

ILLINOIS VALLEY COMMUNITY COLLEGE



COURSE OUTLINE

DIVISION: Natural Sciences Business

COURSE: BIO 1200 – Human Body Structure and Function

Date: Fall, 2011

Credit Hours: 3.00

Prerequisite(s): None

Delivery Method:

<input checked="" type="checkbox"/> Lecture	3 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Lab	0 Contact Hours (2 contact = 1 credit hour)
<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)
<input type="checkbox"/> Online	
<input type="checkbox"/> Blended	

Offered: Fall Spring Summer

IAI Equivalent –**Only for Transfer Courses**-go to <http://www.itransfer.org>:

CATALOG DESCRIPTION:

This course will emphasize the anatomy (structure) and physiology (function) of the human body. Lectures, demonstrations, discussions and laboratory activities focus on how the body is constructed and how it functions.

GENERAL EDUCATION GOALS ADDRESSED

[See the last page of this form for more information.]

Upon completion of the course, the student will be able:

[Choose those goals that apply to this course.]

- To apply analytical and problem solving skills to personal, social and professional issues and situations.
- To communicate orally and in writing, socially and interpersonally.
- To develop an awareness of the contributions made to civilization by the diverse cultures of the world.
- To understand and use contemporary technology effectively and to understand its impact on the individual and society.
- To work and study effectively both individually and in collaboration with others.
- To understand what it means to act ethically and responsibly as an individual in one's career and as a member of society.
- To develop and maintain a healthy lifestyle physically, mentally, and spiritually.
- To appreciate the ongoing values of learning, self-improvement, and career planning.

EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

[Outcomes related to course specific goals.]

Upon completion of the course, the student will be able to:

1. Understand the relationships that exist between form (anatomy) and function (physiology) with reference to the study of the human body.
 - 1.1 Students will be able to identify parts of the cell and explain their functions.
 - 1.2 Students will be able to identify types of tissues and describe their location and functions.
 - 1.3 Students will be able to identify organs of the integumentary system and describe their functions.
 - 1.4 Students will be able to identify organs of the skeletal system and describe their functions.
 - 1.5 Students will be able to identify organs of the muscular system and describe their functions.
 - 1.6 Students will be able to identify organs of the nervous system and describe their functions.
 - 1.7 Students will be able to identify organs of the endocrine system and describe their functions.
 - 1.8 Students will be able to identify organs of the circulatory system and describe their functions.
 - 1.9 Students will be able to identify organs of the lymphatic system and describe their functions.
 - 1.10 Students will be able to identify organs of the respiratory system and describe their functions.
 - 1.11 Students will be able to identify organs of the digestive system and describe their functions.

- 1.12 Students will be able to identify organs of the urinary system and describe their functions.
- 1.13 Students will be able to identify organs of the reproductive system and describe their functions.
2. Relate the organ systems of the body to their specific homeostatic functions.
 - 2.1 Students will develop a basic understanding of the chemical properties of molecules and how they are of functional importance to the human body.
 - 2.2 Students will be able to describe the importance of DNA and RNA molecules.
 - 2.3 Students will be able to identify and describe the phases of mitosis.
 - 2.4 Students will be able to explain how bones are formed and how they grow.
 - 2.5 Students will be able to describe the needs of skeletal muscle and what is required for contraction.
 - 2.6 Students will be able to describe what happens at the junction between two neurons (a synapse).
 - 2.7 Students will be able to describe the differences in mechanism of actions of steroid and non-steroid hormones on their target cells.
 - 2.8 Students will be able to describe the control of hormone production through negative feedback mechanisms.
 - 2.9 Students will be able to explain how various hormones control metabolic processes.
 - 2.10 Students will be able to explain the effect of selected factors on cardiac output.
 - 2.11 Students will be able to interpret the meaning of an ECG tracing of a healthy individual.
 - 2.12 Students will be able to explain the concept of *immunity* and how it is brought about by T and B lymphocytes.
 - 2.13 Students will be able to explain how gases are exchanged in the body by the process of diffusion.
 - 2.14 Students will be able to explain how the nervous system is involved in the regulation of breathing.
 - 2.15 Students will be able to distinguish the differences between mechanical and chemical digestion.
 - 2.16 Students will be able to explain the importance of selected enzymes in the digestion of carbohydrates, lipids and proteins.
 - 2.17 Students will be able to explain the process of urine formation.
 - 2.18 Students will be able to explain how various hormones control the processes related to reproductive function.
3. Read and understand terminology associated with the anatomy and physiology of each organ system.
 - 3.1 Students will be able to identify and understand the meaning of word roots, prefixes and suffixes related to science.
 - 3.2 Students will be able to understand the meaning of directional terms.
 - 3.3 Students will be able to understand regional terminology associated with the human body.

- 3.4 Students will be able to understand basic chemistry terminology related to anatomy and physiology.
4. Relate the content of this course to their own lives and prepare for more advanced work in anatomy and physiology.
 - 4.1 Students will be able to describe in general selected homeostatic imbalances associated with the cells, tissues, organs and organ systems of the body.

COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Anatomical orientation; organizational plan of the human body; introduction to organ systems
2. Introductory chemistry as it relates to human physiology
3. Cytology
4. Histology
5. Integumentary System
6. Skeletal System
7. Muscular System
8. Nervous System
9. Endocrine System
10. Circulatory
11. Lymphatic/Immune
12. Respiratory
13. Digestive
14. Urinary
15. Reproductive

INSTRUCTIONAL METHODS:

Lectures
Class discussions
Individual and group activities
Written evaluations in lecture
Demonstrations using computer animations/simulations, videos, laboratory models, preserved specimens, and other laboratory equipment

INSTRUCTIONAL MATERIALS:

Visual aids (transparencies, charts, models, video tapes, CD-ROM, display materials, preserved specimens)
Smart classroom equipment (Personal computer with Internet connection, PC projector, ELMO)
Computer overhead projector
Web page materials at <http://www.ivcc.edu/caley> and selected other Internet sites

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:

Textbook reading assignments
Lecture exams
Weekly quizzes
Empty outlines
Take-home quizzes
Group work
Participation in discussions
Advanced preparation of assigned lecture-prep questions
Assignments as appropriate

Grades will be assigned primarily on the basis of total points earned during lecture tests, quizzes, presentations (when assigned), empty outlines and assignments. The following grading scale will be used as a guide in determining the final letter grade for the course:

90 - 100% = A
80 - 89% = B
70 - 79% = C
60 - 69% = D
Below 60% = F

Other criteria such as class participation and attendance may also be considered in assigning a final letter grade.

OTHER REFERENCES

Required—

Text: Thibodeau/Patton: *Structure and Function of the Body*, 13th edition, 2008, Mosby Elsevier Publishers, Inc., St. Louis, Missouri.

Recommended—

A.D.A.M. Interactive Physiology CD-ROM: 2008, A.D.A.M. Software, Inc., Atlanta, Georgia, and The Benjamin/Cummings Publishing Company, Menlo Park, California.

Cardiovascular System—Authors: Elaine Marieb and Marvin J. Branstrom
Muscular System—Author: Marvin J. Branstrom
Respiratory System—Author: Andrea K. Salmi
Urinary System—Author: Marvin J. Branstrom

A.D.A.M. Interactive Anatomy CD-ROM: 2008, A.D.A.M. Software, Inc., Atlanta, Georgia. Web site <http://www.adamcorp.com> .

Thibodeau/Patton: *Structure and Function of the Body Study Guide*, 13th Edition, 2008, Mosby Elsevier Publishers, Inc., St. Louis, Missouri.

Anderson, Paul D. And Victor M. Spitzer: *Human Anatomy and Physiology Coloring Workbook and Study Guide*, 5th edition, 2007, Jones and Bartlett Publishers, Inc., Sudbury, Massachusetts.

Sickles Corbett, Nancy A.: *Hole's Human Anatomy and Physiology Student Study Guide*, 10th edition, 2008, Wm. C. Brown Publishers, Dubuque, Iowa.

Kapit, Wynn and Lawrence M. Elson: *The Anatomy Coloring Book*, 2nd edition, 2006, Addison-Wesley Educational Publishers, Inc.

Course Competency/Assessment Methods Matrix

Course Prefix, Number and Name	Assessment Options																															
<p>For each competency/outcome place an "X" below the method of assessment to be used.</p>	Assessment of Student Learning	Article Review	Case Studies	Group Projects	Lab Work	Oral Presentations	Pre-Post Tests	Quizzes	Written Exams	Artifact Self Reflection of Growth	Capstone Projects	Comprehensive Written Exit Exam	Course Embedded Questions	Multi-Media Projects	Observation	Writing Samples	Portfolio Evaluation	Real World Projects	Reflective Journals	Applied Application (skills) Test	Oral Exit Interviews	Accreditation Reviews/Reports	Advisory Council Feedback	Employer Surveys	Graduate Surveys	Internship/Practicum /Site Supervisor Evaluation	Licensing Exam	In Class Feedback	Simulation	Interview	Written Report	Assignment
<p>Assessment Measures – Are direct or indirect as indicated. List competencies/outcomes below.</p>		Direct/ Indirect	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	I	I	I	I	D	D						
<p>1. Understand the relationships that exist between form (anatomy) and function (physiology) with reference to the study of the human body.</p>								X	X			X			X												X				X	
<p>2. Relate the organ systems of the body to their specific homeostatic functions.</p>								X	X			X			X												X				X	
<p>3. Read and understand terminology associated with the anatomy and physiology of each organ system.</p>								X	X			X			X											X					X	
<p>4. Relate the content of this course to their own lives and prepare for more advanced work in anatomy and physiology.</p>								X	X			X			X											X					X	