PARKER UNIVERSITY

ACADEMIC CATALOG ADDENDUM

2017 - 2018

PARKER
UNIVERSITY

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Parker University
Academic Catalog Addendum
2017-2018

This addendum contains approved changes to the 2017-2018 Parker University Academic Catalog. The purpose of this addendum is to provide additional information about new programs and courses that occurred after publication of the 2017-2018 Parker University Academic Catalog. The amendments listed in this document take precedence over information contained in the 2017-2018 Parker University Academic Catalog and are effective as of the date of this publication.

ADDENDUM to Parker University 2017-2018 Catalog

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Bachelor of Science Degree with a Major in Anatomy (Non-DC track)

Mission

The mission of the Bachelor of Science degree with a major in Anatomy is to offer students a Bachelor of Science degree with an emphasis on biological science, health care, and research.

General Program Information

The Bachelor of Science degree in Anatomy provides a broad-based education in modern life science while offering the opportunity for students to concentrate their efforts within various biological disciplines. The Bachelor of Science curriculum includes a strong background in the supporting sciences: Chemistry, Physics, and Mathematics and prepares students for admission to graduate, medical, chiropractic, dental, optometric, and other health related programs. Graduates can also pursue careers in teaching and research or work in pharmaceutical, biomedical and biotechnology industries.

Program Learning Outcomes

The graduating student will be able to:

1. Demonstrate a mastery of human anatomy by identifying anatomical structures.
2. Demonstrate a mastery of the anatomical landmarks and structural relationships of the human.
3. Demonstrate and contrast the functional and structural divisions and organization of the nervous system.
4. Pursue future studies in advanced health care related degrees.

Length of Program

The degree program may be completed in a minimum of 10 terms of instruction and with a maximum satisfactory time frame for completion of 15 terms. The curriculum includes: 36 semester credit hours of General Education courses, 32 semester credit hours of Natural Sciences Foundation courses, and 52 semester credit hours of Anatomy Core courses.

Mode of Instruction

The Bachelor of Science degree with a major in Anatomy program will be offered through a variety of instructional formats (i.e., campus-based, distance education and hybrid instructional formats).

Degree Requirements

The Bachelor of Science with a Major in Anatomy program requires a minimum of 120 semester credit hours of coursework which are as follows:

- 36 Semester credit hours in General Education courses.
- 32 Semester credit hours in Natural Sciences Foundation courses.
- 52 Semester credit hours in Anatomy Core courses.

The Bachelor of Science in Anatomy program must be completed within 15 terms.

Graduation Requirements

To earn a Bachelor of Science with a Major in Anatomy from Parker University, students must accomplish the following:

- Complete the designated program of study.
- Complete degree requirements with a cumulative grade point average of 2.0 or higher on a 4.0 scale.
- File an application for the degree with the Office of the Registrar on or before the published date during the last term of resident study. The degree will not be awarded unless the application is completed.
- Resolve all financial obligations to Parker University.
- Complete all required exit paperwork.

Students cannot be on academic probation or subject to disciplinary sanctions at the time of graduation.

Curriculum

BACHELOR OF SCIENCE DEGREE

ANATOMY

GENERAL EDUCATION CORE COURSES	**36 Semester Credit Hours**
NATURAL SCIENCES FOUNDATION COURSES	**32 Semester Credit Hours**
ANATOMY CORE COURSES	**52 Semester Credit Hours**
TOTAL	**120 Semester Credit Hours**

GENERAL EDUCATION CORE COURSES		**Complete (36) Semester Credit Hours***
Course ID	**Cr**	**Course name**
COMMUNICATION		**Complete (6) Semester Credit Hours**
ENGL 1301	3	English Composition I
ENGL 1302	3	English Composition II
MATHEMATICS		**Complete (6) Semester Credit Hours**
MATH 1314	3	College Algebra
MATH 1316	3	Trigonometry
MATH 1325	3	Calculus for Business and Social Sciences
MATH 1342	3	Elementary Statistical Methods I
NATURAL SCIENCES		**Complete (6) Semester Credit Hours**
Natural Sciences	6	Choose from Biology, Physics, Kinesiology, Chemistry, Exercise Physiology, or Other
SOCIAL & BEHAVIORAL SCIENCES		**Complete (9) Semester Credit Hours**
Social & Behavioral Sciences	3	Choose from: Psychology, Human Growth Sociology, or Other
HIST 1301	3	United States History I
HIST 1302	3	United States History II
HUMANITIES		**Complete (6) Semester Credit Hours**

ENGL 2326	3	American Literature
MUSI 1306	3	Music Appreciation
COMPUTER LITERACY		**Complete (3) Semester Credit Hours**
COSC 1301	3	Introduction to Computing
BCIS 1301	3	Fundamental of Computer Information Systems

NATURAL SCIENCES FOUNDATION COURSES		**32 Semester Credit Hours**
CHEM 1411	4	General Chemistry I
CHEM 1412	4	General Chemistry II
BIOL 2401	4	Anatomy & Physiology I
BIOL 2402	4	Anatomy & Physiology II
CHEM 2423	4	Organic Chemistry I
CHEM 2425	4	Organic Chemistry II
PHYS 2425	4	University Physics I
PHYS 2426	4	University Physics II
ANATOMY CORE COURSES		**52 Semester Credit Hours**
BASC 4401/5101	4	Biology of Cells and Tissues
BASC 4404/5104	4	Developmental and Applied Anatomy
BASC 4502/5202	5	Gross Anatomy I
BASC 4405/6105	4	Neuroscience
CLSC 4411/ 5301	4	Diagnostic Imaging I
BASC 4315/5105	3	Biochemistry I
BASC 4316/5206	3	Biochemistry II
BASC 4514/5204	5	Physiology I
BASC 4503/5303	5	Physiology II
BASC 4605/5205	6	Microbiology/Immunology
BASC 4406/5306	4	General Pathology
BASC 4501/5301	5	Gross Anatomy II

B.S. Degree Program Length: Minimum 10 terms of instruction. Maximum satisfactory time frame Completion: 7.5 Terms

**substitutions allowed for equivalent coursework from regionally accredited institutions.*

Course Descriptions

BASC – Basic Sciences

BASC 4401 Biology of Cells and Tissues (lecture + lab) – 4 Credit hours
This course is designed to provide the student a sound foundation in the way cellular components of different organ systems are combined to produce coordinated function. The course requires the students to develop conceptual skills to visualize the functions of individual components and coordinate them with the overall function of an organ. The course presents the microscopic anatomy of cells, tissues organs and organ systems in the human body and correlates these structures with their various functions. The unity of the human body is examined beginning first at the cellular level with a study of the basic life processes of cells including cell structure and function. Emphasis is given to growth, maintenance, energetics, and membrane transport, as well as to how information that is used to run the cell is stored and expressed. Secondly, the manner in which different kinds of cells and their products are organized into the basic tissues are examined, and thirdly the organization of tissues within the various organs and organ systems are studied with an emphasis on the inter-relationship between the structure and function of tissues. The laboratory sessions are used to help the student visualize the concepts obtained from the lectures or assigned readings and to help them apply the information obtained from these sources. This course provides a foundation for the study of biochemistry and physiology as well as illustrating the cellular organization of systems studied in anatomy.
Prerequisite(s): Completion of Natural Sciences Foundation Courses
Cross-List BASC 5101: Credit cannot be earned for BASC 4401 and 5101.

BASC 4404 Developmental and Applied Anatomy (lecture + lab) – 4 Credit hours
This course is designed to give the Anatomy student a sound educational foundation in human embryology and anatomy using a systems approach and will be presented in a lecture/lab format. The course requires that student's research outside sources to gain insight into the concepts presented. The course will introduce embryological and anatomical concepts whose understanding is absolutely essential to continuing on in gross anatomy. Each section in anatomy is preceded by the embryological development of that area or system. The main body of information will be presented in a lecture format supported by self-paced labs using models and student partners to emphasize the anatomical features and topographical land marks.
Prerequisite(s): Completion of Natural Sciences Foundation Courses
Cross-List BASC 5104: Credit cannot be earned for BASC 4404 and 5104.

BASC 4502 Gross Anatomy I (lecture + lab) – 5 Credit hours
This course is an intensive study of human gross anatomy and its correlations to clinical practice. This course is appropriate for undergraduate and post baccalaureate students, including pre-medical and pre-allied health students, seeking to gain a better appreciation of the anatomical/functional relationship of the human body. Gross Anatomy I includes dissection of back, chest and abdominal muscles, spinal cord structures and upper and lower limb structures. The laboratory component of this course is done by human dissection.
Prerequisite(s): Developmental and Applied Anatomy
Cross-List BASC 5202: Credit cannot be earned for BASC 4502 and 5202.

BASC 4405 Neuroscience (lecture + lab) – 4 Credit hours
The topics considered in this lecture / laboratory course are centered on the basic neuroanatomical and neurophysiological principles essential to establishing a foundation of knowledge related to the human nervous system. This course will provide a study of the nervous system with an emphasis on brain organization, neuron physiology, perceptual systems, and motor systems. Intended for Anatomy majors and those considering neuroscience or other advanced medical majors.
Prerequisite(s): Completion of Natural Sciences Foundation Courses
Cross-List BASC 6105: Credit cannot be earned for BASC 4405 and 6105.

BASC 4315 Biochemistry I – 3 Credit hours
This course provides an overview of fundamental concepts in biochemistry, which focuses upon the major macromolecules and chemical properties of living systems. Primary topics include basic concepts on the physical properties of water, pH, and buffers; basic organic chemistry and importance of functional groups in biomolecules; structure and function of amino acids, proteins, and nucleic acids; enzyme kinetics, general properties and regulation; cellular signaling mechanisms; bioenergetics; the structure, function and metabolism of carbohydrates; hormonal regulation of metabolism; fundamental of molecular biology: DNA replication, transcription, and translation. Emphasis is placed on using biochemistry in the process of clinical problem solving.
Prerequisite(s): Completion of Natural Sciences Foundation Courses
Cross-List BASC 5105: Credit cannot be earned for BASC 4415 and 5105.

BASC 4316 Biochemistry II – 3 Credit hours
This course is designed to give the student a sound fundamental educational base in Biochemistry. This includes a comprehensive consideration of the role of carbohydrates, lipids, proteins, vitamins and minerals in maintaining a healthy state. It will help students to develop a general foundation for understanding the biochemical basis of human growth, metabolism and disease. Special emphasis will be placed on, but not limited, to the biochemical basis of metabolism including the biosynthesis and breakdown of lipids, amino acids, nucleic acids, eicosanoids, some important special products derived from amino acids. Mechanisms of action of various nutrient molecules, vitamins, and 235 minerals, and their essential biochemical roles will be explained and emphasized. This will also discuss the deficiencies, toxicities and pathologies associated with vitamin and minerals in our diet.
Prerequisite(s): Biochemistry I
Cross-List BASC 5206: Credit cannot be earned for BASC 4416 and 5206.

BASC 4514 Physiology I (lecture + lab) – 5 Credit hours
Basic physiological principles that apply to normal body function will be explored by an in-depth examination of the underlying chemical and physical mechanisms. Primary topics include the nervous system, muscle physiology, and special senses. Discussions will include ion movement, action potentials, synapses & receptors, the central, peripheral and autonomic nervous systems, excitation-contraction coupling in skeletal muscle and the mechanisms specific to vision, hearing, smell & taste, in addition to the somatosensory system.
Prerequisite(s): Completion of Natural Sciences Foundation Courses
Cross-List BASC 5204: Credit cannot be earned for BASC 4514 and 5204.

BASC 4503 Physiology II (lecture + lab) – 5 Credit hours
Basic physiological principles that apply to normal body function will be explored by an in-depth examination of the underlying chemical and physical mechanisms. In this part of the physiology

sequence, the physiological mechanisms that regulate the renal, digestive, and endocrine, systems, as well as exercise, acid-base and temperature regulation are covered in part of the physiology sequence.
Prerequisite(s): Physiology I
Cross-List BASC 5303: Credit cannot be earned for BASC 4503 and 5303.

BASC 4605 Microbiology/Immunology (lecture + lab) – 6 Credit hours
Microbiology is a six credit hour lecture/laboratory course. Microbiology is the study of microorganisms further defined as the branch of biology focused on microorganisms and the effects they have on other living organisms. Microorganisms include bacteria, fungi, viruses, rickettsia, protozoa, and helminthes. Topics include growth, reproduction, nutrition, genetics, infectious processes, defense mechanisms, immunology, and control of microorganisms, emerging and reemerging infectious diseases and development of resistance to antimicrobial chemicals. Laboratory exercises develop fundamental skills in aseptic technique, microscopy, pure culture study, and the isolation and identification of pathogenic microorganisms.
Prerequisite(s): Biology of Cells and Tissues
Cross-List BASC 5205: Credit cannot be earned for BASC 4605 and 5205.

BASC 4406 General Pathology (lecture + lab) – 4 Credit hours
This course is an introduction to the science of Pathology. The basic principles of pathology will be presented with an emphasis on understanding the mechanism of development of the disease process. The general cellular and molecular events involved in the pathogenesis of disease will be introduced, with 236 an emphasis on the fact that the pathological process is not a new entity but a misapplication of the normal processes already encountered.
Prerequisite(s): Physiology I; Microbiology/Immunology; and Developmental and Applied Anatomy
Cross-List BASC 5306: Credit cannot be earned for BASC 4406 and 5306.

BASC 4501 Gross Anatomy II (lecture + lab) – 5 Credit hours
This course is an intensive study of human gross anatomy and its correlations to clinical practice. This course is appropriate for undergraduate and post baccalaureate students, including pre-medical and pre-allied health students, seeking to gain a better appreciation of the anatomical/functional relationship of the human body. Human Gross Anatomy II includes dissection of thoracic, abdomino-pelvic and cranial cavities. The laboratory component of this course is done by human dissection.
Prerequisite(s): Gross Anatomy I
Cross-List BASC 5301: Credit cannot be earned for BASC 4501 and 5301.

CLSC – Clinical Sciences

CLSC 4411 Diagnostic Imaging I (lecture + lab) – 4 Credit hours
This course focuses on the recognition and understanding of normal images, variations of normal and congenital anomalies of the neuro musculoskeletal structures of the axial and appendicular skeleton. Although conventional radiography will be the main imaging modality studied, computerized tomography and magnetic resonance imaging will also be evaluated.
Prerequisite(s): Developmental and Applied Anatomy
Cross-List CLSC 5301: Credit cannot be earned for CLSC 4411 and 5301.