	Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences Biology Undergraduate Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Human Anatomy and Physiology	4620103008		**T=3**	**P=0**	**ECTS=4.77**	6	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	....	....	Dr. H. Sunu Kuntjoro, S.Si., M.Si.

Learning model	Case Studies

Program Learning Outcomes (PLO)	PLO study program that is charged to the course
	Program Objectives (PO)
	PLO-PO Matrix
	P.O
	PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Short Course Description	This course discusses the characteristics of each organ included in the movement system, nervous system, digestive system, cardiovascular system, five sensory systems, endocrine system, urogenital system, reproductive system in men and women, body defense system. Apart from that, we also study the process or function of each organ through presentation, discussion and practicum methods.

References	**Main :**	
	1.	Guyton, A. C. 2008. Textbook of Medical Physiology . Toronto: WB. Saunders Comp.Guyton, A.C. 2010. Fisiologi Manusia dan Mekanisme Penyakit. Diterjemahkan oleh Adrianto P. Jakarta: EGC.Marrieb and Hoen. 2007. Human Anatomy and Physiology. San Fransisco: Pierson ed Inc.Putz, R and Pabst, R. 1995. Sobotta Atlas Anatomi Manusia. Alih Bahasa Indriarti. Ed. 20. Jakarta: EGC.Spalteholz-Spanner. 1973. Handatlas Der Anatomies Des Menschen I & II. Amsterdam: Scheltema.
	Supporters:	

Supporting lecturer	TJANDRAKIRANA Dr. Nur Kuswanti, M.Sc.St. Erlix Rakhmad Purnama, S.Si., M.Si.

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline (*offline*)	Online (*online*)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

1	Understand the structure and function of the skeletal system	· Distinguish the organs of the movement system based on their activity · Determine the types of bones that make up the human skeleton. · Explain the process of ossification. · Explain at least 3 types of disorders / diseases of the skeletal system.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Questions and Answers and Discussion 5 X 50			0%
2	Understand the structure and function of muscles	1. Identify types of muscles based on their structure2. Explain the process of muscle contraction and relaxation	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and Questions and Answers 5 X 50			0%
3	Understand the structure and function of muscles	1. Explain the involvement of nerves in muscle contraction and relaxation.2. Distinguish between summation and motor units 3. Explain muscle disorders and diseases	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion, question and answer, presentation 3 X 50			0%
4	Understand the structure and function of the nervous system	1. Explain the concentration of ions inside and outside nerve cells.2. Explain the resting membrane potential 3. Explain the process of occurrence and delivery of action potentials 4. Explain the types of stimulation intensity 5. Make a schematic of the components of the human nervous system.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Lectures, discussions, questions and answers. 3 X 50			0%
5	Understand the structure and function of the nervous system	1. Determine the location of sensory and motor centers.2. Explain the various types of neurons.3. Explain the transmission of impulses through nerve cells and synapses.4. Distinguish between reflex and coordinated movements.5. Describe at least two disorders and diseases of the nervous system.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Lectures, discussions, questions and answers 3 X 50			0%
6	Understand the structure and function of the hormonal system.	1. Determine the location of each endocrine gland.2. Determine the hormones secreted by each gland.3. Explain the function of each hormone. 4. Explain the mechanism of control of the secretion of each hormone. 5. Explain the symptoms of at least 3 disorders/diseases in the hormonal system.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and questions and answers 3 X 50			0%

7	Understand the structure and function of the digestive system in humans.	1. Explain the function of each component of the digestive system.2. Explain the function of enzymes secreted by the salivary glands, pancreas and liver. 3. Explain the regulation of gastric fluid secretion. 4. Explain the role of the hunger center. 5. Explain the swallowing process.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and questions and answers 3 X 50			0%
8	Understand the structure and function of the digestive system in humans	1. Explain nutrient absorption.2. Explain the defecation process.3. Explain disorders/diseases of the salivary glands, pancreas and liver.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and questions and answers 3 X 50			0%
9	UTS			2 X 50			0%
10	Understand the structure and function of the human respiratory system	Explain the definition of respiration2. Identify the components of the respiratory system.3. Explain the process of respiration related to the respiratory center. 4. Explain the process of gas exchange. 5. Explain the various types of respiratory volume. 6. Explain disorders and diseases of the respiratory system.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and questions and answers 3 X 50			0%
11	Understand the structure and function of the cardiovascular system	1. Differentiate how the heart works. 2. Distinguish three types of blood vessels 3. Explain the meaning of two types of blood pressure.4. Explain how to measure both types of blood pressure.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and Questions and Answers 3 X 50			0%
12	Understand the structure and function of the cardiovascular system	1. Explain the function of each blood component.2. Describe at least 2 heart abnormalities.3. Describe at least 2 blood vessel abnormalities.4. Describes at least 2 blood disorders.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and questions and answers 3 X 50			0%
13	Understand the structure and function of the immune system.	1. Identify the organs involved in the immune system.2. Explain the types of immunity 3. Explain the immunization process 4. Explain disorders and disorders of the immune system.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and Questions and Answers 3 X 50			0%

14	Understand the structure and function of the human reproductive system.	1. Identify the topography of the urinary system. 2. Determine the name of each part of the nephron.3. Explain the process of urine formation and excretion 4. Describe at least 2 abnormalities in the kidneys.5. Explain the dialysis process.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and questions and answers 3 X 50			0%
15	Understand the structure and function of the human reproductive system.	1. Identify the topography of male and female genital organs. 2. Distinguish between oogenesis and spermatogenesis 3. Explain when each sex hormone has an effect.	**Criteria:** Reports and assignment products weigh 30 USS results weigh 20 US results weigh 30 Participation/activity in learning 20	Discussion and Questions and Answers 3 X 50			0%
16							0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

Notes

1. **Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
2. **The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
3. **Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
4. **Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
5. **Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
6. **Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
7. **Forms of assessment:** test and non-test.
8. **Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
9. **Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
10. **Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
11. **The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
12. TM=Face to face, PT=Structured assignments, BM=Independent study.