

		Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences Bachelor of Mathematics Education Study Program					Document Code																																								
SEMESTER LEARNING PLAN																																															
Courses		CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																							
Cognitive Science		8420202004		T=2	P=0	ECTS=3.18	8	July 18, 2024																																							
AUTHORIZATION		SP Developer		Course Cluster Coordinator			Study Program Coordinator																																								
				Dr. Endah Budi Rahaju, M.Pd.																																								
Learning model	Project Based Learning																																														
Program Learning Outcomes (PLO)	PLO study program which is charged to the course																																														
	Program Objectives (PO)																																														
	PLO-PO Matrix																																														
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 50px; height: 20px;">P.O</td> <td colspan="15"></td> </tr> </table>							P.O																																						
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	PO Matrix at the end of each learning stage (Sub-PO)																																														
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2" style="width: 30px; height: 20px;">P.O</td> <td colspan="15" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 20px; height: 20px;">1</td> <td style="width: 20px; height: 20px;">2</td> <td style="width: 20px; height: 20px;">3</td> <td style="width: 20px; height: 20px;">4</td> <td style="width: 20px; height: 20px;">5</td> <td style="width: 20px; height: 20px;">6</td> <td style="width: 20px; height: 20px;">7</td> <td style="width: 20px; height: 20px;">8</td> <td style="width: 20px; height: 20px;">9</td> <td style="width: 20px; height: 20px;">10</td> <td style="width: 20px; height: 20px;">11</td> <td style="width: 20px; height: 20px;">12</td> <td style="width: 20px; height: 20px;">13</td> <td style="width: 20px; height: 20px;">14</td> <td style="width: 20px; height: 20px;">15</td> <td style="width: 20px; height: 20px;">16</td> </tr> </table>															P.O	Week															1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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Short Course Description	<p>This course contains knowledge that studies human cognition, which includes how humans think and the brain works from the aspects of education, conditions, computer science, and artificial intelligence. During 1 semester you will learn about the brain, how the brain and nerves work related to cognitive processes, how machines work in artificial intelligence models (artificial intelligence) and getting to know electroencephalogram (EEG) signals to learn more deeply about how electrical signal activity is represented in the brain. Several implementations of computer science technology in cognitive science are also studied in this lecture. This lecture not only contains theory but also experiments, discussions and projects to explore the latest developments in cognitive science.</p>																																														
References	Main :																																														
	<ol style="list-style-type: none"> 1. Vladimír Kvasnička, et al, Artificial Intelligence and Cognitive Science, 2014, Faculty of Informatics and Information Technologies SUT in Bratislava. 2. Jamie Ward, The Students Guide to Cognitive Neuroscience, 4th edition, Routledge, 2020. 3. Dale Purves, Roberto Cabeza, Scott A. Huettel, Kevin S. LaBar, Michael L. Platt and Marty G. Woldorff, Principles of Cognitive Neuroscience. 2nd Edition, 2013, Sinauer Associates, Inc. 																																														
	Supporters:																																														
Supporting lecturer	Dr. Elly Matul Imah, M.Kom.																																														
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	Introduction to cognitive sciences (cognitive science)			2 X 50			0%
2	Brain and Cognition			2 X 50			0%
3	Brain and Cognition			2 X 50			0%
4	Perception and the visual system			2 X 50			0%
5	Learning & Memory			2 X 50			0%
6	Information processing in humans, animals, and machines			2 X 50			0%
7	EEG signal			2 X 50			0%
8	UTS			2 X 50			0%
9	Utilization of EEG in the analysis of cognitive processes			2 X 50			0%
10	Artificial intelligence and machine learning models			2 X 50			0%
11	Utilization of ICT technology in education, especially cognitive science: Brain Computer Interface			2 X 50			0%
12	Utilization of ICT technology in cognitive science: Eye tracker			2 X 50			0%
13	Presentation of project reference articles about cognitive science in the era of artificial intelligence			2 X 50			0%
14	Implementation of project design			2 X 50			0%
15	Experiments and field trials			2 X 50			0%
16							0%

Evaluation Percentage Recap: Project Based Learning

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.