

What does a physical therapist do? How's the job outlook?

Physical therapists help injured or ill people improve movement and manage pain. They are often an important part of preventive care, rehabilitation, and treatment for patients with chronic conditions, illnesses, or injuries.

Employment of physical therapists is projected to grow 21 percent from 2020 to 2030, much faster than the average for all occupations. Demand for physical therapy will come in part from the large number of aging baby boomers, who are staying more active later in life than their counterparts of previous generations. Older people are more likely to experience heart attacks, strokes, and mobility-related injuries that require physical therapy for rehabilitation. In addition, a number of chronic conditions, such as diabetes and obesity, have become more prevalent in recent years. More physical therapists will be needed to help these patients maintain their mobility and manage the effects of chronic conditions. The annual mean wage for physical therapists in the Denver Metro area is approximately \$87,970. *



*U.S. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Physical Therapists, on the Internet at <https://www.bls.gov/ooh/healthcare/physical-therapists.htm>

How do I become a physical therapist?

Physical therapists need a Doctor of Physical Therapy (DPT) degree from a program accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). DPT programs typically last 3 to 4 years.

Physical therapy programs typically require a bachelor's degree, which may be in biology, healthcare or recreation and fitness fields and prerequisite courses such as anatomy, chemistry, and physics. Most DPT programs require candidates to apply through the Physical Therapist Centralized Application Service (PTCAS). Physical therapists may apply to a clinical residency program after graduation. Residencies typically last about 1 year and provide additional training and experience in specialty areas of care.

All states require physical therapists to be licensed, which includes passing the National Physical Therapy Examination administered by the Federation of State Boards of Physical Therapy. Other requirements vary by state.

DPT programs in Colorado can currently be found at two institutions: University of Colorado Anschutz Medical Campus (UC) and Regis University. For more information on the admissions process for each of these programs, please refer to the following websites.

- University of Colorado Anschutz Medical Campus- <https://medschool.cuanschutz.edu/physical-therapy-program>
- Regis University- <https://www.regis.edu/academics/majors-and-programs/graduate/physical-therapy-dpt>

Biology Faculty Advisor who can guide you on this path:

Dr. Jeff Simpson - simpsonj@msudenver.edu

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Course prerequisites required for those interested in pursuing physical therapy at UC or Regis* include:

General Biology I with lab – BIO 1080/1090

General Chemistry I and II with lab – CHE 1800/1801 and CHE 1810/1811

- **Pre-req for Gen Chem I includes College Algebra:** MTH 1108-MTH 1109 or MTH 1110 or MTH 1111/1101 with a grade of “C-” or better

Advanced Human Cadaver Anatomy* — BIO 3330

OR

Comparative Vertebrate Anatomy — BIO 3220

- OR 8 semester hours (one-year sequence) of a combined anatomy and physiology [Human Anatomy & Physiology I & II – BIO 2310 and BIO 2320; upper division preferred for CU]

Advanced Human Physiology* — BIO 3320

OR

Animal Physiology — BIO 3360

- OR 8 semester hours (one-year sequence) of a combined Human Anatomy & Physiology I & II– BIO 2310 and BIO 2320; 2 semesters (upper division preferred for CU)

College Physics—PHY 2010/2030 and PHY 2020/2040

(*Regis specifies **General Physics**—PHY 2311/2321 and PHY 2331/2341)

Psychology—Any of the following: Abnormal (PSY 3620), Child (PSY 3250), Developmental (PSY 2210), Brain & Behavior (PSY 2120), Growth & Dev., or Life Span Dev.: (2 semesters at CU)

Introduction to Statistics – MTH 1210

Composing Arguments – ENG 1010

Highly Recommended for Regis

- Biomechanics/Kinesiology
- Exercise Physiology
- Speech Communication
- Neuroscience
- Research Methods/Advanced Statistics
- Motor Learning

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REQUIREMENTS FOR B.S. IN BIOLOGY

(2024-2025 or future catalogs ONLY)

Major Requirements:

- Total of 46 total credit hours approved by the Biology Faculty must be completed in the BIO prefix
- C- or better must be earned for any BIO course to apply to your major requirements.
- 27 upper division credit hours in BIO courses must be completed
- Non-biology courses in math, chemistry and other STEM disciplines are required

Start Smart! Have you met with a Biology Academic Advisor at least once a semester to ensure timely progression toward your degree and to avoid taking unnecessary courses.

Required Introductory Courses:

- BIO 1080 & 1090: General Biology I w/ Lab
- BIO 1081 & 1091: General Biology II w/ Lab

Choose one of the following chemistry sequences:

- CHE 1800 & 1801: General Chemistry I w/ Lab
- CHE 1810 & 1811: General Chemistry II w/ Lab

*** **OR** ***

Two semesters of math:

- MTH 1109/ 1110: College Algebra, or higher
- Another semester of Math > MTH 1110

- CHE 1110 & 1150: Principles of Chemistry w/ Lab
- CHE 2100 & 2150: Into to Organic & Biol Chem w/ Lab

Pro Tip! Biology students do not need additional General Studies coursework for Natural & Physical Sciences or Quantitative Literacy. Your required Biology, Chemistry, and Math courses will fulfill these.

Additional Required Biology courses:

Choose one of the following:

- BIO 2100: General Botany (5cr.)
- BIO 2310: Human Anatomy & Physiology I (4cr.)
- BIO 2400: General Microbiology (5cr.)
- BIO 3200: Invertebrate Zoology (4cr.)
- BIO 3260: Vertebrate Zoology (4cr.)

Take General Ecology and a Genetics course:

- BIO 3520: General Ecology (3cr.)

Choose one of the following:

- BIO 3600: General Genetics (4cr.)
- BIO 3610: Genetics: Principles & Analysis (4cr.)

Professionalize! Have you met with a Faculty Advisor to personalize your path and ensure you select courses and extracurricular experiences that will best serve you?

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Biology Elective Course Requirement:

- At least 46 total credit hours must be completed in BIO courses.
- At least 27 total credit hours must be upper division BIO courses (3000/4000 level).
 - Includes any upper division Zoology, General Ecology, Genetics, and BIO Senior Experience

Lower Division BIO Courses (1000/2000 level)	Credit Hours	Upper Division BIO Courses (3000/4000 level)	Credit Hours
<input type="checkbox"/> BIO 1080/1090 – General Biology I w/Lab	4	<input type="checkbox"/> BIO 3520: General Ecology	3
<input type="checkbox"/> BIO 1081/1091 – General Biology II w/Lab	4	<input type="checkbox"/> BIO 36XX: Genetics	4
<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>	
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<input type="checkbox"/>		<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/> BIO Senior Experience (recommended)	
Total lower division BIO credit hours:		Total upper division BIO credit hours: <i>AT LEAST 27 UPPER DIVISION BIO CREDIT HOURS REQUIRED</i>	
Total BIO prefix credit hours: <i>LOWER DIVISION + UPPER DIVISION (AT LEAST 46 TOTAL BIO CREDIT HOURS REQUIRED)</i>			

Required Non-Biology Science Electives:

- 9 credits total, at least 6 of which must be upper division (3000 /4000 level).
- Any Math course selected would be in addition to the two semesters required above.

Non-Biology Science Elective Courses	Credit Hours
<input type="checkbox"/>	
<input type="checkbox"/>	(upper division)
<input type="checkbox"/>	(upper division)
Total Non-Biology Science Elective credit hours: <i>At least 6 credit hours must be upper division (3000/4000 level)</i>	

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Senior Experience Requirement:

- A capstone course is required to graduate.
- A Biology Senior Experience is recommended.
- Courses outside Biology marked (SE) fulfill the Senior Experience requirement but would **not** count toward your BIO hours.

BIO 4050: Advanced Cell & Molecular Biology

BIO 4230: Issues in Conservation Biology

BIO 4271: Parasitology

BIO 4300: Neurobiology

BIO 4510: Microbial Ecology

BIO 4540: Animal Ecology

BIO 4820: Developmental Biology

BIO 4850: Evolution

Are you ready for graduation?

→ Please see your Degree Progress Report for General Studies and MSU Denver graduation requirements. ←

- Have you completed a total of 46 credit hours of BIO courses approved by the Biology Department?
- Have you completed at least 27 upper division BIO coursework (3000/ 4000 level)?
- Have you completed at least 39 total upper division credit hours?
- Have you completed a Senior Experience course?
- Have you had a final advising appointment?
- Have you submitted an application for graduation?