

COURSE SYLLABUS STEM Ed Abroad Program

Course Title: Anatomy and Physiology I (including laboratory component)

Course Semester: Fall

University and Country: Adam Mickiewicz University; Poznań, Poland

Number of ECTS: 6 (lecture) and 2 (laboratory)

Course Designations for Transfer Credit: BIO250 (NCSU), ANAT255/255L (ISU)

Content: Anatomy and Physiology I is the first course in a two-semester sequence of university-level anatomy and physiology courses. The course covers the topics of human anatomy and physiology including anatomical terminology, biochemistry and physiological processes, functions and organization of cells and tissues of the integumentary, skeletal, muscular, nervous and digestive systems and blood. Students will engage in many topics and competencies related to understanding the structure and function of the human body. Students will learn through lectures, reading, case studies, and labs. The labs will give practice not only in anatomy and physiology knowledge but also in proper use of lab equipment, lab reports preparation, and designing of simple biological experiments. During the course students will work with biological material, for example, with bones, freshly isolated nervous and muscle tissues of frog, bovine blood and mammalian digestive enzymes.

Pre-requisites: General Biology with a grade of C- or better. Credit cannot be received for similar level Anatomy or Physiology course.

Aims: 01-ANAT 2 provides an introduction to the anatomy and physiology of the nervous, skeletal, muscular and digestive systems. Fundamental principles addressed throughout the course include (1) maintenance and regulation of homeostasis, (2) communication and control processes throughout the body, (3) integration and interdependence across organ systems, (4) structure-function relationships and (5) anatomical and physiological adaptation. Together, the two-semester sequence in Anatomy and Physiology provide a strong foundation in human anatomy and physiology (through both lecture and lab) for students preparing for a variety of health-related professions.

Learning outcomes:

Course learning outcomes (EU) in terms of knowledge, skills and social competences and their reference to study program learning outcomes (EK)

Course learning	On successful completion of this course, a student will be able to:	Reference to study programme
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COURSE SYLLABUS STEM Ed Abroad Program

outcome symbol (EU)		learning outcomes (EK)
EU_01	Explain the concept of homeostasis and describe homeostatic mechanisms using examples from the nervous, skeletal, muscular, and digestive systems	
EU_02	Compare communication and control processes across the nervous, skeletal, muscular, and digestive systems	
EU_03	Describe examples of integration across different physiological systems	
EU_04	Explain examples of structure-function relationships in the nervous, skeletal, muscular, and digestive systems	
EU_05	Describe examples of the impact of evolutionary forces on humans, using the nervous, skeletal, muscular, or digestive systems	

4. Learning content with reference to course learning outcomes (EU)

Course learning outcome symbol (TK)	Course learning content	Course learning outcome symbol (EU)
TK_01	Skeletal system - anatomy and physiology	Effect_01, Effect_02, Effect_03, Effect_04, Effect_05
TK_02	Muscle System Anatomy	Effect_01, Effect_02, Effect_03, Effect_04, Effect_05
TK_03	Muscle System Physiology	Effect_01, Effect_02, Effect_03, Effect_04, Effect_05

COURSE SYLLABUS STEM Ed Abroad Program

TK_04	Nervous System Anatomy	Effect_01, Effect_02, Effect_04, Effect_03, Effect_05
TK_05	Nervous System Physiology	Effect_01, Effect_02, Effect_03, Effect_04, Effect_05
TK_06	Physiology of Senses	Effect_05
TK_07	Anatomy and Physiology of Digestive System	Effect_01, Effect_02, Effect_03, Effect_04, Effect_05
TK_08	Physiology of Body Fluids	Effect_05

Lecture component:

Lab component:

The Learning Objectives for each exam will be posted on each section's web site prior to the first lecture of the sequence leading up to that exam and will serve as both a study outline and a summary of items to review. The Learning Objectives also includes the topics listed below in **Course Lecture and Laboratory Topics**. A student must know and apply to demonstrate mastery of the material listed in these topics as presented in this course.

Recommended Books: McKinley: Human Anatomy 5th ed., McGraw-Hill Higher Education, 2017

Instructors:

dr Szymon Chowański, szymon@amu.edu.pl
dr Paweł Marciniak, pmarcin@amu.edu.pl
dr hab. Marta Krenz-Niedbała, martak@amu.edu.pl
dr hab. Anita Szwed, aniszwed@amu.edu.pl
dr Jan Lubawy, jan.lubawy@amu.edu.pl
dr Magdalena Durda, mdurda@amu.edu.pl

with consultation by Dr. Marta Klesath (NC State University).

Grading System and Percentage Contribution

A. Lecture assessment

Participation in lectures	30%
Preparation for lectures	5%
Homework (Assignments)	15%

COURSE SYLLABUS STEM Ed Abroad Program

Preparation for exams	50%
Total	100%

B. Laboratory assessment

Participation in laboratories	30
Preparation for laboratories	15%
Laboratory reports	25%
Practicals	30%
Total	100%

AMU Grading system and scale

The grading system used at Adam Mickiewicz University, whose name is abbreviated as AMU or UAM, is as follows:

Tests, exams, homework assignments grading scale

- 5 100%-91%
- 4+ 90%-86%
- 4 85%-76%
- 3+ 75%-71%
- 3 70%-60%
- 2 59% and less

This translates into the following ECTS (European internationally recognized system) grading scale:

ECTS Grade	AMU grade	Definition
A	5.0	EXCELLENT – outstanding performance with only minor errors
B	4+ / 4.5	VERY GOOD – above the average standard but with some errors
C	4.0	GOOD – generally sound work with a number of notable errors
D	3+ / 3.5	SATISFACTORY – fair but with significant shortcomings
E	3.0	SUFFICIENT – performance meets the minimum criteria
FX	2.0	FAIL – some more work required before the credit can be awarded
F	2.0	FAIL – considerable further work is required

Hours: 3 Lecture hours and 1 Tutorial hour per week. The laboratory component consists of 11 topics listed below. Each laboratory has a duration of 2.5 hours.

Course Lecture and Laboratory Topics:

Lectures:

1. Skeletal system I
2. Skeletal system II
3. Skeletal system III
4. Articulations
5. Muscle system anatomy I
6. Muscle system anatomy II

COURSE SYLLABUS STEM Ed Abroad Program

7. Muscle system anatomy III
8. Muscle system physiology I
9. Muscle system physiology II
10. Muscle system physiology III
11. Nervous system anatomy I
12. Nervous system anatomy II
13. Nervous system physiology I
14. Nervous system physiology II
15. Nervous system physiology III
16. Nervous system – anatomy of senses
17. Nervous system – physiology of senses
18. Digestive system anatomy I
19. Digestive system anatomy II
20. Digestive system physiology I
21. Digestive system physiology ii
22. Digestive system physiology III
23. Blood I
24. Blood II

Laboratories

1. Axial skeleton
2. Appendicular skeleton
3. Muscle system anatomy
4. Muscle system physiology
5. Nervous system anatomy
6. Nervous system physiology
7. Nervous system – senses
8. Digestive system anatomy
9. Digestive system physiology
10. Blood I
11. Blood II