Pre-professional Health Programs

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The Institute for Innovation in Health and Human Services offers advising and evaluation services for students pursuing professional health careers. Pre-professional health programs are not majors or minors; they are preparation programs that outline a set of JMU courses and requirements that commonly serve as prerequisites for admission to graduate-level professional programs. Schools of professional health are most concerned with the overall scope and quality of a student's undergraduate performance and it is important that students select a major based on their interests and aptitudes. Program coordinators are available to assist students in making career decisions. Additional information about each pre-professional health program is available on the Web at www.iihhs.jmu.edu.

Service activity and experience in a health-care setting are highly recommended to students considering a professional health career. Requirements for these types of activities vary among programs; students should inquire with their respective program coordinator for guidance. Student organizations provide multiple venues to participate in community service and to interact with health professionals; thus, students are encouraged to participate in Alpha Epsilon Delta (Health Pre-professional Honor Society), American Medical Student Association, Pre-Dental Society, Pre-Medical Association, Pre-Occupational Therapy Association, Pre-Pharmacy Society, Pre-Physical Therapy Society, Pre-Physician Assistant Club or the Pre-Veterinary Society.

The pre-professional programs outlined here are intended as guidelines only and will fulfill the admissions requirements of many, but not all, graduate professional programs. Since different professional schools often have unique requirements, students must inquire with their school(s) of interest for definitive admission policies and requirements.

Pre-dentistry

Dr. Jeanne Wenos, Coordinator
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Credit Hours

BIO 114. Organisms 4
BIO 214. Cell and Molecular Biology 4
CHEM 131-132. General Chemistry (including laboratory 131L-132L) 8
CHEM 341-342. Organic Chemistry (including laboratory 346L) 8
CHEM 361. Biochemistry I 3
PHYS 140-150. General Physics (including laboratory 140L-150L) 8
Mathematics (calculus and statistics) 6-7
English (ENG, GENG, GHUM 200, or GWRT) 6

Students are encouraged to take additional course work in genetics (BIO 224), microbiology (BIO 380), anatomy (BIO 290 or BIO 320) and animal or vertebrate physiology (BIO 370).

Pre-forensic Studies

Dr. Leslie Harlacker and Dr. Donna Amenta, Coordinators
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Forensic studies refer to a wide array of disciplines that apply the knowledge and techniques of science to the investigation of crime and the courts of law. Preparation guidelines are provided below for four common areas of graduate study in forensic studies.

Forensic Biology

A biology or chemistry major is recommended with the following course work:

Credit Hours

BIO 114. Organisms 4
BIO 214. Cell and Molecular Biology 4
BIO 224. Genetics and Development 4
BIO 430. Human Genetics 3
BIO 442. Immunology 3
BIO/CHEM 361. Biochemistry 3
CRJU 215. Introduction to Criminal Justice 3

Forensic Chemistry

A biology or chemistry major is recommended with the following course work:

Credit Hours

CHEM/PHYS/MATS 275. Introduction to Materials Science 3
CHEM 331. Physical Chemistry 3
CHEM 351. Analytical Chemistry 4
CHEM/BIO 361. Biochemistry 3
CRJU 215. Introduction to Criminal Justice 3

Forensic Anthropology

An anthropology (biological anthropology concentration) or biology major is recommended with the following course work:

Credit Hours

GANTH 196. Biological Anthropology 3
BIO 290. Human Anatomy 4
BIO 270. Human Physiology or BIO 370 Animal Physiology 4
BIO 325/ANTH 395. Forensic Anthropology 4

Choose two of the following:

MATH 321. ANOVA and Exp. Design 3
MATH 324. Applied Nonparametric Statistics 3
MATH 421. Applied Multivariate Statistics 3

Students are encouraged to take additional course work in anatomy such as BIO 410. Advanced Anatomy.

Pre-medicine

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Credit Hours

BIO 114. Organisms 4
BIO 214. Cell and Molecular Biology 4
CHEM 131-132. General Chemistry (including laboratory 131L-132L) 8
CHEM 341-342. Organic Chemistry (including laboratory 346L) 8
PHYS 140-150. General Physics (including laboratory 140L-150L) 8
Mathematics (calculus and statistics) 6-7
English (ENG, GENG, GHUM 200 or GWRT) 6

Students are strongly encouraged to take additional course work in genetics (BIO 224), microbiology (BIO 380), animal or vertebrate physiology (BIO 370) and biochemistry (CHEM 361).
Pre-occupational Therapy
Dr. Jeanne Wenos, Coordinator
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Credit Hours
BIO 270. Human Physiology 4
BIO 290. Human Anatomy 4
CHEM 120. Concepts in Chemistry 3
MATH 220. Elementary Statistics 3
Choose one:
  PHYS 125. Principles of Physics with Biological Applications I 4
  PHYS 140. General Physics (including laboratory 140L) 8
  HTH 441/KIN 407. Rehabilitative Biomechanics 4
  PSYC 160. Life Span Human Development 3
  PSYC 250. Abnormal Psychology 3
  SOCI 110. Social Issues in a Global Context 3

NOTE: Students interested in applying to the JMU Occupational Studies concentration (health science concentration that can lead toward the Master of Occupational Therapy degree at JMU) should refer to pages 195-196.

Pre-optometry
Dr. Jeffrey Andre, Coordinator
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Credit Hours
BIO 114. Organisms 4
BIO 214. Cell and Molecular Biology 4
BIO 280 or 380. Microbiology 4
CHEM 131-132. General Chemistry (including laboratory 131L-132L) 8
CHEM 341-342. Organic Chemistry (including laboratory 346L) 8
PHYS 140-150. General Physics (including laboratory 140L-150L) 8
Mathematics (calculus and statistics) 6-7
English (ENG, GEN, HUM 200, or WRTC) 6
GSPYC 101. General Psychology 3

Students are strongly encouraged to take additional course work in anatomy (BIO 290 or BIO 320), physiology (BIO 270 or BIO 370), and biochemistry (CHEM 361).

NOTE: Students should check admission requirements of individual optometry schools for additional recommended courses.

Pre-pharmacy
Dr. Donna Amenta, Coordinator
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Credit Hours
BIO 114. Organisms 4
BIO 214. Cell and Molecular Biology 4
CHEM 131-132. General Chemistry (including laboratory 131L-132L) 8
CHEM 341-342. Organic Chemistry (including laboratory 346L) 8
GCOM 121. Fundamental Human Communication: Presentations, or GCOM 122. Fundamental Human Communication: Individual Presentations 3
MATH 220. Elementary Statistics 3
Choose one:
  MATH 155/MATH 205. College Algebra and Introductory Calculus 6
  MATH 231-232. Calculus with Functions 8
  PHYS 140-150. General Physics (including laboratory 140L-150L) 8
  English (ENG, GEN, HUM 200, or WRTC) 6
  Electives 18

1 Requirements depend on program.

Students are strongly encouraged to take course work in microbiology (BIO 280 or 380), human anatomy (BIO 290), human physiology (BIO 270) and biochemistry (CHEM 361).

Pre-physical Therapy
Dr. Kristi Lewis, Coordinator
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Credit Hours
BIO 270. Human Physiology 4
BIO 290. Human Anatomy 4
CHEM 131-132. General Chemistry (including laboratory 131L-132L) 8
PHYS 140-150. General Physics (including laboratory 140L-150L) 8
Mathematics (calculus and statistics) 6-7
English (ENG, GEN, HUM 200, or WRTC) 6
GSPYC 101. General Psychology 3
GSPYC 160. Life Span Human Development 3
PSYC 250. Abnormal Psychology 3
GSOCI 110. Social Issues in a Global Context 3

Students are strongly encouraged to take additional course work in biology (6-8 hours)

NOTE: Physical therapy schools often have varying prerequisite requirements for admission. Classes listed here may differ from what some PT schools require.

Pre-physician Assistant
Pamela Bailey, Coordinator
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Credit Hours
BIO 114. Organisms 4
BIO 124. Ecology and Evolution 4
BIO 214. Cell and Molecular Biology 4
BIO 224. Genetics and Development 4
BIO 270. Human Physiology 4
BIO 290. Human Anatomy 4
CHEM 131/132. General Chemistry (including laboratory 131L-132L) 8
CHEM 221-L. Concepts of Organic Chemistry 4
CHEM 222. Concepts of Biochemistry 3

Students are strongly encouraged to take course work in microbiology (CHEM 222L recommended, 1 credit), medical terminology (HTH 300. Medical Terminology 3), and mathematics (MATH 220. Elementary Statistics 3).

Pre-veterinary Medicine
Dr. Christopher Rose, Coordinator
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Credit Hours
BIO 114. Organisms 4
BIO 214. Cell and Molecular Biology 4
BIO 224. Genetics and Development 4
BIO 370. Animal Physiology 4
BIO 380. General Microbiology 4
CHEM 131/132. General Chemistry (including laboratory 131L-132L) 8
CHEM 341/342/346L. Organic Chemistry 8
CHEM 361. Biochemistry 3
MATH 220. Elementary Statistics 3
MATH 231/232. Calculus with Functions 8
PHYS 140/150. General Physics (including laboratory 140L-150L) 8

1 These pre-professional health programs do not ensure that all requirements at all professional schools, including JMU, are met. Consult with each professional school of interest to establish a full listing of prerequisites for that program.