HEALTH PROGRAMS
(MEDICAL, DENTAL, VETERINARY, PHYSICAL THERAPY, PHYSICIAN'S ASSISTANT, OPTOMETRY, PHARMACEUTICAL SCIENCES, NURSING, PUBLIC HEALTH)

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Considering Graduate Health Programs

Pre-Health Programs at WPI

Participating in the Pre-Health Program at WPI allows you to major in any of the undergraduate programs while completing all of the courses you need to apply for a graduate health professional program. The program is open to all students and no application is required.

The Pre-Health Programs available at WPI include Pre-Medical, Pre-Dental, Pre-Veterinary as well as Additional Pre-Health Programs (physical therapy, physician's assistant, optometry, pharmaceutical sciences). For more information and support throughout your studies in these programs, contact the Pre-Health **Advisor Elizabeth Jacoby** (**erjacoby@ wpi.edu**), who can help you manage everything from choosing the right courses through applying to your graduate programs.

How to Search for Graduate Programs

There are several great online resources for searching, comparing, and evaluating graduate programs. Some recommended resources for researching schools include:

Guide to Graduate School – **gradschools.com**

Peterson's – **petersons.com**

US News & World Report Education - **http://grad-schools.usnews.rankingsandreviews.com/ best-graduate-schools**

For more specific search and compare tools for the particular type of program or discipline you hope to pursue, view the online resources listed within the specific sections below devoted to each area. WPI faculty, alumni, and the Pre-Health Advisor are excellent additional sources of program information.

Evaluating Graduate Programs

When researching and evaluating your options of programs, consider the following factors:

•   Reputation of faculty

•   Quality of program

•   Depth and breadth of curriculum

- Focus of the program and alignment with your interests

- Program requirements

- Academic resources available (research, laboratories, technology, library, computer facilities, etc)

- Availability of fellowships, assistantships, scholarships, other funding options, and financial aid

- Internships or clinical experience

- Geographic location

- Demographics of student body

- Types of positions and salaries of recent graduates

Materials and Requirements

Timeline:

The preparation and application timeline may be different for the various types of health programs. The following is a general framework for a timeline to prepare to apply for health-related graduate programs but you should invest time in researching the specific timelines and requirements for your chosen program(s).

First Year/Sophomore Year:

- Meet with Pre-Health Advisor **Elizabeth Jacoby** (**erjacoby@wpi.edu**)

- Complete course requirements

- Join related student clubs and organizations

- Visit the CDC to learn more about your desired profession, career paths, and graduate school

- Attend Career Fairs (Fall, Spring, Life Sciences & Bioengineering)

- Research volunteer/paid opportunities related to clinical or research experience in your field

- Participate in summer paid/volunteer experiences or programs related to your desired path

Junior Year:

- Meet with Pre-Health Advisor **Elizabeth Jacoby** (**erjacoby@wpi.edu**) to review graduate school program requirements, application procedures, schools/programs, and test preparation

- Research programs, visit their websites, and request information and program brochures

- Create a chart or spreadsheet to keep track of your desired programs, application deadlines, and required materials

- Prepare and register for your required admissions test

- Get recommendation letters and evaluations from professors and others

- Participate in summer paid/volunteer experiences or programs related to your desired path

- Visit schools if you are able

- Conduct informational interviews and job shadows to gain additional insight into the field

Senior Year:

- Gather all application materials and complete application (be sure to allow plenty of time to complete application, request transcripts, and collect letters from your evaluators)

- Submit your application

- Participate in mock interview with the CDC before your school interview (if you are involved with the pre-medical committee, participate in your committee interview)

- Make your decision!

- Send thank you notes to evaluators and mentors and let them know of your decision

Academic Preparation/Background:

Most health-related graduate degree programs will require certain course pre-requisites in order to be considered for admission. If you are in a Pre-Health Program at WPI, you will work with your Pre-Health Advisor **Elizabeth Jacoby** (**erjacoby@wpi.edu**) to be sure that you can complete the courses that will be required for graduate admissions.

Testing:

Graduate programs in the health fields will require different tests depending on the program so be sure to research the admissions requirements of the programs to which you plan to apply. Students applying to Medical School will be expected to take the MCAT Exam. Dental School applicants should take the DAT Exam while Optometry School applicants will be required to take the OAT. Veterinary School applicants may be asked to take the GRE or MCAT Exams depending on the program. Physical Therapy, Physician's Assistant, Pharmaceutical Science, and Public Health programs will most commonly require the GRE.

For more information on these admissions exams and to sign up, visit the following websites:

- Medical College Admission Test (MCAT): **aamc.org/mcat**

- Graduate Record Exam (GRE): **ets.org/gre**

- Dental Admission Test (DAT): **ada.org/dat**

- Optometry Admission Test (OAT): **ada.org/oat**

Personal Statement:

A personal statement will be a required component of all graduate school applications. Some programs may ask students to respond to a specific essay prompt, while others will others will not provide specific questions or topics to cover. For the most part, personal statements are very similar. Your personal statement is your opportunity to introduce yourself to the admissions committee and is not the time to be modest – you are selling yourself to a competitive program and should aim to impress the committee. Throughout your statement, you should make clear the following:

- Why you are interested in pursuing this degree

- Why you are interested in this particular school/program (UNLESS you are submitting your applications through an application service that sends the same materials to all schools)

- What are your career goals and how will this degree prepare you

- What background, experience, or skills will make you successful in this program and this field

- What makes you unique from other applicants

Check out the CDC's Tipsheet on **Personal Statement** for more information.

Letters of Recommendation:

Most graduate programs will ask for two to four letters of recommendation as a required component of your application; the exact number will vary from program to program. Only submit as many letters as your particular program or application system requests – more is not better!

Be sure to provide plenty of advanced notice to the individuals you ask to write you a letter of recommendation and give them a copy of your resume/CV for additional background material. Ask each person if they would be able to write you a positive letter of recommendation for your graduate school application. If the individual feels they would not be able to write you a strong letter, they will let you know and you can ask an alternate writer.

Official Transcripts:

Official transcripts can be requested through the Registrar's Office and will be sent directly from your institution. If you have taken any courses at other institutions, you must request official transcripts from that school's Registrar's Office as well. Many of the online application systems will provide you with a transcript request form that you can download and use to request your transcripts.

Supplemental Materials:

Some programs may require supplemental materials or applications. Do your research on the specific requirements for each program for which you want to apply so that you can be sure to submit all requested items by their deadlines.

Interviewing:

An interview may be a required component of the application process for some programs.

Medical School

Physicians diagnose and care for people of all ages and can generally be divided into three broad categories: Primary Care Physicians, Surgeons, and Specialists. The typical length of medical school after graduating with a Bachelor's Degree is approximately four years of school followed by another three to eight years of residency, depending on your chosen specialty. (Source: aamc.org)

Applying to Medical School:

Students will apply for medical school the summer prior to the year they plan to matriculate into the program (for example, if you plan to start medical school in Fall 2017, you would apply in Summer 2016). Applications for most medical schools in the United States are completed and submitted through the American Medical College Application Service (AMCAS), with the exception of MD programs at Texas public schools. Through this system, you fill out one application and upload one set of application materials to all of the medical schools you select. AMCAS will verify your transcripts, requirements, and materials and electronically forward your application to your chosen schools.

Download the AMCAS Transcript Request Form and use that to request official transcripts from your school to ensure your transcript is properly matched to your application. AMCAS also accepts PDF electronic transcript submissions but you must verify that your Registrar is an approved sender before requesting an eTranscript.

The AMCAS is available in May of each application year allowing approximately a month to work on your application before the submission time period opens. The majority of medical school application deadlines range from October to December. Medical schools may have secondary application deadlines that are important to be aware of for each program to which you plan to apply.

You do not need to have your MCAT scores before you submit your application for verification – your scores will be automatically received and submitted through the AMCAS system when they become available. If you have not yet taken the test at the time of application or plan to take the exam again, indicate the future testing date you will be sitting for the exam so schools will know to expect scores.

Because medical school admission requirements vary from program to program, you should refer to the MSAR Online for school-specific requirements for US and Canadian medical schools or refer to the individual programs websites. See the Pre-Health Advisor for more information on this resource.

For more information about the AMCAS system and to create or sign-in to your account, visit **aamc.org/amcas**.

The following websites contain additional resources for researching the field and schools:

Association of American Medical Colleges (AAMC) website (**aamc.org**)

American Medical Association (AMA) website (**ama-assn.org**)

American Medical Student Association (AMSA) website (**amsa.org**)

The Medical School Admission Test (MCAT):

The MCAT is a standardized multiple-choice exam that assesses problem solving, critical thinking, and science knowledge and principles that are a prerequisite to study medicine. Almost all US medical schools require the MCAT.

The exam is offered multiple times throughout the year and is typically taken in the calendar year prior to the year in which you plan to enter medical school. If you plan to take the exam more than once, it is advised to take the exam early in the year the first time to allow enough time to receive your scores, decide whether you want to make a second attempt, and then find an available testing seat later in the year.

Important to note is that beginning in Spring 2015, the MCAT will be changing and a new MCAT2015 version will be administered. This new MCAT will reflect content changes from the previous version.

Sections on the MCAT2015 Exam include: 1. Biological and Biochemical Foundations of Living Systems, 2. Chemical and Physical Foundations of Biological Systems, 3. Psychological, Social, and Biological Foundations of Behavior, 4. Critical Analysis and Reasoning Skills

For more information on the content of the exam, how to prepare, and how to register, visit **aamc.org/mcat**.

Letters of Recommendation:

The AMCAS system refers to letters of recommendation as "Letters of Evaluation" in your application form. You will be asked to enter contact information details for each of the individuals from whom you have asked for a letter. You will select the type of letter that will be sent: a committee letter, a letter packet, or an individual letter.

A committee letter is a letter written by a pre-health committee or pre-health advisor. A letter packet is a set of letters assembled and distributed by your institution. An individual letter is a letter written by and representing the opinions of a single writer. For more information on letters of evaluation, how to fill out this section of your application, and the process and timeline for getting a committee letter and going through the WPI Pre-Health Committee process, contact the WPI Pre-Health/Pre-Professional Advisor.

Your AMCAS application can be submitted before AMCAS receives your letters since this is not part of the official AMCAS verification process.

Medical School Essay:

The last part of the medical school application includes a personal essay explaining why you want to go to medical school. Because this letter will go out to all of the schools you have selected, it is important to not mention specific names of schools or programs, but rather to explain more broadly your interest in pursuing medical school, your relevant experience, and your interests and goals.

Refer to the online application or the AMCAS website for the character limit for your essay to determine the maximum length. Be sure to proofread this essay very carefully before submitting as changes cannot be made after it has been submitted.

The Medical School Interview:

The interview is an important component of the medical school application process and preparation is critical. Consult with the WPI Pre-Health/Pre-Professional Advisor for more information on preparing for the medical school interview. If you participate in the Pre-Health Committee's packet process, you can do a mock committee medical interview. In addition, you can do a mock interview with the Career Development Center to get additional feedback.

Dental School

A dentist is a healthcare professional who specializes in diagnosis, prevention, and treatment of diseases and conditions of the mouth and teeth. Most dental school programs are approximately four years in length.

Applying to Dental School:

Prerequisites for dental school vary by individual programs so be sure to check the requirements for each of the schools to which you plan to apply. Majoring in science is not a requirement but you must complete certain pre-dental science requirements.

Students planning to go to dental school should apply for admission at least a year in advance of their planned enrollment date. Most dental schools participate in the Associated American Dental Schools Application Service (AADSAS) which allows students to complete a single application and upload one set of required documents to apply to multiple dental schools.

For more information about the application system, required application materials, and to register/apply, visit **adea.org/aadsas**.

The Dental Admission Test (DAT):

The DAT is a computerized, multiple-choice test that dental school applicants are required to take. The test is administered year round by testing centers operated by Prometric, Inc. and consists of four components: survey of the natural sciences (biology, general chemistry, organic chemistry), perceptual ability, reading comprehension, and quantitative reasoning.

For more information, test preparation materials, and instructions on how to register, go to **ada.org/dat**.

The following websites contain additional resources for researching the field and schools:

American Dental Education Association (ADEA) website (**adea.org**)

American Dental Association (ADA) website (**ada.org**)

Veterinary School

At the core, veterinarians work to prevent disease and heal animals, ranging from pets to livestock to working animals and more. There are many career paths following completion of a Doctor of Veterinary Medicine (DVM) degree, including private practice, corporate veterinary medicine, federal government,

military, research, teaching, public health, food supply medicine, global veterinary medicine, public policy, and shelter medicine, to name some. (Source: aavmc.org)

Applying to Veterinary School:

Prerequisites for veterinary school vary by individual programs so be sure to check the requirements for each of the schools to which you plan to apply. Majoring in science or pre-vet is not a requirement but you must complete certain prerequisites.

Most accredited veterinary school programs use the Veterinary Medical College Application Service (VMCAS) for accepting applications. The VMCAS is a centralized application service allowing applicants to fill out one application and upload one set of required documents to be submitted to multiple schools.

Official transcripts requested from your university's Registrar's Office must be sent directly to VMCAS, allowing plenty of time for the transcripts to be received, posted to your application, and verified. Download the VMCAS Transcript Request Form to ensure your transcripts are properly matched to your application.

For more information on the VMCAS, the application process, and to apply, visit **aavmc.org/vmcas**.

The following websites contain additional resources for researching the field and programs:

Association of American Veterinary Medical Colleges (AAVMC) website (**aavmc.org**)

American Veterinary Medical Association (AVMA) website (**avma.org**)

Entrance Exams:

The majority of veterinary schools require students to take the Graduate Record Examination (GRE) and some may also require the Biology GRE. The Medical College

Admission Test (MCAT) is also accepted by some schools in place of the GRE. It is important to check the requirements of your chosen schools to determine which exam is the most appropriate for you to take.

Additional Health-Related Programs

Physical Therapy

According to the American Physical Therapy Association (APTA), Physical Therapists (PTs) are "health care professionals who diagnose and treat individuals of all ages [with] medical problems or other health-related conditions that limit their abilities to move and perform functional activities in their daily lives. PTs examine each individual and develop a plan using treatment techniques to promote the ability to move, reduce pain, restore function, and prevent disability. Physical therapists provide care for people in a variety of settings, including hospitals, private practices, outpatient clinics, home health agencies, schools, sports and fitness facilities, work settings, and nursing homes." (Source: apta.org)

Applying to Physical Therapy Programs:

The Physical Therapist Centralized Application Service (PTCAS) allows Physical Therapy (PT) applicants to use a single web-based application and one set of materials to apply to multiple PT programs. The PTCAS website contains a list of the participating programs and instructions for using the application service. Not all PT programs participate in PTCAS so if you wish to apply to a non-participating program, you must apply directly to the school using that program's preferred application method. Be sure to apply early as it can take several weeks for PTCAS to process your file once completed.

To learn more about the application process, schools that participate, and to register/apply, visit **ptcas.org**.

The American Physical Therapy Association (APTA) website (**apta.org**) is an additional great source of information about the field and careers, as well as information for prospective students.

Requirements:

Many programs may require physical therapist (PT) observation hours prior to applying for a PT program; these hours often must be verified and signed off on by a licensed physical therapist. Though some schools do not require PT hours for admission, it is highly recommended.

Physician Assistant (PA)

According to the American Academy of Physician Assistants (AAPA), Physician Assistants (PAs) practice medicine on healthcare teams with physicians and other providers and are able to prescribe medicine in all 50 states. Most PA programs are approximately 3 years followed by over 2,000 hours of clinical rotations in order to obtain licensure. Many of the primary duties of a PA overlap with that of a doctor with the exception being that a PA is not licensed to perform surgery though they may assist doctors in surgical procedures. Physicians work autonomously whereas a PA always works under the supervision of a doctor.

Applying to Physician Assistant Programs:

Most accredited Physician's Assistant programs accept applications through the Central Application Service for Physician Assistants (CASPE), which allows you to submit one application to multiple programs. The Graduate Record Exam (GRE) is likely to be required to apply to a PA programs but you should always check the specific requirements for the programs to which you hope to apply. Some PA programs may fill their classes prior to their posted deadline. Applicants are encouraged to contact the programs to which they are applying to verify spots are still available.

To learn more about the application process, schools that participate, and to register/apply, visit **https://portal.caspaonline.org**.

The following websites contain additional resources for researching the field and programs:

American Academy of Physician Assistants (AAPA) website (**aapa.org**)

Physician Assistant Education Association (PAEA) website (**paeaonline.org**)

Optometry

According to the American Optometric Association (AOA), optometrists (or Doctors of Optometry) are "the independent primary health professionals for the eye. Optometrists examine, diagnose, treat, and manage diseases, injuries, and disorders of the visual system, the eye, and associated structures as well as identify related systemic conditions affecting the eye." (Source: aoa.org)

Applying to Optometry School:

Most optometry schools accept applications through the Optometry Centralized Application Service (OptomCAS), which allows applicants to file one application and send it to multiple optometry programs.

To learn more about the application process, schools that accept the OptomCAS, and to register/apply, visit **optomcas.org**.

The following websites contain additional information to research programs and learn more about careers in optometry:

Association of Schools and Colleges of Optometry (ASCO) website (**opted.org**)

American Optometric Association (AOA) website (**aoa.org**)

American Academy of Optometry (AAOPT) website (**aaopt.org**)

The Optometry Admission Test (OAT):

The OAT is a computerized, multiple-choice test that optometry school applicants are required to take. The test is administered year round by testing centers operated by Prometric, Inc. and consists of four components: survey of the natural sciences (biology, general chemistry, organic chemistry), reading comprehension, physics, and quantitative reasoning.

For more information, test preparation materials, and instructions on how to register, go to **ada.org/oat**.

Pharmaceutical Science

The pursuit of a career in the pharmaceutical industry has several paths to consider, and those paths may require different types or lengths of graduate programs. Career paths in retail or clinical pharmacy require pursuing a Doctor of Pharmacy degree, which is typically a 4 year program. Pharmacists provide pharmaceutical care to patients, develop and manage medication distribution systems, manage the pharmacy, and provide drug information and education.

Applying to Pharmacy School:

Many first-year professional Doctor of Pharmacy (Pharm.D) degree programs and graduate programs in the pharmaceutical sciences accept applications through the Pharmacy College Application Service (PharmCAS), which is a centralized application service allowing students to apply to multiple programs with a single application. Most pharmaceutical sciences programs will require the Graduate Record Exam (GRE) but it is important to verify specific requirements with your desired programs.

For more information on the application process, a directory of participating schools and their specific requirements, forms, and to register/apply, visit **pharmcas.org**.

In addition, the following websites contain great additional information:

American Association of Colleges of Pharmacy (AACP) website (**aacp.org**)

American Association of Pharmaceutical Scientists (AAPS) website (**aaps.org**)

Nursing

Nurses have a great number of responsibilities in the healthcare field. They may perform physical exams and health histories, provide health counseling and education, administer medication and treatment, coordinate care plans and interpret patient information, and conduct research. They can practice in a variety of settings such as hospitals, nursing homes, medical offices, ambulatory care centers, community health centers, schools, and retail clinics.

In addition to becoming a Registered Nurse (RN), there are a variety of positions nursing professionals can pursue, such as becoming an Advanced Practice Registered Nurse (APRN), which includes Nurse Practitioners (NP), Certified Nurse-Midwives (CNM), Clinical Nurse Specialists (CNS), and Certified Registered Nurse Anesthetists (CRNA). In addition, Licensed Practical Nurses (LPN) provide basis and routine care under the direction of an RN, APRN, or MD. (Source: nursingworld.com)

Applying to Nursing School:

Many nursing graduate programs accept applications through the Centralized Application Service for Nursing Programs (NursingCAS), which allows students to apply

to multiple programs with a single application. For more information on the application process, a list of participating programs, and to apply, visit **nursingcas.org.**

The following websites are great resources for additional information on the nursing profession, nursing schools, and applying:

American Association of Colleges of Nursing (AACN) website (**aacn.nche.edu**)

American Nurses Association (ANA) website (**nursingworld.org**)

Association for Nursing Professional Development (ANPD) website (**anpd.org**)

National Student Nurses Association (NSNA) website (**nsna.org**)

Public Health

Public Health is a very broad field focused on protecting and improving the health of individuals, families, communities, and populations, both locally and globally. According to the Association of Schools and Programs of Public Health (ASPPH), "public health professionals focus on preventing disease and injury by promoting healthy lifestyles […implementing] educational programs, develop[ing] policies, administer[ing] services, conduct[ing] research, and

regulat[ing] health systems to achieve these goals." A Masters in Public Health may prepare someone for a wide variety of careers in government agencies, non-profits, schools, insurance and pharmaceuticals, and the private sector. Common themes in many Public Health programs include global health issues, food policy, disease control, statistical methods, ethics in public health. (Source: aspph.org)

Applying to Public Health Programs:

Many CEPH-accredited schools and programs of public health accept applications through the Centralized Application Service for Public Health (SOPHAS), which allows students to apply to multiple programs with a single application. For more information on the application process, to search for programs, view a list of participating institutions, and to register/apply, visit **sophas.org**.

The following websites are great resources for additional information on the public health field and schools:

American Public Health Association (APHA) website (**apha.org**)

Association of Schools & Programs of Public Health (ASPPH) website (**aspph.org**)

Council on Education for Public Health (CEPH) websites (**ceph.org**)