Disabilities/ADA

In accordance with the requirements of the Americans with Disabilities Act (ADA) and the regulations published by the United States Department of Justice 28 C.F.R. 35.107(a), Hill College’s designated ADA coordinator, Debra Hargrove, Vice President, Human Resources and Organizational Development, shall be responsible for coordinating the College’s efforts to comply with and carry out its responsibilities under ADA. Students with disabilities requiring physical, classroom, or testing accommodations should contact Salley Schmid, Director of Counseling, at (254) 659-7651 or sschmid@hillcollege.edu.
BIOL2402 Human Anatomy and Physiology

Purpose Statement

This course is intended to prepare the student for further study in physical education and the allied medical fields and to meet the general education requirements for a laboratory science.

Through comprehensive educational programs and services, which include technical, occupational, general education and college transfer curricula, the college strives to enhance the educational, cultural, and economic development of our service area and to assist both individual and groups to prepare themselves for a more productive life.

The purpose of Hill College is defined in the Texas Education Code, Section 130 003. Hill College exists to serve these purposes as they relate first to the local service areas, then to the State of Texas, and finally, to the nation. It has accepted the challenge of providing the resource, curricula, instructional support, and personnel required to best serve the many educational needs of its students and adult clients.

Course Description

Further study of the structure and function of the human body with a detailed consideration of the endocrine, circulatory, digestive, respiratory, urinary, and reproductive system. Fluids and electrolytes are also covered.

1. Expanded Course Description

   A. Major areas to be covered in lecture are:
      1) Endocrine System
      2) Blood
      3) Cardiovascular System
      4) Lymphatic System
      5) Innate and Adaptive Body Defenses
      6) Respiratory System
      7) Digestive System
      8) Metabolism
      9) Urinary System
      10) Fluid, Electrolyte, and Acid-Base Balance
      11) Reproductive System
      12) Human Development and Heredity

   B. Major areas to be covered in laboratory are:
      1) Endocrine System
      2) Blood
      3) Heart Anatomy
      4) Intrinsic Heart Conduction
      5) Anatomy of Blood Vessels
6) Blood Pressure, Heart Sounds and Pulses
7) Lymphatic System and Immunity
8) Respiratory Anatomy
9) Spirometry
10) Digestive Anatomy
11) Digestive Physiology
12) Urinary Anatomy
13) Reproductive Anatomy
14) Fetal Pig Dissection

2. Classroom Hours: 3/3

3. Credit Hours: 4

4. Prerequisite: Successful completion of Human Anatomy and Physiology I

5. Core Course:

   A. Intellectual Competencies
      1) Reading: the ability to analyze and interpret a variety of printed material—books, documents, and articles—above 12th grade level
      2) Writing: the ability to produce clear, correct and coherent prose adapted to purpose, occasion, and audience—above 12th grade level
      3) Speaking: the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience above 12th grade level
      4) Listening: the ability to analyze and interpret various forms of spoken communication, possess sufficient literacy skills of writing, reading—above 12th grade level
      5) Critical Thinking: the ability to think and analyze at a critical level
      6) Computer Literacy: the ability to understand our technological society, use computer based technology in communication solving problems, acquiring information

   B. Exemplary Educational Objectives
      1) To understand and apply method and appropriate technology to the study of science.
      2) To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.
      3) To identify and recognize the differences among competing scientific theories.
      4) To demonstrate knowledge of the major issues and problems facing modern science.
5) To demonstrate knowledge of the interdependence of science and technology.

Course Objectives and Student Learning Outcomes

These learning outcomes and course objectives will include the student demonstrating competence in the following areas.

1. Lecture Objectives
   A. The student will demonstrate an understanding of the overall function of the endocrine system and the effects of hormones secreted from the major endocrine glands.
   B. The student will demonstrate an understanding of the structure and function of the cardiovascular and lymphatic systems.
   C. The student will demonstrate an understanding of the differences between the innate and adaptive body defenses and demonstrate an understanding of the relationships between the innate defense mechanisms and the adaptive defense mechanisms.
   D. The student will demonstrate an understanding of the structure and function of the respiratory system.
   E. The student will demonstrate an understanding of the structure and function of the digestive system and selected metabolic processes.
   F. The student will demonstrate an understanding of the structure and function of the urinary system and an understanding of the fluid, electrolyte, and acid-base balance in the body.
   G. The student will demonstrate an understanding of the structure and function of the reproductive system and an understanding of pregnancy and human development.

2. Laboratory Objectives
   A. The student will demonstrate an understanding of the endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary and reproductive systems.
   B. Students will satisfactorily complete selected experiments, interpret data obtained from the experiments and effectively communicate results and conclusion of the experiments.

Course Requirements

Students will be required to attend lab and lecture as per Hill College’s attendance police. In addition, students will be required to actively participate in the lecture and lab environment. The student will also be required to complete weekly quizzes given during the lecture period and/or over the Blackboard system, major exams, written lab reports and practical exams.

Grading System
1. Lecture Grade: 50%
2. Laboratory Grade: 30%
3. Final Exam: 20%

Outcomes Inventory

Human Anatomy and Physiology II will be evaluated through the following methods:

**Human Anatomy and Physiology II Assessment Plan Statement #1**

**Intended Outcome #1** Students taking Human Anatomy and Physiology II will demonstrate an understanding of the structure and function of the endocrine system.

Lecture Objective A; Intellectual Competencies 1, 4, 5, and 6; Exemplary Educational Objectives 2, 3, 4

**Assessment Measure, Techniques, and Target Courses/Activities** Students taking Human Anatomy and Physiology II will complete a final exam, in which questions related to this topic will be embedded. Faculty will evaluate students’ answers in the embedded questions.

**Assessment Criteria/Expected Results** The results will be used as baseline criteria.

**Human Anatomy and Physiology II Assessment Plan Statement #2**

**Intended Outcome #2** Students taking Human Anatomy and Physiology II will demonstrate an understanding of the structure and function of the cardiovascular and lymphatic systems.

Lecture Objective B; Intellectual Competencies 1, 4, 5, and 6; Exemplary Educational Objectives 2, 3, 4

**Assessment Measure, Techniques, and Target Courses/Activities** Students taking Human Anatomy and Physiology II will complete a final exam, in which questions related to this topic will be embedded. Faculty will evaluate students’ answers in the embedded questions.

**Assessment Criteria/Expected Results** The results will be used as baseline criteria.

**Human Anatomy and Physiology II Assessment Plan Statement #3**
**Intended Outcome #3**  Students taking Human Anatomy and Physiology II will demonstrate an understanding of the structure and function of the innate and adaptive response mechanisms.

Lecture Objective C; Intellectual Competencies 1, 4, 5, and 6; Exemplary Educational Objectives 2, 3, 4

**Assessment Measure, Techniques, and Target Courses/Activities**  Students taking Human Anatomy and Physiology II will complete a final exam, in which questions related to this topic will be embedded. Faculty will evaluate students’ answers in the embedded questions.

**Assessment Criteria/Expected Results**  The results will be used as baseline criteria.

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**Human Anatomy and Physiology II Assessment Plan Statement #4**

**Intended Outcome #4**  Students taking Human Anatomy and Physiology II will demonstrate an understanding of the structure and function of the respiratory system.

Lecture Objective D; Intellectual Competencies 1, 4, 5, and 6; Exemplary Educational Objectives 2, 3, 4

**Assessment Measure, Techniques, and Target Courses/Activities**  Students taking Human Anatomy and Physiology II will complete a final exam, in which questions related to this topic will be embedded. Faculty will evaluate students’ answers in the embedded questions.

**Assessment Criteria/Expected Results**  The results will be used as baseline criteria.

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**Human Anatomy and Physiology II Assessment Plan Statement #5**

**Intended Outcome #5**  Students taking Human Anatomy and Physiology II will demonstrate an understanding of the structure and function of the digestive system and selected metabolic processes.

Lecture Objective E; Intellectual Competencies 1, 4, 5, and 6; Exemplary Educational Objectives 2, 3, 4

**Assessment Measure, Techniques, and Target Courses/Activities**  Students taking Human Anatomy and Physiology II will complete a final exam, in which questions related to this topic will be embedded. Faculty will evaluate students’ answers in the embedded questions.

**Assessment Criteria/Expected Results**  The results will be used as baseline criteria.
Human Anatomy and Physiology II Assessment Plan Statement #6

Intended Outcome #6  Students taking Human Anatomy and Physiology II will demonstrate an understanding of the structure and function of the urinary system and its role in maintaining the fluid, electrolyte, and acid-base balance in the body.

Lecture Objective F;  Intellectual Competencies 1, 4, 5, and 6;  Exemplary Educational Objectives

Assessment Measure, Techniques, and Target Courses/Activities  Students taking Human Anatomy and Physiology II will complete a final exam, in which questions related to this topic will be embedded.  Faculty will evaluate students’ answers in the embedded questions.

Assessment Criteria/Expected Results  The results will be used as baseline criteria.

Human Anatomy and Physiology II Assessment Plan Statement #7

Intended Outcome #7  Students taking Human Anatomy and Physiology II will demonstrate an understanding of the structure and function of the reproductive system and human development.

Lecture Objective G;  Intellectual Competencies 1, 4, 5, and 6;  Exemplary Educational Objectives 2, 3, 4

Assessment Measure, Techniques, and Target Courses/Activities  Students taking Human Anatomy and Physiology II will complete a final exam, in which questions related to this topic will be embedded.  Faculty will evaluate students’ answers in the embedded questions.

Assessment Criteria/Expected Results  The results will be used as baseline criteria.

Human Anatomy and Physiology II Assessment Plan Statement #8

Intended Outcome #8  Students taking Human Anatomy and Physiology II will demonstrate an overall understanding of the structure and function of the endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

Lecture Objective 2A;  Intellectual Competencies 2 and 5;  Exemplary Educational Objectives 1 and 5
Assessment Measure, Techniques, and Target Courses/Activities Students taking Human Anatomy and Physiology II will complete a final lab practical, in which questions related to this topic will be embedded. Faculty will evaluate students’ answers in the embedded questions.

Assessment Criteria/Expected Results 75% of students will answer the embedded questions correctly on the final practical exam.

Embedded questions will include:
- Glands and hormones of the endocrine system
- Blood plasma and blood cells
- Heart Anatomy
- Intrinsic conduction system
- Structure of blood vessels

Human Anatomy and Physiology Assessment Plan Statement #9

Intended Outcome #9 Students taking Human Anatomy and Physiology will demonstrate the appropriate communication skills required when reporting data and conclusions of lab experiments.
Lecture Objective B; Intellectual Competencies 1, 2, 5, and 6; Exemplary Educational Objectives 1 and 5

Assessment Measure, Techniques, and Target Courses/Activities Students taking Anatomy and Physiology II will complete a final lab report, in which aspects of format, grammar, and the intellectual understanding of the material will be evaluated by the faculty.

Assessment Criteria/Expected Results The results will be used as baseline criteria.

Each Intellectual Competency listed above will be evaluated to measure its attainment:

1. Intellectual Competencies
   A. Reading: the ability to analyze and interpret a variety of printed material—books, documents, and articles—above 12th grade level
   B. Writing: the ability to produce clear, correct and coherent prose adapted to purpose, occasion, and audience—above 12th grade level
   C. Speaking: the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience above 12th grade level
   D. Listening: the ability to analyze and interpret various forms of spoken communication, possess sufficient literacy skills of writing, reading—above 12th grade level
   E. Critical Thinking: the ability to think and analyze at a critical level
F. Computer Literacy: the ability to understand our technological society, use computer based technology in communication solving problems, acquiring information

Calendar

Lecture Topic
Major areas to be covered in lecture are:
   a. Endocrine System 3-6 hours
   b. Blood 2-3 hours
   c. Cardiovascular System 6-9 hours
   d. Lymphatic System 1-3 hours
   e. Innate and Adaptive Body Defenses 3-6 hours
   f. Respiratory System 3-6 hours
   g. Digestive System 3-6 hours
   h. Metabolism 3-6 hours
   i. Urinary System 3-6 hours
   j. Fluid, Electrolyte, and Acid-Base Balance 3-6 hours
   k. Reproductive System 3-6 hours
   l. Human Development and Heredity 1-3 hours

Laboratory Topic

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**Materials**

1. **Required**

   **Lecture Materials:**
   *Human Anatomy & Physiology*, Elain Marieb and Katja Hoehn, 8th edition, San Francisco, Benjamin Cummings, 2010

   **Laboratory Materials:**
   *Human Anatomy & Physiology II Lab Manual*, Dr. Don Nelson, Hill College Science Department

   Dissection Kit

   Disposable Gloves

   Scantrons

2. **Recommended:**