

**JEFFERSON COLLEGE**

**COURSE SYLLABUS**

**BIO116**

**ANATOMY & PHYSIOLOGY FOR PRE-HOSPITAL HEALTHCARE**

3 Credit Hours

Prepared by:  
Deborah Allen

Revised:  
July, 2014

Minor Revision or Update by: Fran Moore  
Per Curriculum Committee Process Change: April 25, 2018

Linda Abernathy, Division Chair for Math, Science, and Business  
Shirley Davenport, Dean of Arts & Science Education

## BIO116 Anatomy & Physiology for Pre-Hospital Healthcare

### I. CATALOG DESCRIPTION

- A. Course pre-requisites/co-requisites: Reading proficiency
- B. 3 semester credit hours
- C. Anatomy & Physiology for Pre-Hospital Healthcare covers vital human bodily functions and associated structures. An overview of cells, tissues, organs and organ systems and their correlation to normal physiology is emphasized. The relationship between structure and function is examined as well as the concept of homeostasis. Emergency Medical Technology, Fire Science Technology, and Biomedical Technology students only (F, S, Su)
- D. Curricular Alignment:
- Fulfills part of Natural Sciences (Biological Sciences) CORE requirement for AA, AAT, AFA, and select AAS degrees: MOTR LIFS 100 Essentials in Human Biology
  - Fulfills AAS – Emergency Medical Technology degree requirement.
  - Elective course applies toward AA or AAT degree.

### II. EXPECTED LEARNING OUTCOMES/CORRESPONDING ASSESSMENT MEASURES

Expected Learning Outcomes	Assessment Measures
Describe the levels of organization in the human body from molecules to cells to tissues to organs and understand their relationships to one another in body systems	Exams and quizzes
Describe the structure and organization of the central nervous system, spinal and cranial nerves, and autonomic nervous system and explain how they regulate body functions and maintain homeostasis	Exams and quizzes, case studies, online discussion topics, online and in-class assignments
Describe the structure of the heart and trace major circulation patterns; explain the electrical and mechanical patterns associated with heart function and the factors that influence blood pressure; explain blood type and factors that influence transfusions	Exams and quizzes, case studies, online discussion topics, online and in-class assignments
Describe the structure and function of respiratory airways and understand alveolar gas exchange and blood gas measurements	Exams and quizzes, case studies, online discussion topics, online and in-class assignments

Describe the structure and function of the kidneys and related structures and explain the importance of fluids and electrolytes in maintaining homeostasis	Exams and quizzes, case studies, online discussion topics, online and in-class assignments
Recognize major structures and the contribution to homeostasis of the following systems: integumentary, skeletal, muscular, endocrine, digestive, and reproductive	Exams and quizzes, case studies, online discussion topics, online and in-class assignments

### III. OUTLINE OF TOPICS

- A. Structure and function of the body
  - 1. Organization
  - 2. Organ systems
- B. Cells
  - 1. Parts of the cell
  - 2. Movement of substances through cell membranes
- C. Tissues
- D. Integumentary system
- E. Skeletal system and joints
- F. Muscular system
- G. Nervous system
  - 1. Peripheral nervous system
  - 2. Central nervous system
  - 3. Autonomic nervous system
  - 4. Senses
- H. Endocrine system
- I. Blood
- J. Cardiovascular system
  - 1. Blood vessels
  - 2. Heart
  - 3. Lymphatic vessels
- K. Respiratory system
- L. Digestive System

- M. Urinary system
  - 1. Fluid balance
  - 2. Electrolyte balance
  - 3. pH balance

N. Reproductive systems

#### IV. METHODS OF INSTRUCTION

- A. Lecture or PowerPoint presentations to support text reading assignments
- B. Case studies
- C. Group discussions
- D. Online resources (videos, self-quizzing, etc.)

#### V. REQUIRED TEXTBOOK

Patton, K. T., & Thibodeau, G. A. *The Human Body in Health & Disease* (current edition). St. Louis, MO: Elsevier/Mosby.

#### VI. REQUIRED MATERIALS

- A. Textbook with *Evolve* web support
- B. Online access to MyJeffco and Blackboard

#### VII. SUPPLEMENTAL REFERENCES

- A. Library resources: present offerings and anticipated texts, journals, video/audio tapes, software, etc.
- B. Internet references

#### VIII. METHODS OF EVALUATION

- A. Exams 70%
- B. Online discussion topics and assignments 20%
- C. Case studies 10%
- C. Grading scale:
  - 90-100% = A
  - 80-89% = B
  - 70-79% = C
  - 60-69% = D
  - Below 60% = F

IX. ADA AA STATEMENT

Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Library; phone 636-481-3169).

X. ACADEMIC HONESTY STATEMENT

All students are responsible for complying with campus policies as stated in the Student Handbook (see College website, <http://www.jeffco.edu>).

XI. ATTENDANCE STATEMENT

Regular and punctual attendance is expected of all students. Any one of these four options may result in the student being removed from the class and an administrative withdrawal being processed: (1) Student fails to begin class; (2) Student ceases participation for at least two consecutive weeks; (3) Student misses 15 percent or more of the coursework; and/or (4) Student misses 15 percent or more of the course as defined by the instructor. Students earn their financial aid by regularly attending and actively participating in their coursework. If a student does not actively participate, he/she may have to return financial aid funds. Consult the College Catalog or a Student Financial Services representative for more details.

XII. OUTSIDE OF CLASS ACADEMICALLY RELATED ACTIVITIES

The U.S. Department of Education mandates that students be made aware of expectations regarding coursework to be completed outside the classroom. Students are expected to spend substantial time outside of class meetings engaging in academically related activities such as reading, studying, and completing assignments. Specifically, time spent on academically related activities outside of class combined with time spent in class meetings is expected to be a minimum of 37.5 hours over the duration of the term for each credit hour.

## General Education Curriculum and Assessment Alignment Map

**BIO116 Anatomy & Physiology for Pre-Hospital Healthcare**

**MOTR LIFS100AP Essentials in Human Biology**

<b>JEFFERSON COLLEGE ACADEMIC SKILL COMPETENCY TABLE</b>				
Embedded across the General Education program curriculum as well as in more advanced coursework, students learn the following academic skills, characteristics, and practices that reflect the competencies of educated persons needed for continuous learning in complex, diverse, and changing environments; full civic engagement; and fulfillment of personal life goals. Such competencies help students continue to learn and acquire new skills to deal with constantly evolving environments. These competencies are developed and applied over the full General Education program curriculum, not in any single course.				
<b>Institutional Goal (adopted by Assessment Committee Oct 21, 2018)</b> linked to MOTR CORE 42 Academic Skill Basic Competencies <a href="https://dhe.mo.gov/core42.php">https://dhe.mo.gov/core42.php</a> The framework for Missouri's CORE 42 is designed for students to obtain the basic competencies of Valuing, Managing Information, Communicating, and Higher-Order Thinking through the completion of at least 42-semester hours distributed across the broad Knowledge Areas of Communications, Humanities & Fine Arts, Natural & Mathematical Sciences, and Social & Behavioral Sciences. The basic competencies are achieved through completion of the CORE 42 in its entirety.	<b>Jefferson College General Education Academic Skill Competencies (adopted by Curriculum Committee January 13, 2016)</b>	<b>Course Expected Learning Outcomes and Corresponding Assessment Measures aligned to General Education Academic Skill Competencies</b>		<b>Jefferson College General Education Program Assessment</b>
		<b>Course Expected Learning Outcome</b>	<b>Course Assessment</b>	
<b>Higher Order Thinking</b> Higher Order Thinking is the ability to distinguish among opinions, facts, and inferences; to identify underlying or implicit assumptions; to make informed judgments; to solve problems by applying evaluative standards; and demonstrate the ability to reflect upon and refine those problem-solving skills. This involves creative thinking, critical thinking, and quantitative literacy.	<b>Critical Thinking</b> - Apply logic, scientific methodology, and quantitative reasoning to develop, express, and defend solutions and conclusions across the curriculum	<b>Recognize major structures and the contribution to homeostasis of the following systems: integumentary, skeletal, muscular, endocrine, digestive, and reproductive</b>	<b>Assessment Measure (Official Course Syllabus Section II): Online discussion topics</b>  <b>Method of Evaluation (Official Course Syllabus Section VIII): Online discussion topics</b>	General Education Academic Skill Competency Development (ASCD) assessment project (evaluation of student artifacts using the following rubric(s) and student opinion survey)  <ul style="list-style-type: none"> <li><b>Inquiry and Analysis (<a href="https://drive.google.com/open?id=0B5vQj2-5JyzWYkFiNGY2UU1hYkE">https://drive.google.com/open?id=0B5vQj2-5JyzWYkFiNGY2UU1hYkE</a>)</b></li> </ul>
<b>Managing Information</b> Managing Information is the ability to locate, organize, store, retrieve, evaluate, synthesize, and annotate information from print, electronic, and other sources in preparation for solving problems and making informed decisions. Through the effective management of information, students should be able to design, evaluate, and implement a strategy to answer an open-ended question or achieve a desired goal.	<b>Information Literacy</b> - Identify, access, and critically evaluate relevant information sources for use in creating new knowledge, solving problems, and participating ethically in communities of learning.	<b>Describe the levels of organization in the human body from molecules to cells to tissues to organs and understand their relationships to one another in body systems.</b>	<b>Assessment Measure (Official Course Syllabus Section II): Online assignments</b>  <b>Method of Evaluation (Official Course Syllabus Section VIII): Online assignments</b>	General Education Academic Skill Competency Development (ASCD) assessment project (evaluation of student artifacts using the following rubric(s) and student opinion survey)  <ul style="list-style-type: none"> <li><b>Information Literacy VALUE Rubric from AAC&amp;U</b></li> </ul>

**General Education Curriculum and Assessment Alignment Map**

**BIO116 Anatomy & Physiology for Pre-Hospital Healthcare**

**MOTR LIFS100AP Essentials in Human Biology**

				<a href="https://drive.google.com/open?id=0B5vQj2-5JyzWYk9OY3JZQ0Rubmc">https://drive.google.com/open?id=0B5vQj2-5JyzWYk9OY3JZQ0Rubmc</a>
NOT aligned to an Institutional or MDHE goal	Technology Literacy - Select and utilize appropriate technology to achieve academic and professional objectives.	<b>Describe the structure of the heart and trace major circulation patterns; explain the electrical and mechanical patterns associated with heart function and the factors that influence blood pressure; explain blood type and factors that influence transfusions.</b>	<b>Assessment Measure (Official Course Syllabus Section II): Online assignments</b>  <b>Method of Evaluation (Official Course Syllabus Section VIII): Online assignments</b>	General Education Academic Skill Competency Development (ASCD) assessment project (evaluation of student artifacts using the following rubric(s) and student opinion survey)  • Yet to be created rubric

Faculty responsible for alignment: **Marialana Speidel**

Date of GEPC review: Spring 2019