

 UNESA	Universitas Negeri Surabaya Faculty of Mathematics and Natural Sciences Data Science Undergraduate Study Program					Document Code																																
SEMESTER LEARNING PLAN																																						
Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																															
Digital Signal Processing	4920202011		T=2	P=0	ECTS=3.18	3	July 17, 2024																															
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																
			Yuliani Puji Astuti, S.Si., M.Si.																																
Learning model	Project Based Learning																																					
Program Learning Outcomes (PLO)	PLO study program which is charged to the course																																					
	Program Objectives (PO)																																					
	PLO-PO Matrix																																					
		<div style="border: 1px solid black; padding: 5px; display: inline-block;">P.O</div>																																				
Short Course Description	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="padding: 5px;">P.O</td> <td colspan="16" style="text-align: center; padding: 5px;">Week</td> </tr> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">4</td> <td style="padding: 5px;">5</td> <td style="padding: 5px;">6</td> <td style="padding: 5px;">7</td> <td style="padding: 5px;">8</td> <td style="padding: 5px;">9</td> <td style="padding: 5px;">10</td> <td style="padding: 5px;">11</td> <td style="padding: 5px;">12</td> <td style="padding: 5px;">13</td> <td style="padding: 5px;">14</td> <td style="padding: 5px;">15</td> <td style="padding: 5px;">16</td> </tr> </table>					P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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References	Main :																																					
	<ol style="list-style-type: none"> 1. D. G. Manolakis and V. K. Ingle, Applied Digital Signal Processing: Theory and Practice, Cambridge Univ. Press, 2010 2. Diniz, P., Da Silva, E., & Netto, S. (2010). Contents. In Digital Signal Processing: System Analysis and Design (pp. Vii-Xv). Cambridge: Cambridge University Press. 3. Masruroh, A. H., Imah, E. M., & Rahmawati, E. (2019). Classification of Emotional State Based on EEG Signal using AMGLVQ. <i>Procedia Computer Science</i>, 157, 552–559. https://doi.org/10.1016/J.PROCS.2019.09.013 4. Laksono, I.K., Imah, E.M., Schizophrenia Detection Based on Electroencephalogram Using Support Vector Machine, 8th International Conference on ICT for Smart Society: Digital Twin for Smart Society, ICISS 2021 - Proceeding, 2021. 5. Imah, E.M., Dewi, E.S., Asto Buditjahjanto, I.G.P., A Comparative Analysis of Machine Learning Methods for Joint Attention Classification in Autism Spectrum Disorder Using Electroencephalography Brain Computer Interface, <i>International Journal of Intelligent Engineering and Systems</i>, 2021, 14(3), pp. 412–424. 6. Puspitasari, R.D.I., Masum, M.A., Alhamidi, M.R., Kurnianingsih, Jatmiko, W, Generative adversarial networks for unbalanced fetal heart rate signal classification, <i>ICT Express</i>, 2022, 8(2), pp. 239–243. 																																					
	Supporters:																																					

Supporting lecturer		Dr. Atik Wintarti, M.Kom. Dr. Ely Matul Imah, M.Kom. Riskiyana Dewi Intan Puspitasari, M.Kom. Fadhilah Qalbi Annisa, S.T., M.Sc.					
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	Understanding linear shift-invariant (LSI) discrete-time systems analysis	1. Understand the basic concepts of signals and their operations 2. Understand discrete-time signals 3. Understand discrete-time systems 4. Analyze LSI discrete-time systems Understand digital signal processing applications		2 X 50			0%
2							0%
3							0%
4							0%
5							0%
6							0%
7							0%
8							0%
9							0%
10							0%
11							0%
12							0%
13							0%
14							0%
15							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.