

## ***Pre-Health Professions***

**(Dentistry, Medicine, Physician's Assistant, Optometry, Pharmacy, Physical Therapy, Veterinary Medicine, Public Health)**

Many students entering Jacksonville University hope to one day have a career in a health profession, such as medicine, dentistry, pharmacy, physician's assistant, public health, physical therapy, or veterinary medicine. In order to successfully apply to a health professional school following graduation from Jacksonville University, students must successfully complete various undergraduate science courses, as well as courses from other disciplines. These undergraduate prerequisites are determined by the individual health professional schools and may vary somewhat between institutions. The following information and suggested course list provide general information to JU students interested in preparing for a Health Professions career. JU students are strongly encouraged to seek out their advisor and JU Pre Health Professions advisors for additional, detailed information regarding preparation for application to health profession programs.

**Many students wishing to pursue a career in medical school or another health profession choose to obtain an undergraduate major in Biology or Chemistry.** However, there is actually not a requirement for any specific major in order to apply to a health professional school. Overall, these schools look for well-rounded individuals who have demonstrated the ability to use their intellect. However, regardless of major chosen, a student must fulfill specific undergraduate course prerequisites for the professional school to which he/she would like to apply. Many schools have similar basic undergraduate science course requirements, with varying recommendations for additional coursework in the sciences and other subjects. For instance, most medical and health professional schools require at least 8 hours of Biology. Additional science courses may be required for specific fields and by particular schools.

It is very important for JU students intending to pursue a career in a health profession to work closely with their faculty advisor and/or JU Pre-Health Professions advisors early and regularly, in order to stay on track with meeting entrance requirements. Additionally, it is strongly advised that JU students closely read the websites of professional schools to which they may apply to understand specific undergraduate course and entrance exam requirements that a particular school may have. Students are also encouraged to join JUMPS, the Jacksonville University Medical Pre-Professional Society, which holds meetings throughout the year on topics relevant to Pre-Health Profession students.

**Below is a list of courses that will help prepare JU students for successful application to a Health Professional school.**

These recommendations encompass the material needed for the Medical College Admission Test (MCAT), the Dental Admission Test (DAT), the Optometry Admission Test (OAT), and the Pharmacy College Admission Test (PCAT), which are largely required for admission into their respective programs within the U.S. These courses also provide a basic background for the study in—and admission to—most other health professional schools including Physician's Assistant, Physical Therapy, Veterinary Medicine, and Public Health programs. **The recommendations are to be regarded as the minimum for all purposes.**

<b>Pre-Health Professions Basic Core Recommendations: 38 hours.</b>			
<b>Course</b>	<b>Hours</b>	<b>Grade</b>	<b>Term</b>
BIOL 180* Biological Diversity	4		
BIOL190* Biological Unity	3		
BIOL 290* Basic Laboratory Techniques in Biology (pre: C or better in BIOL 190, CS 150, ENGL 103, and CHEM 104)	3		
CHEM 103/204* General Chem I (pre: C or better in MATH 104 or placement in core math course)	4		
CHEM 104/205* General Chem II (pre: "C" or better in CHEM 103)	4		
CHEM 301/L Organic Chemistry I (pre: C or better in CHEM 103 &104)	4		
CHEM 302/L Organic Chemistry II (pre: C or better in CHEM 301/301L)	4		
PHYS 111 Princ of Physics I (co: MATH 110 or 112)	4		
PHYS 112 Princ of Physics II (pre: PHYS 111)	4		
MATH 140* Calculus I (pre: C or better in MATH 110)	4		

**\*Prerequisite for most 300/400 level BIOL courses. Specific prerequisites are listed for each course in the Course Descriptions portion of the catalog. This may be waived in many cases by permission of the faculty teaching upper division courses. Most health professional schools generally require a minimum of 8 credit hours of Biology, with most expecting additional Biology courses or completion of an undergraduate major in Biology or Biochemistry. These requirements vary by program and should be checked early to help plan your courses during your time at JU.**

In addition to the basic requirements, the following courses are recommended for strengthening the student's scientific foundations, and good performance in these courses will also make the student a stronger candidate for admission to the program of their choice. The courses that an individual student should take will vary with the student's intended career path and the professional school(s) to which they are intending to apply\*\*. The student should always review the requirements of their intended school(s) and work closely with their JU advisor.

Additional Recommended Courses:			
Course	Hours	Grade	Term
BIOL 301WR Microbiology (pre: "C" or better in CHEM 104; and either MSC 113 & 114, or BIOL 280 & 290, or BIOL 290 & CHEM 322; and either CHEM 211SI or BIOL 223SI)	4		
BIOL 305 Comp. Vertebrate Anat. (pre: "C" or better in BIOL 190; and either BIOL 280, or MSC 113 & 114)	4		
BIOL 308 Princ. of Immunology (pre: "C" or better in BIOL 290)	4		
BIOL 309 Animal Physiology (pre: "C" or better in BIOL 180 and CHEM 104; and either BIOL 290 or MSC 113 & 114. Recommended: CHEM 301)	4		
BIOL 320WI Human Ecology, Infectious & Zoonotic Disease (pre:"C" or better in BIOL 223SI; and BIOL 190; and either BIOL 280 or MSC 113 & 114)	4		
BIOL 322 Medical Microbiology (pre: "C" or better in CHEM 104; and either BIOL 223SI, or CHEM 211SI; and either BIOL 290 or MSC 113 & 114)	4		
BIOL 337 Genetics (pre: "C" or better in CHEM 104; and BIOL 290)	3		
BIOL 402WR Cell Biology (pre: "C" or better in either BIOL 223SI, or CHEM 211SI; and a "C" or better in either BIOL 290 or MSC 113 & 114)	4		
BIOL 430# Special Topics: Wildlife Disease Ecology ( <b>see note</b> ) (pre: "C" or better in BIOL 280, BIOL 290, and BIOL 223SI)	4		
BIOL/CHEM 435WI Biochem I (pre: "C" or better in CHEM 302; BIOL 190; and either MSC 114 or BIOL 290 (BIOL 290 strongly recommended).	4		
BIOL/CHEM 436 Biochem II (pre: "C" or better in BIOL 435WI or CHEM 435WI)	4		
CHEM 322 Analytical Chemistry (pre: "C" or better in CHEM 104 & CHEM 301/L)	4		
CHEM 323 Instrumental Analysis (pre: "C" or better in CHEM 104 & 322)	4		
PSYC 201 Intro Psychology	3		
SOC 203 Introductory Sociology	3		

#NOTE: BIOL 430 denotes a special topics course. Special topics courses vary in theme and not all special topics courses are applicable to students pursuing a health profession. However, students interested in some health professions may find the Wildlife Disease Ecology course beneficial and may wish to take it when it is offered.

In addition to successful completion of course requirements, programs leading to degrees in the health professions often recommend and/or require students to show evidence of completing numerous experiential hours (e.g., volunteerism, clinical shadowing, research, internships, work experience) related to the health profession. Programs may differ in the minimum expected, so it is important to check the recommendations of individual programs early and often. Involvement in student clubs, service organizations, and other extracurricular activities also help students develop additional skills complementary to future work in the health professions.

A variety of internship programs with either Research or Clinical/Practical Professional orientation are available to JU students. JU students collaborate with mentors at the Mayo Clinic, UF Health Jacksonville, and other institutions. The faculty and staff at JU work with these institutions to identify and encourage minorities and other students who are interested in careers in research and medicine through these internships. JU has also devised numerous shadowing, internship, and research projects for students at other medical and dental facilities, as well as an array of veterinary sites.

### **\*\*Specific Professional School Recommendations**

In addition to the courses listed in the "Basic Core Recommendations" chart on the first page, students are encouraged to engage in as many of the "Additional Recommended Courses" listed to the left. Below are common additional recommendations—for both entrance exam success and admissions requirements—for each type of health professional school. Students should prioritize coursework based on requirements outlined by the schools to which they are intending to apply.

- **Medicine** (Doctor of Medicine or Doctor of Osteopathic Medicine)
  - Genetics (BIOL 337)
  - Biochemistry I (BIOL/CHEM 435WI)
  - Psychology (PSYC 201)
- **Dentistry**
  - Genetics (BIOL 337)
  - Microbiology (BIOL 301WR or BIOL 322)
- **Physician's Assistant**
  - Anatomy & Physiology (BIOL 215/216 or BIOL 309)
  - Microbiology (BIOL 301WR or BIOL 322)
- **Optometry**
  - Genetics (BIOL 337)
- **Pharmacy**
  - Anatomy & Physiology (BIOL 215/216 or BIOL 309)
  - Microbiology (BIOL 301WR or BIOL 322)
  - Biochemistry I (BIOL/CHEM 435WI)
- **Physical Therapy**
  - Anatomy & Physiology (BIOL 215/216 or BIOL 309)
  - Psychology (PSYC 201)
- **Veterinary Medicine**
  - Biochemistry I (BIOL/CHEM 435WI)
  - Genetics (BIOL 337)
  - Microbiology (BIOL 301WR or BIOL 322)
- **Public Health**
  - No specific recommendations; consult programs