer school courses are usually not as thorough as semester-long courses, so you won't learn as much. This is particularly important in the required courses, since these courses prepare you to do well on the MCAT/DAT examination and in professional school.

Q: I have been advised to avoid taking two laboratory courses during my first year at Hamilton. Is this a good idea?

The right schedule for you will depend upon your individual circumstances, interests and background. Students who love science, are confident of their study skills, and are eager to attend medical school directly after college should choose two sciences. Do not feel pressure to conform to any formula that doesn't feel right to you. Take the classes that you are excited about, and make a commitment to do your best in them. For many health professions students, science comes more easily than French, English or art history. Be yourself.

Q: I did not decide to pursue medical school until my junior year at Hamilton, and I have not fulfilled many of the requirements? What do I do?

There are several options. First, you can apply to medical school a year or two after graduation. If you have not completed your premedical course requirements by the time of your graduation, then you might consider enrolling in one of the many post-baccalaureate premedical programs that are available. Second, it is possible to take one or more of the courses during the summer school programs, although there are certain disadvantages to that plan (see first FAQ above). See Leslie North to devise a plan of action.

Q: How does AP credit affect required courses?

Advanced Placement credit does not substitute for a course taken in a college environment. If you are confident of your mastery of the AP content, take a higher level class in the same department. (Bio 115 is designed for students with a 4 or 5 on the AP Biology test; Chem 125 is designed for students with a strong background in chemistry.) You can choose to retake any AP class at Hamilton if you are not certain of your mastery. Professional schools want evidence of ability at the college level and in a college environment with the required subjects (biology, chemistry, physics, English, math). Hamilton's curriculum is designed for students who bring advanced work, and our advising system and placement tests in mathematics and foreign languages will make certain you continue to find challenge.

Timetable for applying to medical schools

We've already made the point that pursuing entrance to medical programs takes several years of planning and persistence, and that many students do not attend professional school immediately after graduation from college. The actual application process to medical or dental school will take about 18 months. To show you the sequence of activities, here is a schedule for those applying to attend medical school directly after graduation:

Time	Your action	Committee Action
Fall term, junior year	Decide whether to pursue admission in this application cycle; prepare resume	Leslie North meets with you to discuss timetable
January of junior year	Complete HPAC Questionnaire. Ask faculty for letters of recommendation; Interview with L North; Prepare for MCAT/DAT/GRE	Collect faculty and employer recommendations
May, June, July junior year	Take MCAT/DAT/GRE exam	Good Luck!
June-July	Determine final list of schools to which you will apply; Submit application forms;	Write and submit committee letter of recommendation
August-September, senior year	Submit secondary applications as early as possible; Set up mock interview	On-going advising and interview workshop; Practice interviews with Leslie North and Leslie Bell
September-December, senior year	Travel to invited interviews; Wait for acceptance letters	Support throughout process and advising on "Plan B"
May, senior year	Graduation from Hamilton	Celebrate!

Additional information sources

Email announcements will alert you to health professions programs, speakers, and visits from graduate schools throughout the academic year. Even if you are certain of your goals, it's a good idea to attend these workshops to gain additional information. Leslie North, your faculty advisor, and the HPAC members are always ready to answer your questions and offer advice. There are also many reference materials available in print and on the web. For specific information on healthcare careers, begin with the Hamilton Health Professions site: http://www.hamilton.edu/academics/healthprofessions/default.html

Other useful sites:

Health professions: http://explorehealthcareers.org/en/Index.aspx
Allopathic medicine: http://www.aamc.org/students/considering/start.htm

Osteopathic medicine: http://publish.aacom.org/Pages/default.aspx
Dental medicine: http://www.adea.org/Pages/default.aspx

Physician Assistant: http://www.paeaonline.org/

Accelerated nursing/CNP: http://www.aacn.nche.edu/Education/pdf/APLIST.PDF

Physical therapy: http://www.apta.org/Careers/
Veterinary Medicine: http://www.aavmc.org/
Public Health: http://www.asph.org/

Closing thoughts

We hope to leave you with the idea that you are building an important portfolio of academic credentials, interesting activities, and service experiences that indicate your commitment to and suitability for your desired profession. We all stand ready to help and to advise, but in the end it is **your** responsibility to build a strong candidacy through sustained academic performance, with genuine evidence of the personal values and experiences that led you to pursue a career in the health professions. While it is useful to have an overview of the process, much of what you do will come naturally as a part of your predilection to serve and your personal attraction to the health professions.

In our experience there are two essential elements to academic success at Hamilton College:

- 1) good planning
- 2) strong time management skills

Many students arrive at Hamilton with their study, time management and planning skills well developed, and others may find improvement is necessary. Speak up and get assistance if you find you need it.

It may be that you are not as successful as you hope to be in your first semester at Hamilton College. If so, *don't give up*! Use the energy from the frustration you feel to build a rising record that ends strongly. Assess your time management and planning skills. Are you spending your time in conjunction with your goals? Share your ambitions with us and with each other and through sharing find motivation to excel academically and personally. Above all, do not be afraid to ask questions, and use the resources of the college to assist you.

- Plan a tentative four year schedule that will allow you to meet *all* your goals.
- Make use of your professors' office hours and attend all review sessions offered.
- Be open-minded! Consider new majors, new activities, new goals, a new timeline.
- Find a place to study that suits your learning style.
- Continually examine how you are using your time: http://www.studygs.net/schedule/weekly.htm
- Experiment with group study. Many students learn well by teaching others, and through group work they find out how fully they understand material.
- Some talented first year students have never before found it necessary to study. If your study skills need work, see Leslie North for suggestions.
- Get to know your professors, and let them know you! Remember that recommendations from those who have taught you are an important element in professional school application process, and Hamilton's small classes allow you to know your professors well and vice versa.
- Check the College's online events calendar frequently. Attend a broad range of lectures, science symposia, medically related talks, etc. Watch your email for Health Professions events.
- Explore extracurricular opportunities fully; include a few service activities.
- Plan to spend a few days of each January break exploring your intended profession.
- In early January, begin planning a career-related summer activity.
- Consider developing a resume that includes both research and clinical experience.
- Consider EMT training, either through the on-campus program or at home.
- Be aware that although medical programs will look carefully at all your grades and will look for strong course choices across the curriculum, they are particularly interested in your grades in science and math.
- Graduate schools value applicants' participation in athletics, leadership and other extracurricular activities only if students are able to handle those involvements at the same time they are doing well in their classes.
- The MCAT format changed radically in 2007 when it became an on-line test, and it will change radically again in 2015. As of March 2015 the MCAT will include a section testing your knowledge of behavioral and social science. See AAMC web site for information about these change: https://www.aamc.org/students/applying/mcat/mcat2015/
- During the past five years, 90% of Hamilton students/graduates who had cumulative GPA's of 3.5 or better were admitted to a medical/osteopathic/dental/vet school the first time they applied. Study hard!

"A goal without a plan is just a wish." Antoine de Saint-Exupery