

# Physical Therapy

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Chair, Department of Physical Therapy and Health Science

## Mission

The mission of the Department of Physical Therapy and Health Science is to prepare undergraduate students to enter careers in the health care industry or to enter graduate education in health related fields, and to prepare graduate students as general practitioners in Physical Therapy.

## Vision

The Department of Physical Therapy and Health Science will strive to build a balanced environment of teaching, research, service, and practice, which will prepare students to live and work productively in a diverse and ever-changing society.

## Master of Physical Therapy

**This program will be phased out by 2006 and replaced by the Doctor of Physical Therapy (see below).**

## Admission Requirements

In addition to meeting admission requirements for the Graduate School, requirements for entry into the Master of Physical Therapy program include the following:

- A baccalaureate degree with a Health Science major at Bradley University **or**
- A bachelor's degree in another major from Bradley University or a bachelor's degree from another institution with the following prerequisites:

### \*Required Coursework:

** General Biology/Zoology/Physiology	1 year
Anatomy - with dissection	1 semester
Physiology (vertebrate or mammalian, human pathophysiology, or microbiology)	1 semester
** General Chemistry - with lab	1 year
** General Physics - with lab	1 year
Calculus	1 semester
Statistics	1 semester
Educational Methods	1 semester
Kinesiology/Biomechanics/Human Movement	1 semester
Nutrition	1 semester
Human Relations Development	
i.e., Psychology/Sociology/Counseling	1 semester
Consumer Issues in Health Care <b>or</b> Business	1 semester

\* *Similar courses taken at other institutions will be judged by the Physical Therapy faculty for equivalency. Some course equivalencies may be granted with documented experience.*

\*\* *Courses required for majors in that area of study.*

### Other Requirements

- Minimum 3.1 GPA in mathematics and science courses, with no grade lower than a C in a mathematics or science course.
- Science courses completed more than 10 years prior will NOT be accepted.

- Minimum 3.1 GPA in the last 60 hours of undergraduate education.
- GRE
- TOEFL 600 or higher for non-native English speaking applicants.
- Official transcripts of completed coursework to date
- Letters of recommendation
- Skills in:
  - Computer Literacy - word processing
  - Communication Skills - written and oral
  - Medical Terminology
- Submission of an expanded resume and essays (instructions with application)

In addition to the University's student health form requirement, and prior to enrollment in the first full-time physical therapy course that includes a clinical experience, each student must verify:

- professional liability insurance (renewable annually)
- immunity to rubeola (measles) by one of the following:
  - a rubeola (measles) immunization received in 1990 or later, **or**
  - written verification from a physician of having had the disease, **or**
  - birthdate prior to 1957
- immunity to rubella (German measles) by one of the following:
  - written verification of having had the immunization, **or**
  - written verification of rubella titer greater than 1:10
- written verification of immunity to hepatitis B virus
- written verification of tuberculin test results (renewable annually)
- CPR certification (renewable annually)

Contact the department for the most recent requirements.

## Curriculum

To meet graduation requirements in the physical therapy curriculum, students will complete the following coursework. Full-time enrollment is required, including interim and summer sessions as indicated.

### First Year

May 8-Week Interim	
PT 506 Functional Anatomy .....	3 hrs.
PT 508 Gross Anatomy .....	3 hrs.
Semester Hours	6 hrs.

### Fall Semester

PT 512 Patient Problems and Procedures I (Physical Therapy Techniques) .....	4 hrs.
PT 520 Patient Problems & Procedures II (Functional Neuroanatomy & Neurophysiology) .....	4 hrs.
PT 516 Research in Physical Therapy .....	3 hrs.
Semester Hours	11 hrs.

### January Interim

PT 530 Clinical Education I.....	2 hrs.
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**Spring Semester**

PT 542 Patient Problems and Procedures III (Neurorehabilitation) .....	4 hrs.
PT 546 Administration/Health Care Policies and Resources .....	4 hrs.
PT 554 Research Projects I .....	2 hrs.
PT 558 Professional Issues .....	2 hrs.
<b>Semester Hours</b>	<b>12 hrs.</b>

**Second Year****Summer**

PT 600 Research Project II .....	2 hrs.
PT 602 Patient Problems and Procedures IV (Orthopaedics) .....	4 hrs.
PT 604 Patient Problems and Procedures V (Cardiopulmonary) .....	4 hrs.
<b>Semester Hours</b>	<b>10 hrs.</b>

**Fall Semester**

PT 610 Clinical Education II (8 weeks) .....	4 hrs.
PT 620 Clinical Education III (8 weeks) .....	4 hrs.
Elective .....	2-3 hrs.
<b>Semester Hours</b>	<b>10-11 hrs.</b>

**Spring Semester**

PT 644 Physical Therapy Differential Diagnosis (8 weeks) .....	4 hrs.
PT 648 Clinical Education IV (8 weeks) .....	4 hrs.
Elective .....	2-3 hrs.
<b>Semester Hours</b>	<b>10-11 hrs.</b>

**Summer**

PT 660 Clinical Education V (8 weeks) .....	4 hrs.
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**Total Semester Hours** **65-67 hrs.**

**Course Descriptions****PT 506 Functional Anatomy**  
**3 hrs.**

Applied human anatomy along with basic skills of musculoskeletal evaluations and therapeutic interventions will be presented. Prerequisite: consent of department chair.

**PT 508 Gross Anatomy**  
**3 hrs.**

Gross structures of the upper extremities, head, neck, and back, and spinal cord, with an emphasis on musculoskeletal and neuromuscular structures and their relationship to human movement. Dissection of human cadaver. Prerequisite: consent of department chair.

**PT 512 Patient Problems and Procedures I (Physical Therapy Techniques)**  
**4 hrs.**

Introduction to clinical applications of the following areas: basic physical therapy evaluation procedures including posture, range of motion, joint play, flexibility, muscle strength, gait; electrotherapy theory and techniques; and soft tissue techniques and thermal agents. Prerequisite: consent of department chair.

**PT 516 Research in Physical Therapy**  
**3 hrs.**

Application of research principles, methods, design, and statistical analysis of data. Prerequisite: consent of department chair.

**PT 520 Patient Problems and Procedures II (Functional Neuroanatomy and Neurophysiology)**  
**4 hrs.**

Peripheral and central nervous system anatomy and physiology with an emphasis on the sensory and motor systems as they relate to human movement. The scientific basis of sensory/motor evaluation and treatment will be discussed as well as the basic skills of sensory/motor evaluation and treatment as they relate to persons with neurological involvement. Prerequisite: consent of department chair.

**PT 530 Clinical Education I**  
**2 hrs.**

The introductory full-time, supervised clinical experience requiring utilization of communication, interpersonal, and evaluation skills, and offering an opportunity to apply basic physical therapy procedures and begin professional socialization. Pass/Fail. Prerequisite: consent of department chair.

**PT 542 Patient Problems and Procedures III (Neurorehabilitation)**  
**4 hrs.**

Evaluation, treatment planning, and treatment of persons with neurological involvement. Prerequisite: consent of department chair.

**PT 546 Physical Therapy Administration/Health Care Policies and Resources**  
**4 hrs.**

Utilization of health care policies, community resources, and administrative principles to provide health care. Opportunity to design and use community programs for wellness, prevention, maintenance, and rehabilitation of persons in need of health care. Prerequisite: consent of department chair.

**PT 554 Research Projects I**  
**2 hrs.**

Beginning of the project designed in PT 516. Recruit subjects, collect data, and add to the review of literature. Write up any revisions in methodology and results. Prerequisite: consent of department chair.

**PT 558 Professional Issues**  
**2 hrs.**

Current issues affecting composition and design of the health care industry, environmental factors, recruitment and hiring practices, delivery of health care, and education and practice of physical therapists and related health care professionals. Reimbursement, legislation, manpower, and other factors will be addressed. Prerequisite: consent of department chair.

**PT 600 Research Project II**  
**2 hrs.**

Continuation of data collection and analysis and completion of research paper. Prerequisite: consent of department chair.

**PT 602 Patient Problems and Procedures IV (Orthopaedics)**  
**4 hrs.**

Acute and long-term diagnoses will be presented, with the student applying appropriate evaluation and treatment applications. Prerequisite: consent of department chair.

**PT 604 Patient Problems and Procedures V (Cardiopulmonary)****4 hrs.**

Acute and long-term diagnoses will be presented, with the student applying appropriate evaluation and treatment applications. Prerequisite: consent of department chair.

**PT 610 Clinical Education II****4 hrs.**

The second of five full-time, supervised clinical experiences. Application of advanced physical therapy procedures. Pass/Fail. Prerequisites: consent of department chair, PT 530.

**PT 615 Independent Study****1-6 hrs.**

Individual study and investigations through selected readings, discussions, and/or written assignments. Prerequisites: Physical Therapy major and/or permission of Department of Physical Therapy chair.

**PT 620 Clinical Education III****4 hrs.**

The third of five full-time, supervised clinical experiences offering the opportunity for continued development of clinical management of patients in one of a variety of clinical settings. Pass/Fail. Prerequisites: consent of department chair, PT 610.

**PT 635 Sports Physical Therapy: Applications Throughout the Life Span****3 hrs.**

Issues and experiences related to the physical therapy examination, evaluation, and management of conditions unique to the individual actively engaged in sport and exercise. Prerequisites: second-year MPT student and consent of instructor.

**PT 637 New Ventures in Physical Therapy: Aquatic Therapy and Women's Health Care****3 hrs.**

Issues and experiences related to the physical therapy examination, evaluation, and management of conditions unique to the female client, along with aquatic therapy interventions designed for a variety of conditions affecting both the female and male client. Prerequisites: second-year MPT student and consent of instructor.

**PT 644 Physical Therapy Differential Diagnosis****4 hrs.**

Physical therapy diagnosis and treatment for given patient cases. Prerequisite: consent of department chair.

**PT 648 Clinical Education IV****4 hrs.**

The fourth of five full-time, supervised clinical experiences in a different clinical setting. Pass/Fail. Prerequisites: consent of department chair, PT 620.

**PT 660 Clinical Education V****4 hrs.**

The fifth of five full-time, supervised clinical experiences in a different clinical setting. Continued professional socialization and growth. Pass/Fail. Prerequisites: consent of department chair, PT 648.

## Doctor of Physical Therapy

The Doctor of Physical Therapy program begins summer 2005.

### Admission Requirements

In addition to meeting admission requirements for the Graduate School, requirements for entry into the Doctor of Physical Therapy (DPT) program include the following:

- Completion of a baccalaureate degree with a Health Science major from Bradley University with a "C" or higher in all required courses **OR**
- Completion of a baccalaureate degree with the following courses completed with a "C" or higher:
  1. the first two semesters or the equivalent for a major in each department of biology, chemistry, and physics (with a laboratory if available).
  2. one semester of kinesiology, biomechanics or similar course in human movement.
  3. one semester of vertebrate, mammalian, or human physiology, pathophysiology, or microbiology.
  4. one semester of vertebrate, mammalian, human, or comparative anatomy.
  5. one semester of statistics.

In addition, an applicant should have:

1. Minimum 3.0 grade point average in all mathematics and science courses taken.
2. Minimum 3.0 grade point average for all courses taken.
3. GRE verbal and quantitative minimum total of 1000.
4. TOEFL score of 600 or higher, TSE of 50 or higher, and TWE of 4.5 or higher for non-native English speaking applicants.
5. Skills in computer literacy, communication (written and verbal), medical terminology, and teaching.

Along with the application, students are expected to submit:

1. Two essays, one to articulate the nature of the profession of physical therapy and examples of professional conduct; and one to articulate personal applications in the teaching, motivation, and leading of others.
2. Expanded résumé of education, activities, and work experiences.

### Other Requirements

In addition to the University's student health form requirement, and prior to enrollment in the first full-time physical therapy course that includes a clinical experience, each student must verify:

- professional liability insurance (renewable annually)
- immunity to rubeola (measles) by one of the following:
  - a rubeola (measles) immunization received in 1990 or later, **or** - written verification from a physician of having had the disease, **or** - birth date prior to 1957
- immunity to rubella (German measles) by one of the following:
  - written verification of having had the immunization, **or** - written verification rubella titer greater than 1:10
- written verification of immunity to Hepatitis B virus
- written verification of tuberculin test results (renewable annually)
- CPR certification (renewable annually)

Contact the Department for the most current requirements.

## Course of Study

### Summer I

PT 612 Functional Anatomy I (Five Weeks) .....	2 hrs.
PT 614 Gross Anatomy I (Five Weeks) .....	2 hrs.
PT 616 Research I (Five Weeks) .....	1 hr.
PT 622 Functional Anatomy II (Five Weeks) .....	2 hrs.
PT 624 Gross Anatomy II (Five Weeks) .....	2 hrs.
	9 hrs.

### Fall I

PT 630 Foundations of Physical Therapy .....	4 hrs.
PT 636 Musculoskeletal Physical Therapy I .....	4 hrs.
PT 640 Clinical Science I .....	3 hrs.
PT 646 Research II .....	2 hrs.
	13 hrs.

### January Interim I

PT 650 Clinical Education I .....	3 hrs.
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### Spring I

PT 662 Neurological Physical Therapy I .....	4 hrs.
PT 666 Research III .....	3 hrs.
PT 670 Human Development Throughout the Lifespan .....	3 hrs.
PT 680 Clinical Science II .....	2 hrs.
	12 hrs.

### Summer II

PT 700 Musculoskeletal Physical Therapy II (Eight Weeks) .....	4 hrs.
PT 710 Clinical Education II (Five Weeks) .....	8 hrs.
	12 hrs.

### Fall II

PT 710 Clinical Education II (Continuation - Three Weeks) .....	
PT 716 Research IV (13 Weeks) .....	1 hr.
PT 720 Teaching and Learning Theory in PT (13 Weeks) .....	3 hrs.
PT 730 Neurological Physical Therapy II (13 Weeks) .....	4 hrs.
PT 740 Clinical Science III (13 Weeks) .....	2 hrs.
	10 hrs.

### Spring II

PT 750 Physical Therapy Administration and Management .....	4 hrs.
PT 766 Research V .....	1 hr.
PT 770 Applied Exercise Principles .....	3 hrs.
PT 780 Clinical Science IV (Eight Weeks) .....	2 hrs.
PT 790 Cardiovascular/Pulmonary/Integumentary Physical Therapy (Eight Weeks).....	2 hrs.
	12 hrs.

### Summer III

PT 800 Clinical Education III (Ten Weeks) .....	8 hrs.
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### Fall III

PT 810 Health and Wellness .....	3 hrs.
PT 820 Professional Issues in Physical Therapy ..	3 hrs.
PT 830 Physical Therapy Differential Diagnosis ..	4 hrs.
PT 840 Independent Study (Optional) .....	1-6 hrs.
	10-16 hrs.

### Spring III

PT 850 Clinical Education IV (Eight Weeks) .....	8 hrs.
PT 860 Clinical Education V (Eight Weeks) .....	8 hrs.
	16 hrs.

### Total required

**105 hrs.**

## Course Descriptions

### PT 612 Functional Anatomy I

#### 2 hrs

A lecture and laboratory study of human movement and applied kinesiology along with the introduction of physical therapy techniques to assess components of human movement. Prerequisite: consent of department chair.

### PT 614 Gross Anatomy I

#### 2 hrs

Cadaveric dissection and study of the musculoskeletal, vascular, and peripheral nervous systems of the extremities. Prerequisite: consent of the department chair.

### PT 616 Research I

#### 1 hr.

A seminar introducing students to critical analysis of research with special emphasis on levels of evidence and evidence-based practice. Prerequisite: consent of department chair.

### PT 622 Functional Anatomy II

#### 2 hrs.

A lecture and laboratory study of human movement and applied kinesiology along with introduction of physical therapy techniques to assess components of human movement. Prerequisites: consent of department chair; PT 612.

### PT 624 Gross Anatomy II

#### 2 hrs.

Cadaveric dissection and study of the structures of the nervous, cardiovascular, pulmonary, gastrointestinal, genitourinary, and integumentary systems. Prerequisites: consent of department chair; PT 614.

### PT 630 Foundations of Physical Therapy

#### 4 hrs.

An introduction to clinical applications in physical therapy. Topics covered in this course include basic physical therapy examination procedures, professional documentation and communication, therapeutic exercise, physical agents and mechanical modalities, and patient care skills. Prerequisite: consent of department chair.

### PT 636 Musculoskeletal Physical Therapy I

#### 4 hrs.

The study and application of orthopaedic basic science in the examination, evaluation, and management of dysfunctions and disabilities of the appendicular skeleton. Prerequisite: consent of department chair.

**PT 640 Clinical Science I****3 hrs.**

The anatomical, biomechanical, physiological, and histological basis of the normal and pathological musculoskeletal system, along with specialized examination, assessment, and intervention strategies for the musculoskeletal system. Prerequisite: consent of department chair.

**PT 646 Research II****2 hrs.**

Research design, methods, and principles of basic statistical analysis; exploration of research topics with review of appropriate literature; and introduction to components of the research proposal. Prerequisite: consent of department chair; PT 616.

**PT 650 Clinical Education I****2 hrs.**

The first of five full-time supervised clinical experiences requiring utilization of communication skills and teaching interpersonal and evaluation skills. This course emphasizes the development of the student's interpersonal skills, professional behaviors, examination techniques, and intervention techniques learned previously in the classroom. Prerequisite: consent of department chair.

**PT 662 Neurological Physical Therapy I****4 hrs.**

The study and application of neurological basic science in the examination, evaluation, and management of dysfunctions and disabilities in physical therapy patient care. Prerequisite: consent of department chair.

**PT 666 Research III****3 hrs.**

Principles of intermediate statistical analysis and technical/research writing will be provided as the student finalizes methods for research project and prepares research proposal. Prerequisites: consent of department chair; PT 646.

**PT 670 Human Development Throughout the Lifespan****3 hrs.**

A multi-system analysis of the many facets of individual development from conception to death. Prerequisite: consent of department chair.

**PT 680 Clinical Science II****2 hrs.**

The anatomical, physiological, and histological basis of the normal and pathological neuromuscular system, and foundations of pharmacology as it relates to intervention strategies for patients with neuromuscular impairments. Prerequisites: consent of department chair; PT 640.

**PT 700 Musculoskeletal Physical Therapy II****4 hrs.**

The study and application of orthopaedic basic science in the examination, evaluation, and management of dysfunctions and disabilities of the axial skeleton. Prerequisites: consent of department chair; PT 636.

**PT 710 Clinical Education II****4 hrs.**

The second of five full-time supervised clinical experiences requiring utilization of communication skills and teaching interpersonal and evaluative skills. This course provides the opportunity to advance physical therapy procedures and to continue to develop professional socialization. Prerequisites: consent of department chair; PT 650.

**PT 716 Research IV****1 hr**

Data collection, statistical analysis, data interpretation, and completion of the Results section of the written student research report. Prerequisites: consent of department chair; PT 666.

**PT 720 Teaching and Learning Theory in PT****3 hrs.**

Discussion and application of teaching and learning theories as related to the classroom and clinical setting, including student clinical education, staff inservice, and patient education. Prerequisite: consent of department chair.

**PT 730 Neurological Physical Therapy II****4 hrs.**

Applied neurological examination, evaluation, and intervention theories and strategies in physical therapy patient care. Prerequisites: consent of department chair; PT 662.

**PT 740 Clinical Science III****2 hrs.**

The management of a variety of disorders resulting in physical, emotional, and cognitive impairments and their physical therapy implications. Prerequisites: consent of department chair; PT 680.

**PT 750 Physical Therapy Administration and Management****4 hrs.**

Discussion and practical application of administrative and management issues relative to a variety of physical therapy patient care settings. Prerequisite: consent of department chair.

**PT 766 Research V****1 hr.**

Completion of student research project and presentation of research findings to peers and internal and external constituents. Prerequisites: consent of department chair; PT 716.

**PT 770 Applied Exercise Principles****3 hrs.**

A course composed of lecture/discussion on the scientific basis and evidence supporting the use of various exercise techniques, as well as practical application and hands-on experience performing and completing these exercise techniques and applications correctly. Therapeutic, training, and performance enhancement approaches to exercise will be addressed. Prerequisite: consent of department chair.

**PT 780 Clinical Science IV****2 hrs.**

The anatomical, physiological, and histological basis of the normal and pathological cardiopulmonary, vascular, and integumentary systems. Normal and abnormal metabolic processes and their physical therapy implications. Prerequisites: consent of department chair; PT 740.

**PT 790 Cardiovascular, Pulmonary, and Integumentary Physical Therapy****2 hrs.**

Using the gas transport model as a foundation, this lecture and laboratory course provides the student with the skills to apply, analyze, and synthesize the basic science of cardiovascular, pulmonary, and integumentary physical therapy as it relates to disorders of cardiac, vascular, pulmonary, an integumentary systems. The focus of this course is examination and evaluation techniques and program planning. Prerequisite: consent of department chair.

**PT 800 Clinical Education III****8 hrs.**

The third of five full-time supervised clinical experiences offering the opportunity for continued development of clinical management of patients in one of a variety of clinical settings. This course allows for continued professional socialization and growth as well as further development of professional behaviors. Prerequisites: consent of department chair; PT 710.

**PT 810 Health and Wellness****3 hrs.**

Physical therapy implications of common health issues in a variety of physical therapy clients, and the role of screening and prevention in dealing with these issues. Prerequisite: consent of department chair.

**PT 820 Professional Issues in Physical Therapy****3 hrs.**

Presentation and discussion of pertinent issues in the field of physical therapy. Prerequisite: consent of department chair.

**PT 830 Physical Therapy Differential Diagnosis****4 hrs.**

The curriculum's capstone course that emphasizes the role of the physical therapist in managing the patient with multi-system dysfunctions. Prerequisite: consent of department chair.

**PT 840 Independent Study****1-6 hrs.**

An optional opportunity for the student to focus on a specific area of interest with faculty and/or clinician guidance.

**PT 850 Clinical Education IV****8 hrs.**

The fourth of five full-time, supervised clinical experiences or first half of the clinical education experience requiring utilization of advanced communication skills and teaching interpersonal and evaluative skills. Students have the opportunity to further develop clinical management of patients in a different clinical setting. Furthermore, continued professional socialization and growth as well as development of professional behaviors are expected. Prerequisites: consent of department chair; PT 800.

**PT 860 Clinical Education V****8 hrs.**

The last of five full-time, supervised clinical experiences or second half of the final clinical education experience requiring utilization of advanced communication skills and teaching interpersonal and evaluative skills. Students have the opportunity to further develop clinical management of patients in a different clinical setting. Furthermore, continued professional socialization and growth as well as continued development of professional behaviors are expected. Prerequisites: consent of department chair; PT 850.