

The Health Professions Handbook for Fairfield University

This handbook is designed for those students interested in a career in one of the health professions (allopathic medicine (MD), osteopathic medicine (DO), dentistry, podiatry, optometry, pharmacy, physician assistant, veterinary medicine, chiropractic, nursing and some of the allied health programs). It aims to answer questions and guide students through their pre-professional years. It is recommended that students retain this document and become familiar with its contents. Further, it is strongly recommended that students meet with Dr. Church regularly in order to stay abreast of changes in the general preparation guidelines for admission to graduate programs in the health sciences.

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1. The Health Professions Advisor

In addition to advising students about careers in healthcare and the paths to preparing for graduate level training in those areas, the Health Professions Advisor (HPA) offers a variety of services. These include writing letters of evaluation, supplying application information for exams and professional schools, coordinating workshops and various events, and maintaining a library of preparation materials for student use. The library includes a selection of reference materials that cover topics of interest to students, such as entrance exam preparation, interview techniques and financial aid, as well as materials specific to different fields (optometry vs. pharmacy for instance). In addition to the materials contained on campus, students should be aware that there are numerous resources available online. Indeed, many links to useful information can be found below. In addition, the Health Professions Program (HPP) maintains an online presence (currently via Blackboard™ software) where students can find many of the same links as well as information specific to the HPP operations in the current semester. The Health Professions Advisor is also a source of internship and research opportunities.

During each semester the advisor plans and runs several HPP informational meetings/events. Notices featuring upcoming events are also posted on the advisor's door.

Students may schedule general advising appointments with the Health Professions Advisor directly or through the program Assistant.

2. The Health Professions Student

Freshmen

The freshman year is a time of self-examination, academic exploration, setting goals and finding out if those goals are viable. Meet with the HPA in the fall semester to discuss your plan of action. It is a good idea to plan a tentative course schedule for the next 3-4 years. Many pre-health students are on a strict timeline. All freshmen who are even considering attending medical school or dental school etc. should probably be enrolled in general chemistry (CH11) and may even consider general biology (BI170) in addition to chemistry in the first semester. However, the priority is for CH11 since four/five semesters of chemistry in total are required (only two semesters of biology are required for most students, except pre-vets). Late starters will need to double up on science coursework for several semesters in a row.

Although taking chemistry early is a MUST (especially for pre meds wanting to matriculate to medical school immediately after graduation) there is no need to declare a major right away. Students should however, declare their interest in a career in health science the first semester of freshman year or as soon as possible thereafter.

Remember, pre-med (or pre-health) is not a major, but a cluster of courses needed to meet admissions requirements or to pass the entrance exams for most health sciences schools. Registered pre-health students are also on a mailing list and receive information about events and opportunities of interest such as internships and scholarships.

Be sure to get to know each of your professors well. Your interest in them and their courses will make an impression and they will pay more attention to you. This is invaluable when it comes time to ask for letters of support from your instructors. A faculty member who knows you well and can remember you from class will be able to provide graduate programs the most thorough and useful letter on your behalf. Be sure to schedule an additional meeting with the HPA in the spring semester so that he can get to know you as well. His letter is the most important of all letters of evaluation when it's time for you to apply to grad programs.

Sophomores

The sophomore year is a time to reassess those high school dreams in a new light. It is likely that you will reconsider your future many times before you graduate and it is

healthy to do so. Talk to various health professionals about their careers and their own career decisions. Your awareness of the world and its options is expanding. An interest in the humanities or social sciences does not mean that you should not become a clinician. On the contrary, our world needs multifaceted individuals in the role of healthcare providers. This assumes that you never lose your fascination with science, however. If that happens, you need to look at the basis of your original decision to become a health care provider. Plan the intellectual focus of your curriculum, and if you haven't already, choose a major in the subject you like best.

Most medical/dental/veterinary and physical therapy programs etc. require volunteer or work experience. It is worth your while to find out if the field you have chosen suits you. You don't want to get into medical school and then realize you faint at the sight of blood! In addition, application for a Fairfield University recommendation to graduate programs (in the year you apply) requires a letter of support from a clinical mentor/supervisor. Volunteer work, community service, research or internships are good starts. The Health Professions Advisor may be able to help you find a position. Remember to think ahead. The application for many summer programs are released in November. If you want to do independent research in your junior year you must make arrangements with a faculty member in the early spring of your sophomore year at the latest.

Juniors

The junior year is very important since this is the year when many students wish to take admissions entrance exams, request letters of recommendation, and be reviewed by the Health Professions Committee (HPC) for a letter of evaluation (LOE). The Health Professions Advisor has information that may be helpful to you such as the catalogues and web pages of professional schools or information about registering for entrance exams (ex. MCAT, DAT, GRE). Meetings offered in the fall and spring terms will help juniors (and others) through the application procedures step by step. Nearly all professions have their own, different, common application services and figuring out how to navigate them may not be easy sometimes. Interested students should provide the HPA with their schedule for spring semester following registration in November. This will permit the advisor to select the best meeting time for all. Be sure to ask about attending these meetings.

Although the MCAT and other entrance exams for professional schools are offered throughout the year it is recommended that you take the exams in late spring/early summer. This way your application can be completed by July 1st (as opposed to mid autumn) which will GREATLY enhance the possibility of your acceptance. In addition, students who are not satisfied with their scores have the opportunity to re-take the exam in a timely fashion and still be on course to compete with other applicants. CHECK WITH THE HPA BEFORE YOU REGISTER/SIT FOR THE EXAM A SECOND TIME!!!

Those seeking a letter of recommendation from the Health Professions Committee (HPC) need to fill out a "letter of evaluation" or LOE application and return it to the HPA no later than March 1. This is a strict deadline and no exceptions will be made. Once the LOE and supporting letters from faculty and supervisors are received a student may schedule their committee interview with 2 or 3 HPC members. The HPC interview is a required part of the LOE application process. If you are approved for an LOE begin to set up your application account with your specific application service. During the summer keep in close contact with the HPA to stay on top of your application process as it unfolds.

Seniors

The senior year can be nerve-wracking. Interested schools will respond to your initial application by sending you a secondary application which may include additional essay or information requests. Hopefully you will be invited for an interview. See the HPA for a list of common interview questions. That way you can prepare some of your answers in advance. In addition, students can sign up for mock-interviews in order to be best prepared for the real experience. Plan to schedule one within a month of your first interview date. Also, be sure to consult the catalog and web pages of any schools that offer you an interview. Go prepared!

*N.B.**

It is becoming more common for **pre-medical** students specifically, to delay application until the end of their senior year. Primarily this is driven by the fact that medical schools are looking for more mature, well rounded students and it is often difficult to be "ready" by the end of the junior year. Since most students are doing this nationally, it has become harder for rising seniors to compete in the application pool. Other pre-health students typically follow the "ready by end of junior year" schedule. In 2012, only one third of medical school applicants nationally were undergraduate students entering their senior year. Most applicants were graduating seniors (approx. 45%) and post-bacs (20%).

Due to rolling admissions, you may receive notification of your status as early as August, or as late as March. You may have to choose among the many schools which have accepted you, or you may have to consider *Plan B*. Unsuccessful students should meet with the HPA to determine why they were not accepted this year and what steps they can take to improve their chances for next year. For example, a student who is not accepted to any professional schools may be interested in a master's or special post-baccalaureate program, which would enhance his/her application. Re-applicants must obtain at least one new letter of recommendation from either someone who has taught them during the past year or someone they have worked for and they need to amend their autobiography highlighting the achievements of the past year that have improved their qualifications for admission. Student may re-apply for a new LOE only with the permission of the advisor. Students who have done little to augment their application packets will be denied an additional review.

Transfer Students

Transfer students need to contact the Health Professions Advisor as soon as possible. They will need to determine whether they are taking the necessary courses, when they can take the required admission exam and when to apply to professional school.

Post Baccalaureate Students

Some students find that, after completing a bachelor's degree in a non-science area, they wish to go to medical or dental school but lack all or some of the required science courses or need to improve their GPA's. Fairfield offers an informal post-baccalaureate program where persons who already have a bachelor's degree in a non-science area can take the science requirements necessary to apply to health professions school. Students going through this process should meet with the Health Professions Advisor to get the complete scoop.

Independent Applicants

Students may seek admission to a professional school on their own without going through the Health Professions Committee, but are cautioned that many medical (and other professions) schools expect or require a composite letter written by the Health Professions Committee. Some schools may accept three separate letters of recommendation from three science professors.

3. The Health Professions

There are several websites and books dedicated to informing those curious about careers in healthcare about their many options. Many resources are available through the office of the HPA. However, a very good place to start is the website www.ExploreHealthCareers.org.

Allopathic Medical School (Doctor of Medicine, MD)

There are currently 136 fully accredited US and 17 Canadian medical schools (and counting) in the United States that offer the MD degree. Many have state of residence restrictions. Depending upon the desired emphasis, students can enter a four to seven year medical program. Usually the first two years cover the basic sciences (anatomy, biochemistry, physiology, pharmacology, microbiology etc.) and are a combination of classroom lectures and laboratory demonstrations. The last two years of medical school are most often spent in a clinical setting doing rotating clerkships. After completion of the degree, students continue in internships or residencies of varying duration. For more information on medical curricula, consult the following web pages or see the Health Professions Advisor:

Association of American Medical Colleges

<http://www.aamc.org>

American Academy of Family Physicians

<http://www.aafp.org>

American Medical Association

<http://www.ama-assn.org>

Osteopathic Medical School (Doctor of Osteopathy, DO)

There are currently 28 osteopathic medical schools in the U.S. Some of them have additional branch campuses bringing the number of training sites to 34. Although specific curricula vary from institution to institution, DO's follow the same basic science program as MD's, spending two years in the classroom, two years in clerkship, followed by internships or residencies of varying durations. In one sense, MD's and DO's do the same work. Osteopathic medicine offers complete health service. DO's are fully licensed as physicians under all state licensing laws, which assures full right to use all diagnostic and therapeutic techniques for the prevention and treatment of human illness, including drugs and operative surgery.

Osteopathic medicine holds that health is a matter of the entire body - each system interdependent on the others. Osteopathic physicians place special emphasis on treating the entire person (holistic medicine) and recognize the importance of muscular and skeleton systems in the proper function in of all the bodies systems. Osteopaths practice alongside MD's. Unless you ask, you would not know if your doctor is a DO or a MD. Currently one in five medical students in the U.S. attends a DO degree granting school.

For more specific information on osteopathic colleges, consult the following web page:

The American Association of Colleges of Osteopathic Medicine

<http://www.aacom.org>

Physician's Assistant (P.A.)

Physician's Assistant programs are run by medical colleges, hospitals, colleges and universities as well as through the Armed Forces. Today there are more than 149 such programs, many of them offering a Master of Science or equivalent degree. These programs are offered for students who are interested in direct patient care.

Practitioners take medical histories, conduct physical exams, make diagnoses, determine treatment, assist in surgery and, in most states, prescribe medication. They work primarily in hospitals, HMOs, rural clinics and doctors offices, but always infer the supervision of a licensed physician.

During the first year, the PA program includes classroom instruction, laboratory sessions and clinical rotations. Topics taught in the first year include anatomy, pharmacology,

physiology, microbiology, physical diagnosis and behavioral sciences. The next 9-15 months are spent in clerkships and preceptorships in a variety of settings such as hospitals, extended care facilities, and doctor's offices. The majority of the programs require rotations in internal medicine, family medicine, surgery, pediatrics, ob/gyn, psychiatry, emergency medicine, and geriatric medicine. More information is available on the following web pages:

American Academy of Physicians Assistants

<http://www.apta.org>

Physician Assistant Education Association

<http://www.paeaonline.org>

Creighton University School of Allied Health

<http://www.creighton.edu/pahp>

Dentistry (Doctor of Dental Surgery, DDS or Doctor of Dental Medicine, DMD)

There are 61 dental schools in the U.S. and an additional 10 in Canada, which offer the same basic curriculum and a wide variety of teaching techniques. In addition, there are a variety of career options with in the field of dentistry. Options vary from general dentistry or dental specialties (endodontics, periodontics, etc.) to combined fields such as research, law, medicine and veterinary medicine.

Generally the dental school program is four years in length, with the first two year spent in the classroom studying basic such as the human body and its functions and diseases, principles of oral diagnosis and treatment, and the practicing of techniques on models. The final two years are spent in clinical settings where students rotate through various services. For more information on dental school curricula see the following web pages:

American Dental Association

<http://www.ada.org>

American Academy of Pediatric Dentistry

<http://www.aapd.org>

American Dental Education Association

<http://www.adea.org>

Pharmacy (Doctor of Pharmacy, PharmD)

According to MONEY magazine, Pharmacist is one of the Top 10 Best Jobs in America. Pharmacists dispense medications prescribed by physicians and other health practitioners and monitor patient health. They advise physicians and other health practitioners on the selection, dosages, interactions, and side effects of medications.

Pharmacists must understand the use; clinical effects; and composition of drugs, including their chemical, biological, and physical properties. Pharmacists are the medication experts. They protect the public by ensuring drug purity and strength. The goal of pharmacy care is to maximize positive health care outcomes and improve patients' quality of life with minimum risk. Most pharmacists work in a community setting, such as a retail drug store, or in a hospital or clinic.

Pharmacy programs grant the degree of Doctor of Pharmacy (Pharm.D.), which requires at least 6 years of postsecondary study and the passing of the licensure examination of a State board of pharmacy. The Pharm.D. is a 4-year program that requires at least 2 years of college study prior to admittance. The majority of student pharmacists enter college with 3 or more years of college. Other options for pharmacy graduates who are interested in further training include 1- or 2-year residency programs or fellowships. Pharmacy residencies are postgraduate training programs in pharmacy practice. Pharmacy fellowships are highly individualized programs designed to prepare participants to work in research laboratories. Some pharmacists who run their own pharmacy obtain a master's degree in business administration (MBA).

The American Association of Colleges of Pharmacy

<http://www.aacp.org/Pages/Default.aspx>

Optometry (Doctor of Optometry, OD)

There are 19 accredited schools of optometry in the U.S.A. Optometrists are health care professionals trained and licensed to examine, diagnose, and treat conditions related to the visual system including contact lenses, hospital based optometry, and family practice optometry. An optometrist's scope of practice was once limited, because patients with eye diseases were usually referred to ophthalmologists (MD's or DO's) who specialize in treating visually related problems and in performing surgical procedures. The advent of new, non-surgical procedures has increased the scope of practice for optometrists. The up side of this is that optometrists get few emergency calls.

The Doctor of Optometry Program is four years in length. The first two years consist of concentrated work in the basic health sciences, optics, visual science and clinical skills. The third and fourth years emphasize courses in systemic and ocular pathology and pharmacology as well as clinical patient experience in primary vision care. For more information go to these web pages:

The American Academy of Optometry

<http://www.eyenet.org/>

The Association of Schools and Colleges of Optometry

<http://www.opted.org>

Podiatry (Doctor of Podiatric Medicine, DPM)

There are eight podiatry schools in the U.S.A. Doctor of Podiatry is a health care professional trained and licensed to examine, diagnose and treat diseases of the foot. Podiatrists make independent judgments, administer treatment, prescribe medications and perform surgery. Think of them as any other physician, but who practice medicine below the knee or calf.

The Doctor of Podiatric Medicine program is four years in length. The first two years are spent in the classroom learning anatomy, physiology, microbiology, pharmacology and pathology. The last two years are spent in clinical setting studying general diagnosis, therapeutics, surgery, anesthesiology, and postoperative medicine. The web sites of individual podiatric colleges are listed in this manual. For more information about podiatric medicine consult these web pages:

American Association of Podiatric Medicine

<http://www.aacpm.org>

American Podiatric Medical Association

<http://www.apma.org>

American Podiatric Medical Student Association

<http://www.apmsa.org>

Chiropractic (Doctor of Chiropractic, DC)

There are 16 chiropractic colleges in the United States today. A chiropractor works with the bones and nerves of the spinal cord primarily, but may also address all major joints. They receive specialized training in locating where misplaced spinal vertebra are impinging upon nerves affecting the muscles, organs, lands of the body and manipulating the vertebrae in order to relieve pressure on those nerves.

The chiropractic program is divided in to three basic areas: basic sciences, clinical sciences and the clinical internship. The basic sciences are learned in a classroom setting and include topics on anatomy, biochemistry, histology and physiology. The clinical sciences provide the groundwork for problem solving, diagnosis and treatment. The internship incorporates both the basic sciences and clinical sciences with patients seen in a hospital or clinical setting. For more info consult these web pages:

The American Chiropractic Association

<http://www.amerchiro.org>

New York Chiropractic College

<http://www.nycc.edu>

Physical Therapist (D.P.T.)

Physical Therapists (PTs) provide services that help restore function, improve mobility, relieve pain, and prevent or limit permanent physical disabilities of patients with injuries or disease. PTs work closely with patients to restore, maintain, and promote their overall fitness and health. Patients may include accident victims and individuals with disabling conditions such as low back pain, fractures, head injuries, arthritis, heart disease, and cerebral palsy.

PTs examine patients' medical histories, then test and measure their strength, range of motion, balance and coordination, posture, muscle performance, respiration, and motor function. They also determine the patient's ability to be independent and reintegrate into the community or workplace after injury or illness. Finally, they develop treatment plans describing a treatment strategy, its purpose, and the anticipated outcome.

PT programs have recently shifted to a model where they will only offer the Doctor of Physical therapy degree (DPT). All schools have now phased out the master's level degree, however, you may know a PT who practices with an MS degree (there are also 2 year PT assistant programs that do not require a 4-year college degree to attend). Similar to the model for other 4-year programs in the health sciences, the first two years focus on coursework and the last two see students working in clinical internships.

American Physical Therapy Association

<http://www.apta.org>

Physical Therapist Centralized Application Service (PTCAS)

<http://www.ptcas.org/>

Veterinary Medicine (Doctor of Veterinary Medicine, DVM)

There are 28 accredited Veterinary Colleges in the United States, with several more in Canada, Europe, Australia and New Zealand. Candidates for a degree in Veterinary Medicine must have outstanding grades and very good scores on the GRE. It is also required that students volunteer or work for an established veterinarian to gain practical experience before applying to Veterinary College. In fact, nearly all applicants will need "large animal experience" as well as the more typical local small animal veterinary internship. Most veterinary schools ask for a letter of recommendation from a practicing vet. It takes four years to earn a DVM. During this time students may choose among specialties such as zoo medicine, surgery, aquatic medicine, immunology or wildlife medicine. Web sites of the individual veterinary schools are listed in this manual.

Veterinary Medical College Application Service

<http://aavmc.org>

Association of American Veterinary Medical Colleges

<http://www.aavmc.org>

Cornell University College of Veterinary Medicine

<http://www.vet.cornell.edu>

4. Narrowing Your Options

Choosing a Profession

In choosing your career the most important factor is enthusiasm for the subject. Graduate or professional school is an intensive experience and you will have to eat, sleep, and breathe medicine. Do not put yourself in this position unless you are in love with the field. First decide whether your preferences lie in direct patient contact, research, or administration. Location, family life, and level of responsibility are also considerations. If students are undecided about the field in which they are interested, checking out ExploreHealthCareers.org is a good place to start. Then be sure to go and talk with the Health Professions Advisor. Both of these resources can provide a good review of the various fields and the preparation for entering them. Undecided students are encouraged to get first hand experience by working in the field.

Being Qualified

Given the number of applicants, many professional schools have become even more selective. In many cases your GPA and exam scores will dictate the types of schools you should apply to and, in some cases, they will dictate the types of professions to which you should not apply. Many students perform poorly in their freshman year and plan to "make it up later". This is a mistake because it is very difficult to raise a GPA above 3.0 if it goes significantly below that level. Therefore all students interested in a career in the health professions must buckle down and work hard from the very beginning. Although these programs are highly competitive, there is always room for qualified and determined applicants. Nevertheless do not forget the importance of "Plan B". It is wise to think about possible fallback positions in case you do not get your first choice.

5. Curriculum Requirements for Health Professions Schools

Pre-Professional Courses

While course requirements may vary somewhat, most professional schools will require applicants to have had the following courses:

- * BI 170-171, General Biology I and II (AND BI 107 and 108 Human Anatomy and Physiology for PA, PT and OT programs)
- * CH 111-112, General Chemistry I and II
- * CH 211-212, Organic chemistry I and II
- * BioChem (required for anyone taking the MCAT)
- * PS 15-16, General Physics I and II (These courses should be taken after the prerequisite one year freshman calculus course)
- * Two semesters of college level English and writing
- * Psychology and Sociology (required of Med applicants in 2015 or later) are good for

every student to consider

* MA??, mathematics requirements vary from school to school. Many types of programs want to see a course in statistics. Students should check with specific schools to which they may apply.

All students pursuing pre-medical or pre-dental concentrations in non-science majors such as History, English, Economics, fine arts etc must take their Calculus and General Chemistry courses in their freshman year in order to be on track to complete the four remaining science requirements in the next two years. It is recommended that Organic Chemistry be taken in your sophomore year while the freshman chemistry experience is still fresh in your mind. Either general biology or general physics may be taken in the sophomore year and the remaining one in the junior year.

Suggestions and Recommendations

Students with weak English or writing skills or students whose first language is not English should seek to improve their reading and writing skills to prepare them for the verbal reasoning section of the MCAT or other equivalent entrance exams. As the biological and physical sciences sections of the MCAT are also in prose text, poor reading skills may have an impact on these sections as well. It is recommended that students take courses that involve critical reading and composing written pieces of substantial length. Courses such as Philosophy, History, Religion, or English are helpful.

Students are also advised to take at least one course in biochemistry or genetics regardless of your declared major. These courses are fundamental to all health related fields and will help you decide if health related career is for you, also the background will be helpful once you enter your graduate program. Organic chemistry is required before taking biochemistry.

Selecting a Major

Students are not required to major in any particular area because of the demonstration of competence in any area of study is more important than the particular subject. Many students are of the opinion that a double or triple major is beneficial; it usually is not. A liberal arts or interdisciplinary curriculum is the most sought after background by medical and other health professions schools. Select a major that you really like. Your major could augment your future practice one day (skills in management would be great if you plan to own your own practice!)

Students are encouraged to study whatever appeals to them most as long as their grades in the science courses are well above average. Students must have high GPA's to gain admission to highly competitive schools.

Summer Courses

Think carefully about taking required science courses over the summer. Professional schools may look down on this for a number of reasons. If students do not demonstrate

the ability to handle a full course load of science courses as undergraduates there may be some doubt as to whether they can handle the heavier loads at health professional schools. If a student does enroll in a summer course he/she is expected to do very well (A) because it is easier to concentrate on one course and summer courses generally offer less content. Courses taken at junior or community colleges are generally of a different caliber than courses taken at a four-year college. Health Professions Admissions boards are not fooled. The quality of the college where a course is taken enters into every student's evaluation.

If a student does decide to take a summer course at another university, the student must first obtain permission to do so from the appropriate Dean after consulting with the Health Professions Advisor who must review the course description in the school's summer session catalogue.

Grades

While grades are not the sole criteria for admission to a professional school, they are probably the most important one. The national mean for medical schools is approximately 3.6 and somewhat lower for other health professions. All pre-medical and pre-dental students are expected to maintain a minimum 3.0 average in all science and math courses.

Committee Recommendation

When applying to professional schools, if the student wants a university endorsement/sponsorship of their application they must fill out an LOE application requesting a letter of evaluation (LOE) from the HPC. The Health Professions Committee meets twice each year, in May and September, to review requests for LOEs and to then draft a composite letter. The deadlines for requests are March 1 and September 1. Be sure you do not miss the deadline because there are no exceptions!

The composite letter has become an expected part of the application. The Health Professions Committee will write a letter based on the comments made by professors during your time at Fairfield as well as clinical mentors or other supervisors. In addition, information from your HPC interview informs the LOE. The committee letter puts the comments from supporters into perspective, notes changes over time in performance and approaches and attempts to ensure that the student's strong points receive consideration. This letter is based upon the committee's knowledge of the student's work, research or internship experience, extra-curricular activities and personality in order to present the student as a person, and not just a set of scores.

The Family Educational Privacy Act of 1974 (FERPA, also known as The Buckley Amendment) ensures students of the right to see their individual letters of support from faculty and mentors (held by the HPA). By signing the privacy rights waiver, students may relinquish their right to their letters of support. Many evaluators feel more

comfortable writing letters that the students will not see, and professional schools prefer confidentiality. The LOE itself is only provided for students who sign a FERPA waiver since the LOE is a request for a full disclosure university sponsorship and the HPC needs the ability to write candidly in order to protect the value of all future letters.

Residency Requirements

Many schools have a state residence requirement. It is important to check the appropriate admissions requirements books before applying to schools that give priority to residents of their state. For this reason the University of Connecticut Medical School (a very good school, ranked higher than Dartmouth or Tufts) is a popular destination for Fairfield graduates who are Connecticut residents. Tuition fees will also be significantly lower at a state university.

Immigrants to the United States who do not have a permanent resident visa are severely limited in the schools to which they may apply. Students with a permanent resident visa are regarded in essentially the same way as are citizens.

6. Admissions Tests

In addition to specified courses, nearly all health professional schools require an admissions test. The important of these tests should not be underestimated. Admission boards are aware that grades vary from school to school, so they look to standardized test scores as a basis for comparison among the thousands of students with similar GPA's. Tests should be taken seriously and prepared for carefully. These tests are achievement examination, not aptitude tests. Under no circumstances should a student take such a test without adequate preparation or review. The results could be damaging. There are many practice tests available as aids for the formal exam. The tests may be retaken, but the report will indicate that the score is a retest. All test scores are recorded and a professional school may see all the results if a student has made more than one attempt.

Review courses such as Princeton or Kaplan are expensive but may be worth it if they help you achieve your goal. Fairfield allows a Kaplan course on campus during the spring semester. Save yourself some money by taking a practice test on line at their web site that is given below. There are numerous other ways to prepare without paying \$2000.00!

Exam Crackers

<http://www.examcrackers.com>

The Princeton Review

<http://www.review.com>

Kaplan

<http://www.kaplan.com>

Dr. Flowers MCAT Prep

<http://www.drflowersmcat.com>

Educational Testing Service

<http://ets.org>

The Medical College Admissions Test (MCAT)

The MCAT is administered approximately 25 times a year. The exam is required for admission to the majority of medical (both allopathic and osteopathic) schools and podiatric schools. The MCAT is composed of four sections: Verbal Reasoning, Physical Sciences (physics and general chemistry), Writing Sample, and Biological Sciences (biology and organic chemistry). The MCAT puts considerable emphasis on problem solving, critical thinking, and writing skills with less emphasis on the rote memorization of factual material. Verbal reasoning, one third of the total numerical score is designed to assess the students' ability to understand, evaluate and apply information from an argument as they are presented in prose text. This section of the MCAT consists of several passages which may be taken from a wide variety of materials, including scholarly writings, areas of the natural sciences not tested on the physical and biological sciences sections, mainstream social or political issues and even from novels. Each passage is followed by a group of questions whose answers are based on an understanding of these writings as well as factual knowledge behind them. If students are not active readers they may be at a disadvantage. (new MCAT rolls out March 2015- updates coming when available)

The Dental Admissions Test (DAT)

The DAT is required for admission into the majority of dental schools. Candidates may take the computerized DAT on virtually any date. There is no application deadline. Students should obtain a registration booklet from the Health Sciences Advisor. The completed form is sent to the Department of Testing Services and, if found acceptable, a notice will be sent to the candidate that he or she can schedule an appointment with Sylvan Testing Centers. The registration fee for 2002 is \$150. Please note that walk-in registration is not possible so plan ahead! If a student wishes to retake the exam he/she must wait 90 days. The DAT is composed of four sections: Survey of the Natural Sciences (biology, general chemistry, and organic chemistry), Reading Comprehension, Quantitative Reasoning and Perceptual Ability.

The Optometry Admissions Test (OAT)

The OAT is administered several times each year. The exam is required for admission to the majority of the optometry schools. The OAT is composed of four sections: Survey of natural Sciences (biology, general chemistry, and organic chemistry), Reading Comprehension, Quantitative Reasoning and Physics.

The Graduate Record Exam (GRE)

The GRE consists of a General Test which tests Verbal, Quantitative, and Analytical Abilities, and a Subject Test which measures achievement in twenty subjects such as

Biology, Psychology, Chemistry, Mathematics, Music and English Literature. The GRE is offered April and December with subject test only offered in October. It is not always necessary to take both the General and the Subject Tests, or you may choose to take them both, but on separate days. Some schools require only the General test. Be sure to check the requirements of each school to which you are applying. As of 2011 a new scoring system will be in place for the GRE.

Optimal Time To Take Exams

It is possible to take any of these exams in either the spring or the fall (some in the summer as well), whenever a student has completed the required course work and feels he/she is fully prepared. One may consider taking the exam as early as the spring of sophomore year, but the majority of students take the exam in the spring or summer of their junior year. One of the advantages to taking the exam at this time is that the scores will be available to the schools by the time students are submitting their application. A second advantage in taking the exam at this time is that there will be an opportunity for students to re-take the exam if necessary. The disadvantage of a spring testing is that preparation for the exam will conflict with a student's courses.

Students who have decided late in their undergraduate career that they want to pursue a health science profession, and those who have procrastinated and were not ready for earlier administration of the appropriate test, must take the exam later in the application cycle year. Although they have the advantage of preparing over the summer, there are some possible disadvantages. The results of exams taken in August are not available until September (MCAT primarily). This time delay may hinder applicants since many schools have rolling admissions and may start the application review as early as August. Students who do poorly on the summer exam may need to retake the exam and therefore put off their application for another year!

7. Volunteer Work, Research, and Extracurricular Activities

Many students question whether they should do volunteer work or research. It is advisable that students get some experience in the field to assist them in determining whether they really want to spend the rest of their lives working in medicine. Students may receive up to six credits for internships. A typical internship carrying three semester credits sees a student working 12-15 hours per week on site. There are many options available including working in a hospital, a doctor's office, a nursing home, a day care center, a camp, or as an EMT or rescue worker. Cath Borgman has a file of possibilities for internships and summer jobs available in her office (career development) as does the Health Professions Advisor. Fairfield alumni who have successfully entered the medical professions are often willing to take Fairfield students as assistants. See the Health Professions Advisor for a list of contacts.

Students are also encouraged to participate in research, either as an assistant or in

actively pursuing a topic for honors or independent study credit. While professional schools have no requirement for research unless the student is planning to continue medical research, students who have succeeded in this area may be at an advantage because they have demonstrated an ability to think critically and imaginatively. All biology majors at Fairfield are required to complete one semester of research. Ambitious pre-meds might want to consider two or more semesters.

Extracurricular activities are also encouraged as long as the GPA does not suffer. Professional schools desire well-rounded individuals, not just those with high grades and exam scores. Demonstrating a social interest via clubs, sports, or community service can have a positive effect on a student's application.

Research Associates Program

Fairfield students interested in medicine may participate in a program with St. Vincent's Medical Center. The students are trained to function as independent observers who collect data without clinical responsibilities. They participate in implementation, design, data analysis and presentation of research conducted in the emergency department.

Students must commit to four hours per week each semester. The program is flexible, allowing students to work for anywhere from one semester to three years. Those who participate receive letters of recommendation. They also gain valuable skills in research, experience in medicine, and may even be included as an author on a publication. Most importantly they have the opportunity to advance medical knowledge and promote better health care delivery.

Alpha Epsilon Delta

AED is a national honor society that recognizes outstanding scholastic achievement among pre-medical and pre-dental students. The Fairfield University chapter was established in 1962. Members are expected to sponsor extracurricular events for pre-health students on campus. Candidates should demonstrate responsibility and a willingness to serve; they should possess those qualities which we expect in our personal physicians and which admissions committees seek in applicants.

8. Application Procedures

Primary Application Forms

Most of the allopathic schools, and all of the dental, osteopathic and podiatry schools, subscribe to an application service. Through this service, students need to complete only one initial application (supplementary applications may follow at a later date). The forms are available online at the various application services websites.

Some schools (particularly in chiropractic) do not subscribe to an application service and students must contact the schools directly in order to obtain an application.

Secondary Application Forms

Upon receipt of materials from application services many schools will mail secondary or supplementary application forms to applicants. These secondary applications are usually very different from one another, some requiring another personal statement. Others require short essays. This is where an applicant has the opportunity to explain why he/she would like to attend a particular school. These forms are usually very time consuming and are best done before classes begin in September. Therefore it is important to transmit the central application service form at the earliest possible date, usually in June or July or the summer before senior year.

Personal Statement

The personal statement required as part of the professional school application process is a condensed autobiographical statement. Typically application forms allow student only one page or less to express themselves. Students should take care when writing the personal statement. For example, try not to make unsupported statements such as "I am very conscientious." Instead tell about your activities and experiences which best demonstrate that quality. Also do not apologize for your shortcomings. A phrase like, "Although I did not do well my freshman year..." should be replaced with a stronger statement such as, "My GPA has shown steady improvement". It is recommended that students let their friends or parents proof-read their statement, or bring the statement to the Health Sciences Advisor for review.

Early Decision

Students who have a clear cut first choice of the medical school which they would like to attend, and who appear to meet the usual admission requirements of that school, may elect to apply for early admission. When applying as an early decision candidate, students may apply only to that one school prior to notification of that school's decision. If they are offered admission applicants must accept the offer. Applicants who are not accepted by that school are then free to re-apply in the usual fashion. Be sure to discuss this option with your advisor.

Since early decision applications are filed by August 1, decisions are made and applicants notified before October 1. There is not usually sufficient time following this decision to complete other applications for students who are not admitted, so be careful about this decision. Not all medical schools offer early decision, but many do. Check the Medical Schools Admission requirement book or the individual a school's catalog to determine which schools will accept such applications. While early decision is an attractive choice it is not appropriate for most students.

9. The Professional School Interview

Interviewers are looking at the personality of applicants. Some of the traits they are

looking for are motivation, logical thought, extracurricular activities, leadership, maturity, preparedness, open-mindedness, sensitivity, articulation, and compassion. They can also be expected to ask questions about your goals, weaknesses, strengths and interest in their school. While most of these things are unavoidable parts of your personality there are some things you can do to prepare.

See the Health Professions Advisor for information about the interviewing process and some articles on medical ethics. There is also a list of the most frequently asked questions that you can use to prepare your answers. In addition you should be reading the newspaper, especially health related articles, to keep abreast of current events.

As a demonstration of interest in the medical school students are expected to be somewhat familiar with the program. Admissions officers are aware that students apply to many schools and you will need to convince him/her that this school was not merely a thoughtless addition to your list. It is important to thoroughly familiarize yourself with the medical school and its program by reading the school catalogue (HPA's office) and exploring some individual medical school websites.

10. Allied Health Programs for Students NOT Interested in Pre-Medicine

The following are additional career options for students. When choosing a career it is important to pick an area that suits your personality. Some people want direct patient care; some are interested in health from a policy/management point of view, and others may want to contribute to the knowledge of medicine from a more academic perspective. Consider the hours and level of responsibility that you are most comfortable with.

Letters of recommendation from the Health Professions Committee may not be necessary for some of the following schools. Students should seek letters from individual professors and mentors in that case.

Note: These are important careers and should not be thought of as stepping stones to medical school. In fact, statistics show that medical school admissions committees are often reluctant to take students who already belong to another health profession.

Ph.D. Scientist

Do not overlook a life in academics. There are Ph.D. programs in every area of medicine and health. Consider doing research in genetics, microbiology, or neuroscience. Discoveries made by academic scientists give medical professionals the tools and information they need. The Ph.D.'s you know are college professors because they love to teach, but they could have chosen to work in industry or for the government.

A Ph.D. requires excellent undergraduate preparation and good scores on the GRE. The

programs vary in length from four to ten years with the first two years involving course work. The remaining years are spent doing independent laboratory research. Ph.D. programs are student driven and therefore require self-motivation and persistence. Because Ph.D. programs so individualized, students should contact each program separately. Talk to the Graduate School Advisor in your dept. or the Health Professions Advisor.

Public Health

There are more than 30 accredited schools of Public Health in the United States. Schools of Public Health are primarily graduate institutions and offer a variety of degrees including the Masters and the Ph.D. Students may choose to specialize in such areas as biostatistics, epidemiology, nutrition, health administration, and others. Graduates form a major pool from which federal, state and local health and environmental agencies draw their personnel.

Public Health officials perform a variety of functions including assessment of the health status of communities; health education, monitoring and action to assure prevention of infectious and chronic diseases; an evaluation of the quality of air water and food supplies; outreach, screening and linkage to ensure that individuals requiring healthcare are identified and receive appropriate services. For more information about a career in Public Health consult the following web pages:

American Public Health Association

<http://www.apha.org/>

Agency for Health Care Policy and Research

<http://www.ahcpr.gov>

Nursing

Nursing at Fairfield is a four-year professional program leading to a Bachelors of Science in Nursing (BSN). Students may apply to the College of Nursing from high school or transfer from other undergraduate colleges of the University. Graduates who pass the national certification exam find employment in a variety of clinical settings (hospitals, medical practices, HMOs). Some nurses pursue graduate training in nursing. College graduates who have a GPA of at least 3.0 and good GRE scores can earn a Masters, or even a Doctor of Nursing Practice (DNP) degree.

The changing structure of health care is expanding the role of nurses from the traditional role of care-giver into all arenas of health care. Nurses work to design and present health care programs, evaluate outcomes, design and carry out original research, and perform an increasing variety of clinical procedures. For more information on the role of modern nurses consult our own nursing department, and these web pages:

General Nursing Resource

<http://www.yahoo.com/Health/Nursing>

American College of Nurse-Midwives

<http://www.acnm.org>

Physical Therapy

Licensed physical therapists evaluate and implement rehabilitative programs for recovering medical and surgical patients. They condition athletes for peak performance and treat them if injured. PT's work in hospitals, sports facilities, nursing homes, rehabilitation, universities and more frequently, in private practice. Physical Therapy has been ranked as the rapidly growing by the Bureau of Labor Statistics. Future growth is all but guaranteed by an aging population (increase in arthritis and cardiovascular diseases) and a larger number of participants in sports and fitness activities (increase in musculoskeletal injuries). Physical therapists may choose to specialize in cardiopulmonary, clinical electrophysiology, geriatrics, neurology, orthopedics, pediatrics or sports therapy.

Aspiring students should take Anatomy and Physiology, General Chemistry, Physics, Statistics, and a couple of Psychology courses, probably Abnormal Psychology. Some schools will require Organic Chemistry as well so check the catalogs to make sure. Most programs require a GPA of 3.0, or higher, and at least 400 hours of experience as a volunteer or PT assistant. For more information consult the web site given below.

American Physical Therapy Association

<http://www.APTA.org>

Pharmacy

There are 75 schools that offer the Doctor of Pharmacy degree. The PharmD is a four year graduate professional curriculum. The fourth year consists of rotations through a variety of clinical settings. Most Pharmacy schools will require you to take the Pharmacy College Admission Test (PCAT) which includes section on verbal ability, reading comprehension, quantitative ability, chemistry and biology. The PCAT is offered three times each year. Microbiology, Microeconomics and Technical Writing courses are considered a necessary part of your undergraduate training. Doctors of Pharmacy work in pharmacy practice and other areas such as pharmacy law, pharmaceuticals and government agencies such as the Food and Drug Administration.

If you are more interested in researching new drugs you may also elect to study pharmaceutical sciences at the M.S. or Ph.D. level. In this case you take the GRE and apply to one of the 60 graduate programs in pharmaceutical sciences. Be sure to consult the catalogues of schools in which you are interested.

American Association of Colleges of Pharmacy

<http://www.aacp.org>

Occupational Therapy

Candidates for a Masters in Occupational Therapy must have a strong academic record and satisfactory scores on the GRE. Most programs require Anatomy and Physiology, Abnormal Psychology and a Statistics course. The primary focus to prepare students to become clinical specialists, researchers or educators in one of the major areas of practice in sensori-motor integration, psychiatry or physical dysfunction. Students must pass requirements for certification before they can begin practice.

Occupational therapists assist people debilitated by injury, age, illness, emotional or mental problems in order that they may reach their fullest functional capacity. They work in hospitals, schools, nursing homes, and rehabilitation centers.

American Occupational Therapy Association

<http://www.aota.org>

Undecided?

There are many other possibilities which do not require advanced degrees. Graduates with a B.S. are qualified for excellent careers in pharmaceutical sales, journalism, the food industry, technical writing, biological illustration, operating a microbrewery and more. Explore some with the help of this web page:

<http://explorehealthcareers.org>

Health Professions Handbook, by

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