

01:119:128 – Anatomy and Physiology

Anthony J Uzwiak, PhD

Office: BLC 127

Email: uzwiak@dls.rutgers.edu

Office Hours: By Arrangement

Course Description

Undergraduate course designed to provide a foundational understanding of the structure and function of the human body with emphasis on the homeostatic regulation of organ systems. The course includes a laboratory component that uses dissection of a cat as well as other mammalian organs.

Course Materials

Two text resources are required. The text for lecture is Seeley: Anatomy and Physiology, 13th Edition (ISBN-13: 9781260172195). The manual for lab is Marieb: Human Anatomy & Physiology Laboratory Manual, Cat Version (ISBN-13: 978-0321765581). Additional resources will be provided on Canvas instructional platforms.

You may elect to use earlier versions of both texts. Lecture course content parallels the Seeley text, so it is essential that you use a version of the Seeley text.

Course Requirements

Lecture: four hourly exams and a cumulative final exam

Laboratory: two quizzes, midterm exam, and a cumulative final practical

Lecture exams will consist of multiple-choice questions. Lab assessments will be in practical format.

Course Purpose and Learning Goals

Anatomy and Physiology 119:127/128 is a two-semester course that includes lecture and laboratory elements. The course is required for nursing majors and is a prerequisite for many post-baccalaureate clinical programs. It provides students a thorough understanding of human anatomy and physiological function and a foundation for the understanding of disease and pathological processes that affect this function.

To achieve the forgoing, students will gain an understanding of the following concepts:

- Cellular basis of life, cellular reproduction, and the cell cycle
- Structural organization of the human body
- Microscopic anatomy of all major tissue types
- Molecular basis of function in selected human systems
- Functional anatomy of major organ systems
- Physiological function of organ systems and their contribution to the human organism
- Homeostatic regulation of physiological function
- Heredity and its contribution to human physiological function
- Elements of the pathophysiological process
- Pathophysiological processes affecting organ systems

The development of these competencies will provide insights into pathology, disease and the clinical disciplines and contribute to the development of the critical thinking and reasoning required of individuals practicing nursing as a profession.

In conjunction, students should also understand that observable function in most systems results from integrated activity and reflects biological processes at the cellular and molecular level. Therefore, understanding the functioning of the human body requires an integrated understanding of all levels of physiological function.

The achievement of this objective requires the development of highly evolved skills and critical thinking that is ultimately transferable to complex challenges characteristic of the clinical professions. The discrete content of the course and its complexity provides an excellent system to promote and model these attributes.

Course Schedule

Lecture Syllabus

Date	Topic	Assigned Readings
19-Jan	Introduction	Policies
23-Jan	Mechanism to Protect the NS	Chapter 12 - 13
26-Jan	Neuroanatomy: Spinal Cord and PNS	Chapter 16
30-Jan	Vision	Chapter 15
2-Feb	Vision and Audition	
6-Feb	Audition	
9-Feb	Somatic Sensation	
Exam 1		
13-Feb		
16-Feb	Endocrine System	Chapters 17 - 18

20-Feb	Endocrine System	
23-Feb	Immune System	Chapter 22
27-Feb	Immune System	
2-Mar	Heart Anatomy	Chapter 19
6-Mar	Cardiovascular System	Chapter 20
9-Mar	Cardiovascular System	Chapter 20
13-Mar	Spring Break	
16-Mar		
20-Mar	Blood Pressure	Chapter 21
23-Mar	Exam 2	
27-Mar	Blood Vessels	
30-Mar	Blood Vessels	
3-Apr	Respiratory System	Chapter 23
6-Apr	Urinary System	Chapter 26
10-Apr	Exam 3	
13-Apr	Reproductive Physiology	Chapter 28
17-Apr	Reproductive Physiology	
20-Apr	Pregnancy and Parturition	
24-Apr	Reproductive Anatomy	Chapter 29
27-Apr	Human Genetics	
1-May	Review	
4-May	Exam 4/Final Exam	8:30 – 11:00 AM

Laboratory Syllabus

Week Beginning	Topic and Assessments	Assigned Reading
17-Jan	No Laboratory	
23-Jan	Nervous System	Exercises 15 and 17
30-Jan	Nervous System	Exercises 19 and 20
6-Feb	Sensory Systems	Exercises 22, 23, 25 & 26
13-Feb	Sensory Systems cont.	
20-Feb	<i>Lab Quiz 1</i> Endocrine System	Exercise 27
27-Feb	Blood and Heart Anatomy	Exercises 29 and 30
6-Mar	<i>Midterm Practical</i>	
13-Mar	Spring Break	
20-Mar	Blood Vessels	Exercise 32
27-Mar	Blood Vessels Continued	
3-Apr	Digestive System	Exercise 38
10-Apr	<i>Lab Quiz 2</i> Respiratory System	Exercise 36
17-Apr	Urinary and Reproductive System	Exercises 40, 42 and 43
24-Apr	<i>Final Practical</i>	

Reading List

Topic	Assigned Reading
Neuroanatomy	Chapters 12, 13, 15
Sensory Systems	Chapter 16
Endocrine System	Chapters 17 - 18
Immune System	Chapter 22
Cardiovascular System	Chapter 19
Heart Anatomy and Physiology	Chapter 20
Blood Pressure and Vessels	Chapter 21
Respiratory System	Chapter 23
Digestive System	Chapter 24
Urinary System	Chapter 26
Reproductive System	Chapters 28 - 29

Grading

The final course grade is comprised of lecture and laboratory components and will reflect collective performance during the entire semester. There is a total of 950 points (see below for breakdown). The hourly and final exams will include multiple choice. Specific elements of grading will be discussed in more detail as the semester progresses.

Lecture	Points
Hourly Exams	400
Final Exam	200
	600
Laboratory	
Quizzes	50
Midterm Exam	75
Final Exam	125
	250
Total for Course	850

Academic Integrity Policy

Academic dishonesty is any attempt by the student to gain academic advantage through dishonest means, to submit, as his/her own work that which has not been done by him/her or to give improper aid to another student in the completion of an assignment. Such dishonesty would include but is not limited to: submitting as his/her own a project, paper, report, test, or speech copied from, partially copied, or paraphrased from the work of another (whether the source is printed, under copyright, or in manuscript form). Credit must be given for words quoted or paraphrased. The rules apply to any academic dishonesty, whether the work is graded or ungraded, group or individual, written or oral.

Americans with Disabilities Act (ADA) Policy

Any student who has a documented disability and needs academic accommodations should notify the professor of this course and contact the Office of Differing Abilities Services. Accommodations are individualized and in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1992.