

## BS Biology: Pre-Physical Therapy

Advisors: Dr. Jason Ashley, Dr. Justin Bastow, Dr. Judd Case

Physical therapists are health care professionals who diagnose and treat individuals of all ages, from newborns to the very oldest, who have 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. In addition, PTs work with individuals to prevent the loss of mobility before it occurs by developing fitness- and wellness-oriented programs for healthier and more active lifestyles. 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. State licensure is required in each state in which a physical therapist practices.

Prerequisite courses for physical therapy programs vary. All physical therapy programs require volunteer experience in PT clinics. Details are available at apta.org.

Required Biology Core Courses: 25 credits	
BIOL 171 Biology I	(5)
BIOL 172 Biology II	(5)
BIOL 173 Biology III	(5)
BIOL 270 Biological Investigation	(3)
BIOL 310 Fundamentals of Genetics	(5)
BIOL 490 Department Senior Capstone	(5)
Select <u>one</u> of the following courses: 5 credits	
BIOL 301 Microbiology	(5)
BIOL 302 Botany	(5)
BIOL 303 Invertebrate Zoology	(5)
BIOL 304 Vertebrate Zoology- Recommended for Pre-PT	(5)
[Note: A few physical therapy schools might require BIOL 301 instead]	
Select <u>one</u> of the following courses: 4-5 credits	
BIOL 423 Evolution	(5)
BIOL 440 Ecology	(4)
Select <u>one</u> of the following courses: 5 credits	
BIOL 436 Cell Biology – Recommended for Pre-PT	(5)
BIOL 438 Molecular Biology	(5)

Select <u>one</u> of the following courses (4-5 credits) BIOL 334 Human Anatomy & Physiology III for Biology Majors –	
Recommended for Pre-PT	(5)
BIOL 351 Principles of Animal Physiology	(4)
BIOL 352 Principles of Plant Physiology	(4)
BIOL 353 Principles of Microbial Physiology	(4)
Required Supporting Courses: 20 credits	
CHEM 171 General Chemistry	(4)
CHEM 171L General Chemistry Lab	(1)
CHEM 172 General Chemistry	(4)
CHEM 172L General Chemistry Lab	(1)
CHEM 173 General Chemistry	(4)
CHEM 173L General Chemistry Lab	(1)
MATH 380 Elementary Probability and Statistics	
or BIOL 380 Data Analysis for Biologists	(5)

**ELECTIVE COURSES**: 36 upper division credits (21 upper division must be from Biology). If you take the complete 15 credit Physics sequence (PHYS 131, 132, 133, 161, 162, 163 or 151, 152, 153, 161, 162, 163) the remaining 21 credits of upper division electives must be from Biology.

The following elective biology courses are required for admission to all physical therapy schools and are recommended highly as electives for the BS in Biology major for students working toward careers in physical therapy.

BIOL 332 Human Anatomy & Physiology I for Biology Majors	(5)
BIOL 333 Human Anatomy & Physiology II for Biology Majors	(5)
BIOL 334 Human Anatomy & Physiology III for Biology Majors	(5)

The following non-biology courses are required for admission to all physical therapy schools and are recommended highly as electives in the BS in Biology major for students working toward careers in physical therapy. The full 15 credits of Physics must be taken in order for it to count towards elective credits.

PHYS 131 or 151 Introductory Physics I	(4)
PHYS 132 or 152 Introductory Physics II	(4)
PHYS 133 or 153 Introductory Physics III	(4)
PHYS 161 Mechanics Lab	(1)
PHYS 162 Heat and Optics Lab	(1)
PHYS 163 Instrumentation Lab	(1)

The remaining 11 upper division elective credits may come from the following list of recommended courses or from other courses approved by your advisor:

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BIOL 318 Biology of Women		(3)
BIOL 343 Biology of Aging		(3)
BIOL 430 Immunology		(5)

BIOL 476 Muscle Physiology	(3)
BIOL 477 Embryology	(5)
BIOL 496 Neurobiology	(5)
BIOL 499 Directed Study	(1-5)
EXSC 460 Physiology of Exercise	(4)

## **Biology ETS Field Exam required for graduation.**

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