STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Course Summary

Course: SCIN132  Title: Introduction to Human Anatomy & Physiology with Lab  
Length of Course: 8  
Prerequisites: N/A Credit Hours: 4

Description

Course Description: This course introduces students to the fundamental principles of biology emphasizing the structure and function of the human body. The course will begin with a general introduction to biology and the scientific method. It continues with an overview of organic chemistry, a study of cellular and tissue structure and function, the organization and regulation of body systems, and then move on to survey each of the following organ systems of the human body: cardiovascular, lymphatic and immune, digestive, respiratory, urinary, skeletal, muscular, nervous, endocrine, and reproductive. The course closes with introductions to genetics, and human evolution and ecology. Online laboratory experiences and exercises are incorporated which will provide the student with a deeper and practical understanding of the basic principles of human anatomy and physiology by using laboratory simulation software.

Course Scope:

From the characteristics of all life, from the cellular level to the entire organism, and everything in between, this course covers the basic structures of the human body (anatomy) and how they function and work together (physiology). The body systems are detailed individually in terms of their anatomy and physiology. In addition, human genetics is introduced along with human ecology with the role of humans in global ecosystems. You will learn the many factors that affect each system and how the body reacts to maintain its overall homeostasis. In addition to utilizing the assigned Human Biology text, this course is combined to include a laboratory component which uses laboratory simulation software that mimics real laboratory experiences. The experiments conducted in this course match up with the topics you will be studying the same week in your assigned text readings and will provide you with a better understanding of the concepts presented in your text. Unlike an actual laboratory class, with beakers and test tubes, you are able to repeat labs as often as you like, perform experiments without harming live animals, and conduct experiments that may be difficult to perform in an actual lab environment due to time, cost, or location. This course promises to give you a much greater understanding of the complexities that are the human body.

Objectives

After successfully completing this course, you will be able to:

CO-1 Explain the characteristics common to all living things, describe the levels of organization of life,
explain the theory of evolution, and describe the scientific method.

**CO-2** State the basic principles of cell theory and describe the structures cell are composed of. Differentiate the methods of transport across the plasma membrane and identify the various types of tissues. Explain the concept and mechanisms involved in homeostasis.

**CO-3** List the functions of blood and describe the structure and function of the heart and blood vessels.

**CO-4** Describe the basic structures and functions of the respiratory, digestive, and urinary systems.

**CO-5** Identify the structure and location of bones, list examples of the various types of joints, describe the process of muscular contraction, and identify the muscles affected by specific movements. List the structures and basic functions of the nervous system and describe how a nerve impulse is generated and conducted.

**CO-6** Describe the function and organization of the endocrine and lymphatic systems, and define metabolism and describe its importance in homeostasis. Explain the functions of the male and female reproductive organs.

**CO-7** Describe patterns of human genetic diversity and explain the role of DNA and issues in DNA technology.

**CO-8** Describe how organisms interact with their environments and explain the relationship of humans with ecosystems.

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**Outline**

**Week 1: Exploring Life & Science and Basic Chemistry**

Learning Objectives(s)

**CO-1**

Reading(s)

*Concepts of Biology* - 1 Unit 1: *The Cellular Foundation of Life*

Chapter 1. Introduction to Biology

- Introduction
- 1.1 Themes and Concepts of Biology
- 1.2 The Process of Science

*Anatomy and Physiology* - 1 Unit 1: *Levels of Organization*

Chapter 2. The Chemical Level of Organization

- Introduction
- 2.1 Elements and Atoms: The Building Blocks of Matter
- 2.2 Chemical Bonds
- 2.3 Chemical Reactions
- 2.4 Inorganic Compounds Essential to Human Functioning
- 2.5 Organic Compounds Essential to Human Functioning

*Mader Text:*

Chapter 1: Exploring Life and Science
Chapter 2: Chemistry of Life

PhysioEx Lab Manual:

Exercise 1: Cell Transport Mechanisms and Permeability (Overview, Activity 1 and 3)

Assignment(s)

Assignment 1: Academic Honor Pledge

Week 1 Forum

Week 1 Quiz: (Covering Mader Chapters 1, 2 and PhysioEx Lab Exercise 1)

Extra Credit Quiz (optional)

Week 2: Cells, Tissues, and the Regulation of Body Systems

Learning Objectives(s)

CO-2

Reading(s)

Mader Text:

Chapter 3: Cell Structure and Function

Chapter 4: Organization and Regulation of Body Systems

PhysioEx Lab Manual:

Exercise 10: Acid-Base Balance (Overview, Activity 1 and 2)

Assignment(s)

Week 2 Forum

Week 2 Quiz: (Covering Mader Chapters 3, 4 and PhysioEx Lab Exercise 10)

Week 3: Cardiovascular, Lymphatic, and Immune Systems

Learning Objectives(s)

CO-3

Reading(s)

Mader Text:

Chapter 5: Cardiovascular System: Heart and Blood Vessels

Chapter 6: Cardiovascular System: Blood

Chapter 7: The Lymphatic and Immune Systems

Chapter 8: Biology of Infectious Diseases
PhysioEx Lab Manual:

**Exercise 6:** Cardiovascular Physiology (*Overview, Activity 1 and 2*)

Assignment(s)

**Week 3 Forum**

**Week 3 Quiz:** (Covering Mader chapters 5, 6, 7, and 8 and PhysioEx Lab Exercise 6)

**Week 4: Digestive, Respiratory, and Urinary Systems**

Learning Objectives(s)

CO-4

Reading(s)

**Mader Text:**

**Chapter 9:** Digestive System and Nutrition

**Chapter 10:** Respiratory System

**Chapter 11:** Urinary System

PhysioEx Lab Manual:

**Exercise 7:** Respiratory System Mechanics (*Overview, Activity 1 and 2*)

Assignment(s)

**Week 4 Forum**

**Week 4 Quiz** (Covering Mader chapters 9, 10, and 11 and PhysioEx Lab Exercise 7)

**Assignment 2: Annotated Bibliography**

**Week 5: Skeletal, Muscular, & Nervous Systems and Senses**

Learning Objectives(s)

CO-5

Reading(s)

**Mader Text:**

**Chapter 12:** Skeletal System

**Chapter 13:** Muscular System

**Chapter 14:** Nervous System

**Chapter 15:** Senses

PhysioEx Lab Manual:

**Exercise 2:** Skeletal Muscle Physiology (*Overview, Activity 1, 2, and 3*)
Assignment(s)

Week 5 Forum

Week 5 Quiz: *(Covering Mader chapters 12, 13, 14, and 15 and PhysioEx Lab Exercise 2)*

Assignment 3: Abstract

Week 6: Endocrine & Reproductive Systems and Development and Aging

Learning Objectives(s)

CO-6

Reading(s)

Mader Text:

**Chapter 16**: Endocrine System

**Chapter 17**: Reproductive System

**Chapter 18**: Development and Aging

PhysioEx Lab Manual:

**Exercise 3**: Neurophysiology of Nerve Impulses *(Overview, Activity 1, 3, and 5)*

Assignment(s)

Week 6 Forum

Week 6 Quiz: *(Covering Mader chapters 16, 17, and 18 and PhysioEx Lab Exercise 3)*

Week 7: Human Genetics

Learning Objectives(s)

CO-7

Reading(s)

Mader Text:

**Chapter 19**: Patterns of Chromosome Inheritance

**Chapter 21**: Patterns of Genetic Inheritance

**Chapter 22**: DNA Biology and Technology

PhysioEx Lab Manual:

**Exercise 4**: Endocrine System Physiology *(Overview and Activity 2)*

Assignment(s)

Week 7 Forum
**Week 7 Quiz:** (Covering Mader chapters 19, 21, and 22 and PhysioEx Lab Exercise 4)

**Assignment 4: Research Paper**

**Week 8: Human Ecology**

**Learning Objectives(s)**

CO-8

**Reading(s)**

**Mader Text:**

**Chapter 23:** Human Evolution

**Chapter 24:** Global Ecology and Human Interferences

**Chapter 25:** Human Population, Global Resources, and Conservation

**PhysioEx Lab Manual:**

**Exercise 9:** Renal System Physiology (*Overview, Activity 1, 2, and 3*)

**Assignment(s)**

**Week 8 Forum**

**Week 8 Quiz:** (Covering Mader chapters 23, 24, and 25 and PhysioEx Lab Exercise 9)

**Assignment 5: Extra Credit Assignment (optional)**

**Evaluation**

Your final grade in the course will be determined by your performance on the following assessments:

**Discussion Forums**

During each week of the course, you will provide an initial post to the discussion forum that is relevant to the assigned topic. In addition, you will respond to at least two of your classmates’ initial posts and answer any questions asked about your initial post. The forums are for student interaction, and input should be submitted per the due dates listed in the classroom in order to fully participate in the discussions. Students should demonstrate their own knowledge in the forums and avoid copying and pasting from websites.

**Quizzes**

Each week you will complete a quiz to test your knowledge on the assigned readings and lab material. The quizzes are multiple-choice and short answer in format, and they can be accessed and submitted only once; in addition, they are timed, closed-book, closed-note, and the use of any external resources is prohibited.

**Research Project**

Throughout the term, you will submit three assignments (annotated bibliography, abstract, and research paper) that make up the entire research project. These assignments are scaffolded to keep you working on the project throughout the semester and to provide you feedback along the way to prepare and guide you in the construction of your final research paper.
Detailed instructions for each of these assessments are provided in the classroom.

Please see the Student Handbook to reference the University’s grading scale.

**Grading:**

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**Materials**

**Book Title:** Human Biology, 14th ed. - The VitalSource e-book is provided via the APUS Bookstore

**Author:** Mader, Sylvia

**Publication Info:** McGraw-Hill

**ISBN:** 9781259293030
Course Guidelines

Citation and Reference Style

- Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Tutoring

- Tutor.com offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please visit the APUS Library and search for 'Tutor' to create an account.

Late Assignments

- Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment.
- Generally speaking, late work may result in a deduction up to 15% of the grade for each day late, not to exceed 5 days.
- As a working adult I know your time is limited and often out of your control. Faculty may be more flexible if they know ahead of time of any potential late assignments.

Turn It In

- Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the
Assignments area of the course.

**Academic Dishonesty**

- Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not copy/paste, and always cite.

**Submission Guidelines**

- Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

**Disclaimer Statement**

- Course content may vary from the outline to meet the needs of this particular group.

**Communicating on the Forum**

- Forums are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the forum. The purpose of the forums is to actively participate in an on-going discussion about the assigned content.
- “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
- As a class, if we run into conflicting viewpoints, we must respect each individual’s own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.

**University Policies**

**Student Handbook**

- [Drop/Withdrawal policy](#)
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Disability Accommodations](#)

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