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

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date
HUMAN PHYSIOLOGY ANATOMY	8420502012		T=2 P=0 ECTS=3.18	3	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	Dr. Nur Kuswanti, M.Sc.St.	Dr. Nur Kuswanti, M.Sc.St.	Dr. Rinie Pratiwi Puspitawati, M.Si.

Learning model: Case Studies

Program Learning Outcomes (PLO)

PLO study program that is charged to the course

Program Objectives (PO)

PO - 1	Mastering the concepts of Human Anatomy and Physiology.
PO - 2	Able to apply the concepts of Human Anatomy and Physiology in everyday life by producing products to solve problems in the form of practical activity reports.
PO - 3	Able to design/prepare, carry out simple research related to human anatomy and physiology
PO - 4	Able to make decisions based on data/information in order to complete tasks related to learning and practicum related to Human Anatomy and Physiology.
PO - 5	Able to demonstrate a scientific attitude in biology learning and laboratory activities related to Human Anatomy and Physiology.

PLO-PO Matrix

P.O
PO-1
PO-2
PO-3
PO-4
PO-5

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
PO-1																
PO-2																
PO-3																
PO-4																
PO-5																

Short Course Description: In this course, human anatomy and physiology is discussed including the structure and function of the skeletal system, muscular system, nervous and sensory systems, hormonal system, digestive system in humans, respiratory system, cardiovascular system, immune system, excretory system and reproductive system in humans along with disorders, disorders and diseases associated with each system. This course also equips students to carry out investigations related to the anatomy and physiology of human systems, especially carried out independently (outside of face-to-face contact). This activity is followed by the preparation of a written report on the results of the activity which includes data on the results of the activity and discusses and draws up conclusions based on the data obtained and the discussion. Apart from that, students are also asked to create solutions to problems related to disorders/disorders/diseases in human anatomy and physiology.

References

Main :

1. Guyton, A. C. 2010. Fisiologi Manusia dan Mekanisme Penyakit. Jakarta: EGC. Diterjemahkan oleh Adrianto P.
2. Marrieb and Hoen. 2007. Human Anatomy and Physiology. Pearson ed Inc. San Fransisco.
3. Kuswanti, N., Tjandrakirana, Purnama, E.R., Khaleyla, F. 2020. Petunjum Praktikum Anatomi dan Fisiologi Manusia. Jurusan Biologi, Universitas Negeri Surabaya, Surabaya.
4. Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students. Illionis: Lotus Publishing.
5. Jones, R.A., S.B. Stoops, W.B.Cohn. 2020. Biology 319: Integrated Human anatomy and Physiology I Laboratory. Texas: Macmillan learning Cerriculum Solution.
6. Kuswanti, N., Tjandrakirana, Purnama, E.R., Khaleyla, F. 2020. Petunjum Praktikum Anatomi dan Fisiologi Manusia. Jurusan Biologi, Universitas Negeri Surabaya, Surabaya.
7. Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc

Supporters:

1. Jurnal anatomi fisiologi manusia terbaru

Supporting lecturer: Dr. Nur Kuswanti, M.Sc.St.
Erlix Rakhmad Purnama, S.Si., M.Si.
dr. Hanifiya Samha Wardhani, M.Kes.
Firas Khaleyla, S.Si., M.Si.
Elma Sakinatus Sajidah, S.Si., M.Si., Ph.D.

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	Mastering the structure, function and disorders, disorders and diseases of the human skeletal system	1.1. Differentiate the organs of the movement system based on their activity 2.2. Determine the types of bones that make up the human skeleton. 3.3. Distinguish between various types of bones based on their shape 4.4. Analyze bones based on tissue types. 5.5. Determine the type of joint based on its movement. 6.6. Explain the process of ossification. 7.7. Analyze disorders/diseases of the skeletal system. 8.8. Creating a solution to the problem of inappropriate bone shape with a device made from simple materials to maintain body posture based on the integrity of the shape/position of the bones/skeleton.	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Lectures, discussions and assignments to make products from simple materials to maintain body posture based on the integrity of the shape/position of the bones/skeleton. 2x50	Learning with LMS 2x50	**Material:** a) Organs of the movement system b) various bones that make up the human skeleton. c) Types of bones based on their shape d) Types of bones based on the type of tissue e) Types of joints f) Ossification g) Skeletal system disorders and diseases **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** a) Organs of the movement system b) various bones that make up the human skeleton. c) Types of bones based on their shape d) Types of bones based on the type of tissue e) Types of joints f) Ossification g) Skeletal system disorders and diseases **References:** *Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students . Illinois: Lotus Publishing.* **Material:** a) Organs of the movement system b) various bones that make up the human skeleton. c) Types of bones based on their shape d) Types of bones based on the type of tissue e) Types of joints f) Ossification g) Skeletal system disorders and diseases **References:** *Jones, RA, SB Stoops, WBCohn. 2020. Biology 319: Integrated Human Anatomy and Physiology I Laboratory. Texas: Macmillan learning Cerriculum Solution.* **Material:** a) Organs of the movement system b) various bones that make up the human skeleton. c) Types of bones based on their shape d) Types of bones based on the type of tissue e) Types of joints f) Ossification g) Skeletal system disorders and diseases **References:** *Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc*	5%
2	Mastering the structure, function and disorders, abnormalities and diseases of the human muscular system	1.1. Identify skeletal muscles in the human body 2.2. Distinguish between types of muscles (skeletal, smooth and cardiac) based on structures related to the process of contraction and relaxation. 3.3. Explain the energy sources used for contraction.	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Classical lectures and discussions 2x50		**Material:** 1. Types of skeletal muscles in the human body. 2. Types of muscles (skeletal, smooth and cardiac) based on structures related to the process of contraction and relaxation. 3. Energy sources used for contractions **Reference:** *Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students. Illinois: Lotus Publishing.* **Material:** 1. Types of skeletal muscles in the human body. 2. Types of muscles (skeletal, smooth and cardiac) based on structures related to the process of contraction and relaxation. 3. Energy sources used for contraction. **References:** *Jones, RA, SB Stoops, WBCohn. 2020. Biology 319: Integrated Human Anatomy and Physiology I Laboratory. Texas: Macmillan learning Cerriculum Solution.* **Material:** 1. Types of skeletal muscles in the human body. 2. Types of muscles (skeletal, smooth and cardiac) based on structures related to the process of contraction and relaxation. 3. Energy sources used for contraction **References:** *Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc*	5%

3	Mastering the structure, function and disorders, abnormalities and diseases of the human muscular system.	1.1. Explain the involvement of nerves in muscle contraction and relaxation. 2.2. Analyze the types of sumation and tetanus waves 3.3. Differentiate types of muscle movement 4.4. Explain muscle disorders/abnormalities and diseases 5.5. Get a solution to maintain muscles to prevent atrophy.	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Forms of Assessment** : Participatory Activities, Practical Assessment, Tests	Lectures, questions and answers, classical discussions, group discussions. 2x50		**Material:** a. Nerve involvement in muscle contraction and relaxation. b. Types of sumation waves and motor units c. Types of muscle movement d. Muscle disorders and diseases **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** a. Nerve involvement in muscle contraction and relaxation. b. Types of sumation waves and motor units c. Types of muscle movement d. Muscle disorders and diseases **Bibliography:** *Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students. Illinois: Lotus Publishing.* **Material:** a. Nerve involvement in muscle contraction and relaxation. b. Types of sumation waves and motor units c. Types of muscle movement d. Muscle disorders and diseases **References:** *Jones, RA, SB Stoops, WBCohn. 2020. Biology 319: Integrated Human Anatomy and Physiology I Laboratory. Texas: Macmillan learning Cerriculum Solution.* **Material:** a. Nerve involvement in muscle contraction and relaxation. b. Types of sumation waves and motor units c. Types of muscle movement d. Muscle disorders and diseases **References:** *Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc*	5%
4	Mastering the structure, function and disorders, disorders and diseases of the nervous and sensory systems in humans.	1.1. Explain the concentration of ions inside and outside nerve cells. 2.2. Distinguish between resting membrane potential and action potential and its conduction 3.3. Explain the types of stimulation intensity	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Lectures, discussions and assignments 2x50		**Material:** a. Ion concentrations inside and outside nerve cells. b. Membrane resting potential c. The process of occurrence and delivery of action potentials d. Types of stimulation intensity e. Schematic of the components of the human nervous system. **References:** *Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students. Illinois: Lotus Publishing.* **Material:** a. Ion concentrations inside and outside nerve cells. b. Membrane resting potential c. The process of occurrence and delivery of action potentials d. Types of stimulation intensity e. Schematic of the components of the human nervous system. **References:** *Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc*	5%
5	Mastering the structure, function and disorders, disorders and diseases of the nervous and sensory systems in humans	1.1. Determine the location of sensory and motor centers. 2.2. Explain the various types of neurons. 3.3. Explain the transmission of impulses through nerve cells and synapses. 4.4. Differentiate between reflex movements and coordinated movements 5.5. Explain at least two disorders/disorders/diseases of the nervous system. 6.6. Create solutions to prevent and/or treat disorders/abnormalities/diseases in the nervous system.	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Lectures, discussions, group discussions. 2x50		**Material:** a. Location of sensory and motor centers. b. Various types of neurons. c. Transmission of impulses through nerve cells and synapses. d. The course of reflex movements and coordinated movements e. Disorders/disorders/diseases of the nervous system. **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** a. Location of sensory and motor centers. b. Various types of neurons. c. Transmission of impulses through nerve cells and synapses. d. The course of reflex movements and coordinated movements e. Disorders/disorders/diseases of the nervous system. **References:** *Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students. Illinois: Lotus Publishing.*	5%

6	Mastering the structure, function as well as disorders, abnormalities and diseases of the hormonal system in humans	1.1. Determine the location of each hormone-producing endocrine gland. 2.2. Explain the function of each hormone secreted by each gland. 3.3. Analyze the secretion control mechanism of each hormone. 4.4. Explain disorders/abnormalities/diseases in the hormonal system	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities	Lectures, discussions, practicum 2x50		**Material:** a. Location of each endocrine gland. b. The function of each hormone secreted by each endocrine gland c. The mechanism of control of the secretion of each hormone. 5. Disorders/abnormalities/diseases in the hormonal system **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** a. Location of each endocrine gland. b. The function of each hormone secreted by each endocrine gland c. The mechanism of control of the secretion of each hormone. 5. Disorders/abnormalities/diseases in the hormonal system **References:** *Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students. Illinois: Lotus Publishing.*	14%
7	Mastering the structure, function and disorders, disorders and diseases of the digestive system in humans	1.1. Explain the function of each part and organ that makes up the digestive system. 2.2. Explain the process of movement of the digestive tract in order to move/move digested food. 3.3. Explain the function of substances secreted by various parts of the digestive system 4.4. Explain the role of the hunger center. 5. Explain nutrient absorption. 5.5. Explain disorders/diseases of the digestive system 6.Creating solutions to prevent and/or overcome disorders/diseases in the digestive system	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Lectures, discussions 2x50		**Material:** 1. Function of each part and organ that makes up the digestive system. 2. The process of movement of the digestive tract in order to move/move digested food. 3. Function of substances secreted by various parts of the digestive system 3. Role of the hunger center. 5. Explain nutrient absorption. 6. Disorders/diseases in the system **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** 1. Function of each part and organ that makes up the digestive system. 2. The process of movement of the digestive tract in order to move/move digested food. 3. Function of substances secreted by various parts of the digestive system 3. Role of the hunger center. 5. Explain nutrient absorption. 6. Disorders/diseases of the digestive system in humans **Reference:** *Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc*	5%
8	Final abilities 1-7	UTS	**Criteria:** UTS **Form of Assessment** : Test	UTS 2x50			10%
9	Mastering the structure, function and disorders, disorders and diseases of the human respiratory system	1.Identify the function of the components of the respiratory system. 2.Analyze the gas exchange process regulated by the respiratory center. 3.Explain the various volumes and capacities of the respiratory system. 4.Explain disorders/abnormalities/diseases of the respiratory system. 5.Carrying out and compiling practical reports on lung volume and capacity. 6.Creating solutions to prevent and/or overcome disorders/abnormalities/diseases in the respiratory system.	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities	Lectures, discussions, assignments 2x50		**Material:** 1. Function of respiratory system components. 2. The gas exchange process is regulated by the respiratory center. 3. Various volumes and capacities of the respiratory system. 4. Disorders/abnormalities/diseases in the respiratory system. **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** Respiratory system practicum **References:** *Kuswanti, N., Tjandrakirana, Purnama, ER, Khaleyla, F. 2020. Practical Guidelines for Human Anatomy and Physiology. Department of Biology, Surabaya State University, Surabaya.* **Material:** Solutions to overcome disorders of the respiratory system. **Bibliography:** *The latest journal of human anatomy and physiology*	5%

10	Mastering the structure, function and disorders, disorders and diseases of the cardiovascular system in humans.	1. Identify the components of the human cardiovascular system 2. Correlating the occurrence of blood pressure with the way it is measured. 3. Analyze the composition and function of blood components. 4. Analyzing the red blood cell cycle 5. Creating solutions to prevent and/or treat disorders/disorders/diseases related to pressure and/or the red blood cell cycle.	**Criteria:** 1. Reports and task products weigh 30% 2. USS results weighted 20% 3. US results weighted 30% 4. Participation/activity in learning 20% **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment, Tests	Lectures, discussions, 2x50		**Material:** a. Human cardiovascular system b. Organs that make up the cardiovascular system. **References:** *Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students. Illinois: Lotus Publishing.* **Material:** 1. Human cardiovascular system 2. Organs that make up the cardiovascular system. 3. Blood pressure by measuring it. 4. Red blood cell cycle. **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** 1. Human cardiovascular system 2. Organs that make up the cardiovascular system. 3. Blood pressure by measuring it. 4. Red blood cell cycle. **References:** *Hull, R. 2024. The Pocket Atlas of Anatomy and Physiology: A Concise Reference for students. Illinois: Lotus Publishing.* **Material:** 1. Human cardiovascular system 2. Organs that make up the cardiovascular system. 3. Blood pressure by measuring it. 4. Red blood cell cycle. **References:** *Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc*	5%
11	Mastering the structure, function and disorders, disorders and diseases of the cardiovascular system in humans	1. 1. Analyze the blood clotting process 2. 2. Explain disorders/abnormalities/diseases of the cardiovascular system 3. 3. Carry out and prepare cardiovascular system practicum reports 4. 4. Get a solution to overcome the problem of blood shortage.	**Criteria:** 1. Reports and task products weigh 30% 2. USS results weighted 20% 3. US results weighted 30% 4. Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Lectures, discussions, practicum 2x50		**Material:** Practicum and report preparation **Reference:** *Kuswanti, N., Tjandrakirana, Purnama, ER, Khaleyla, F. 2020. Practical Guidelines for Human Anatomy and Physiology. Department of Biology, Surabaya State University, Surabaya.* **Material:** solutions to overcome blood shortages. **Bibliography:** *The latest journal of human anatomy and physiology* **Material:** 1. The process of blood clotting 2. Explaining disorders/disorders/diseases of the cardiovascular system 3. Solutions to overcome/prevent disorders/abnormalities/diseases of the cardiovascular system. **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.*	5%
12	Mastering the structure, function and disorders, disorders and diseases of the human immune system	1. 1. Identify the organs involved in the immune system. 2. 2. Explain the components involved in the immune system 3. 3. Explain the process by which the immune system functions against antigens. 4. 4. Explain immune system disorders/abnormalities.	**Criteria:** 1. Reports and task products weigh 30% 2. USS results weighted 20% 3. US results weighted 30% 4. Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Lectures, discussions, assignments 2x50		**Material:** 1. Organs involved in the immune system. 2. Components involved in the immune system 3. The process of functioning of the immune system against antigens. 4. Immune system disorders and disorders. **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** solutions to overcome immune system problems. **Reference:** *Latest journal of human anatomy and physiology* **Material:** 1. Organs involved in the immune system. 2. Components involved in the immune system 3. The process of functioning of the immune system against antigens. 4. Immune system disorders and disorders. **References:** *Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc*	5%

13	Understand the structure and function of the urinary system	1.1. Explain the topography of the urinary system. 2.2. Explain the role of the various organs involved in the Excretory System. 3.3. Explain the process of urine formation and excretion 4.4. Explain at least 2 disorders/disorders/diseases of the kidneys. 5.5. Explain the dialysis process. 6.7. Get a solution to overcome urinary system disorders.	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Lectures, discussions, assignments 2x50		**Material:** a. Role of various organs involved in the Excretory System. b. The process of urine formation and excretion c. Kidney disorders/abnormalities/diseases. d. Dialysis process. **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** Solutions to overcome urinary system disorders. **Bibliography:** *The latest journal of human anatomy and physiology*	5%
14	Mastering the structure, function and disorders, disorders and diseases of the human reproductive system	1.1. Identify the topography of male and female genital organs. 2.2. Differentiate between oogenesis and spermatogenesis 3.3. Explain the influence of each sex hormone.	**Criteria:** 1.Reports and task products weigh 30% 2.USS results weighted 20% 3.US results weighted 30% 4.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities, Tests	Lectures, discussions and assignments 2x50		**Material:** Topography of male and female genital organs. b. Oogenesis and spermatogenesis c. Influence of each sex hormone **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** Topography of male and female genital organs. b. Oogenesis and spermatogenesis c. Influence of each sex hormone **References:** *Schillo, K. 2019. Human Anatomy and Physiology: Form, Function, and Homeostasis. USA: Cognella, Inc*	5%
15	Mastering the structure, function and disorders, disorders and diseases of the human reproductive system	1.4. Describe the menstrual cycle. 2.5. Determine when ovulation occurs in the menstrual cycle range. 3.6. Explain the process of sperm ejaculation. 4.7. Explain reproductive system disorders/abnormalities/diseases 5.8. Get solutions to prevent reproductive system disorders/abnormalities.	**Criteria:** 1.USS results weighted 20% 2.US results weighted 30% 3.Participation/activity in learning 20% **Form of Assessment** : Participatory Activities	Lectures, discussions and assignments 2x50		**Material:** a. Menstrual cycle. b. Sperm ejaculation process. c. Reproductive system disorders/abnormalities/diseases **References:** *Guyton, AC 2010. Human Physiology and Disease Mechanisms. Jakarta: EGC. Translated by Adrianto P.* **Material:** solutions to prevent reproductive system disorders/abnormalities. **Bibliography:** *The latest journal of human anatomy and physiology*	5%
16	Final ability encounter 9-15	UAS	**Criteria:** UAS **Form of Assessment** : Project Results Assessment / Product Assessment, Test	UAS 2x50			10%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	49.84%
2.	Project Results Assessment / Product Assessment	6.67%
3.	Practical Assessment	1.67%
4.	Test	40.84%
		99.02%

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.