



**Universitas Negeri Surabaya  
Faculty of Engineering,  
Electrical Engineering Undergraduate Study Program**

Document Code

**SEMESTER LEARNING PLAN**

<b>Courses</b>	<b>CODE</b>	<b>Course Family</b>	<b>Credit Weight</b>	<b>SEMESTER</b>	<b>Compilation Date</b>																																																				
Multimedia Processor	2020102147	Compulsory Study Program Subjects	T=2 P=0 ECTS=3.18	7	May 5, 2023																																																				
<b>AUTHORIZATION</b>	<b>SP Developer</b>		<b>Course Cluster Coordinator</b>		<b>Study Program Coordinator</b>																																																				
	Farid Baskoro, S.T., M.T. ; Parama Diptya Widayaka, S.ST., M.T.		Prof. Dr. I Gusti Putu Asto B., M.T.		Dr. Lusia Rakhmawati, S.T., M.T.																																																				
<b>Learning model</b>	Case Studies																																																								
<b>Program Learning Outcomes (PLO)</b>	PLO study program that is charged to the course																																																								
	Program Objectives (PO)																																																								
	PO - 1	Able to apply knowledge of mathematics, natural sciences, information technology, and electrical engineering to gain a thorough understanding of engineering principles																																																							
	PLO-PO Matrix																																																								
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td style="padding: 5px;">P.O</td></tr> <tr><td style="padding: 5px;">PO-1</td></tr> </table>				P.O	PO-1																																																		
P.O																																																									
PO-1																																																									
PO Matrix at the end of each learning stage (Sub-PO)																																																									
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td></td> <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> <tr> <td style="padding: 5px;">PO-1</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>					P.O	Week																	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	PO-1																	
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PO-1																																																									
<b>Short Course Description</b>	This course discusses digital images and videos starting from acquisition, storage, compression, sending and processing such as repair, restoration, recognition and visualization of objects from digital images or videos. This course is presented in the form of theory and practice																																																								
<b>References</b>	<b>Main :</b>																																																								
	1. Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person																																																								
	<b>Supporters:</b>																																																								
	1. Lars W. DSP Integrated Circuit. 1999. Academi Press																																																								
<b>Supporting lecturer</b>	Dr. Farid Baskoro, S.T., M.T. Parama Diptya Widayaka, S.ST., M.T.																																																								
<b>Week-</b>	<b>Final abilities of each learning stage (Sub-PO)</b>	<b>Evaluation</b>		<b>Help Learning, Learning methods, Student Assignments, [ Estimated time]</b>		<b>Learning materials [ References ]</b>	<b>Assessment Weight (%)</b>																																																		
		<b>Indicator</b>	<b>Criteria &amp; Form</b>	<b>Offline ( offline )</b>	<b>Online ( online )</b>																																																				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)																																																		

1	Students are able to understand an introduction to Multimedia	<ol style="list-style-type: none"> <li>1. Students are able to understand what multimedia is</li> <li>2. Students are able to understand Multimedia and Hypermedia</li> <li>3. Students are able to understand the World Wide Web</li> <li>4. Students are able to understand various types of multimedia software</li> </ol>	<p><b>Criteria:</b></p> <ol style="list-style-type: none"> <li>1. The assessment criteria are carried out by looking at aspects:</li> <li>2.1. Participation: carried out by observing student activities (weight 2)</li> <li>3.2. UTS: carried out with an assessment during the middle of the semester (weight 2)</li> <li>4.3. UAS: carried out every semester to measure all indicators (weight 3)</li> <li>5.4. Task: carried out on each indicator (weight 3)</li> <li>6. Student Final Grade:</li> <li>7. Participation Score (2) % 2 Lever Score (3) % 2 UTS Score (2) % 2 UAS Score (3) divided by 10</li> </ol> <p><b>Form of Assessment :</b> Participatory Activities</p>	Discussion and Questions and Answers Presentation 2 X 50		<p><b>Material:</b> Meeting material 1</p> <p><b>References:</b> <i>Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person</i></p>	5%
2	Students are able to understand an introduction to Multimedia	<ol style="list-style-type: none"> <li>1. Students are able to understand what multimedia is</li> <li>2. Students are able to understand Multimedia and Hypermedia</li> <li>3. Students are able to understand the World Wide Web</li> <li>4. Students are able to understand various types of multimedia software</li> </ol>	<p><b>Criteria:</b></p> <ol style="list-style-type: none"> <li>1. The assessment criteria are carried out by looking at aspects:</li> <li>2.1. Participation: carried out by observing student activities (weight 2)</li> <li>3.2. UTS: carried out with an assessment during the middle of the semester (weight 2)</li> <li>4.3. UAS: carried out every semester to measure all indicators (weight 3)</li> <li>5.4. Task: carried out on each indicator (weight 3)</li> <li>6. Student Final Grade:</li> <li>7. Participation Score (2) % 2 Lever Score (3) % 2 UTS Score (2) % 2 UAS Score (3) divided by 10</li> </ol> <p><b>Form of Assessment :</b> Participatory Activities</p>	Discussion and Questions and Answers Presentation 2 X 50		<p><b>Material:</b> Meeting material 2</p> <p><b>References:</b> <i>Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person</i></p>	0%

3	Students are able to understand multimedia equipment and writing	<ol style="list-style-type: none"> <li>1. students are able to understand multimedia writing</li> <li>2. Students are able to understand the use of editing and writing equipment in Multimedia</li> <li>3. students are able to understand VRML</li> </ol>	<p><b>Criteria:</b></p> <ol style="list-style-type: none"> <li>1. The assessment criteria are carried out by looking at aspects:</li> <li>2.1. Participation: carried out by observing student activities (weight 2)</li> <li>3.2. UTS: carried out with an assessment during the middle of the semester (weight 2)</li> <li>4.3. UAS: carried out every semester to measure all indicators (weight 3)</li> <li>5.4. Task: carried out on each indicator (weight 3)</li> <li>6. Student Final Grade:</li> <li>7. Participation Score (2) % 2 Lever Score (3) % 2 UTS Score (2) % 2 UAS Score (3) divided by 10</li> </ol> <p><b>Form of Assessment :</b> Participatory Activities</p>	Questions and answers Discussion Presentation 2 X 50		<p><b>Material:</b> Meeting material 3</p> <p><b>References:</b> Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person</p>	0%
4	Students are able to understand multimedia equipment and writing	<ol style="list-style-type: none"> <li>1. students are able to understand multimedia writing</li> <li>2. Students are able to understand the use of editing and writing equipment in Multimedia</li> <li>3. students are able to understand VRML</li> </ol>	<p><b>Criteria:</b></p> <ol style="list-style-type: none"> <li>1. The assessment criteria are carried out by looking at aspects:</li> <li>2.1. Participation: carried out by observing student activities (weight 2)</li> <li>3.2. UTS: carried out with an assessment during the middle of the semester (weight 2)</li> <li>4.3. UAS: carried out every semester to measure all indicators (weight 3)</li> <li>5.4. Task: carried out on each indicator (weight 3)</li> <li>6. Student Final Grade:</li> <li>7. Participation Score (2) % 2 Lever Score (3) % 2 UTS Score (2) % 2 UAS Score (3) divided by 10</li> </ol> <p><b>Form of Assessment :</b> Participatory Activities</p>	Questions and answers Discussion Presentation 2 X 50			5%

5	Students are able to understand graphs and image representation of data	1.Graphic / Image data type 2.Various file formats	<b>Criteria:</b> 1.The assessment criteria are carried out by looking at aspects: 2.1. Participation: carried out by observing student activities (weight 2) 3.2. UTS: carried out with an assessment during the middle of the semester (weight 2) 4.3. UAS: carried out every semester to measure all indicators (weight 3) 5.4. Task: carried out on each indicator (weight 3) 6.Student Final Grade: 7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10  <b>Form of Assessment :</b> Participatory Activities	Discussion and question and answer presentation 2 X 50		<b>Material:</b> Meeting material 5 <b>References:</b> Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person	5%
6	Students are able to understand graphs and image representation of data	1.Graphic / Image data type 2.Various file formats	<b>Criteria:</b> 1.The assessment criteria are carried out by looking at aspects: 2.1. Participation: carried out by observing student activities (weight 2) 3.2. UTS: carried out with an assessment during the middle of the semester (weight 2) 4.3. UAS: carried out every semester to measure all indicators (weight 3) 5.4. Task: carried out on each indicator (weight 3) 6.Student Final Grade: 7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10  <b>Form of Assessment :</b> Participatory Activities	Discussion and question and answer presentation 2 X 50		<b>Material:</b> Meeting material 6 <b>References:</b> Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person	5%

7	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<b>Criteria:</b> 1.The assessment criteria are carried out by looking at aspects: 2.1. Participation: carried out by observing student activities (weight 2) 3.2. UTS: carried out with an assessment during the middle of the semester (weight 2) 4.3. UAS: carried out every semester to measure all indicators (weight 3) 5.4. Task: carried out on each indicator (weight 3) 6.Student Final Grade: 7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10  <b>Form of Assessment :</b> Participatory Activities	Discussion and questions and answers Presentation 2 X 50		<b>Material:</b> Meeting material 7 <b>Reader:</b> <i>Lars W. DSP Integrated Circuit. 1999. Academic Press</i>	5%
8	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<b>Criteria:</b> 1.The assessment criteria are carried out by looking at aspects: 2.1. Participation: carried out by observing student activities (weight 2) 3.2. UTS: carried out with an assessment during the middle of the semester (weight 2) 4.3. UAS: carried out every semester to measure all indicators (weight 3) 5.4. Task: carried out on each indicator (weight 3) 6.Student Final Grade: 7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10  <b>Form of Assessment :</b> Project Results Assessment / Product Assessment	Discussion and questions and answers Presentation 2 X 50		<b>Material:</b> Meeting material 1-7 <b>References:</b> <i>Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person</i>	10%

9	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<p><b>Criteria:</b></p> <ol style="list-style-type: none"> <li>1.The assessment criteria are carried out by looking at aspects:</li> <li>2.1. Participation: carried out by observing student activities (weight 2)</li> <li>3.2. UTS: carried out with an assessment during the middle of the semester (weight 2)</li> <li>4.3. UAS: carried out every semester to measure all indicators (weight 3)</li> <li>5.4. Task: carried out on each indicator (weight 3)</li> <li>6.Student Final Grade:</li> <li>7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10</li> </ol> <p><b>Form of Assessment :</b> Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussion and questions and answers Presentation 2 X 50		<p><b>Material:</b> Meeting material 1-7</p> <p><b>References:</b> <i>Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person</i></p>	10%
10	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<p><b>Criteria:</b></p> <ol style="list-style-type: none"> <li>1.The assessment criteria are carried out by looking at aspects:</li> <li>2.1. Participation: carried out by observing student activities (weight 2)</li> <li>3.2. UTS: carried out with an assessment during the middle of the semester (weight 2)</li> <li>4.3. UAS: carried out every semester to measure all indicators (weight 3)</li> <li>5.4. Task: carried out on each indicator (weight 3)</li> <li>6.Student Final Grade:</li> <li>7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10</li> </ol> <p><b>Form of Assessment :</b> Practice / Performance</p>	Discussion and questions and answers Presentation 2 X 50		<p><b>Material:</b> Meeting material 1-7</p> <p><b>References:</b> <i>Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person</i></p>	5%

11	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<b>Criteria:</b> 1.The assessment criteria are carried out by looking at aspects: 2.1. Participation: carried out by observing student activities (weight 2) 3.2. UTS: carried out with an assessment during the middle of the semester (weight 2) 4.3. UAS: carried out every semester to measure all indicators (weight 3) 5.4. Task: carried out on each indicator (weight 3) 6.Student Final Grade: 7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10  <b>Form of Assessment :</b> Participatory Activities, Practice/Performance	Discussion and questions and answers Presentation 2 X 50		<b>Material:</b> Meeting material 1-7 <b>References:</b> <i>Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person</i>	10%
12	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<b>Criteria:</b> 1.The assessment criteria are carried out by looking at aspects: 2.1. Participation: carried out by observing student activities (weight 2) 3.2. UTS: carried out with an assessment during the middle of the semester (weight 2) 4.3. UAS: carried out every semester to measure all indicators (weight 3) 5.4. Task: carried out on each indicator (weight 3) 6.Student Final Grade: 7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10  <b>Form of Assessment :</b> Participatory Activities, Practice/Performance	Discussion and questions and answers Presentation 2 X 50		<b>Material:</b> Meeting material 1-7 <b>References:</b> <i>Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person</i>	10%

13	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<b>Criteria:</b> 1.The assessment criteria are carried out by looking at aspects: 2.1. Participation: carried out by observing student activities (weight 2) 3.2. UTS: carried out with an assessment during the middle of the semester (weight 2) 4.3. UAS: carried out every semester to measure all indicators (weight 3) 5.4. Task: carried out on each indicator (weight 3) 6.Student Final Grade: 7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10  <b>Form of Assessment :</b> Participatory Activities, Practice/Performance	Discussion and questions and answers Presentation 2 X 50		<b>Material:</b> Meeting material 1-7 <b>References:</b> Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person	10%
14	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<b>Criteria:</b> 1.The assessment criteria are carried out by looking at aspects: 2.1. Participation: carried out by observing student activities (weight 2) 3.2. UTS: carried out with an assessment during the middle of the semester (weight 2) 4.3. UAS: carried out every semester to measure all indicators (weight 3) 5.4. Task: carried out on each indicator (weight 3) 6.Student Final Grade: 7.Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10  <b>Form of Assessment :</b> Participatory Activities, Practice/Performance	Discussion and questions and answers Presentation 2 X 50		<b>Material:</b> Meeting material 1-7 <b>References:</b> Ze Nian Li, Mark S drew. Fundamentals of Multimedia. 2004 Person	10%



15	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<p><b>Criteria:</b></p> <ol style="list-style-type: none"> <li>The assessment criteria are carried out by looking at aspects:</li> <li>1. Participation: carried out by observing student activities (weight 2)</li> <li>3.2. UTS: carried out with an assessment during the middle of the semester (weight 2)</li> <li>4.3. UAS: carried out every semester to measure all indicators (weight 3)</li> <li>5.4. Task: carried out on each indicator (weight 3)</li> <li>6. Student Final Grade:</li> <li>7. Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10</li> </ol> <p><b>Form of Assessment :</b> Participatory Activities, Practice/Performance</p>	Discussion and questions and answers Presentation 2 X 50		<p><b>Material:</b> Meeting material 1-7 <b>References:</b> Ze Nian Li, Mark S drew. <i>Fundamentals of Multimedia.</i> 2004 Person</p>	5%
16	Students are able to understand and study coloring in images and videos	Students are able to learn various coloring methods Students are able to study coloring models on images Students are able to study coloring models on videos	<p><b>Criteria:</b></p> <ol style="list-style-type: none"> <li>The assessment criteria are carried out by looking at aspects:</li> <li>2.1. Participation: carried out by observing student activities (weight 2)</li> <li>3.2. UTS: carried out with an assessment during the middle of the semester (weight 2)</li> <li>4.3. UAS: carried out every semester to measure all indicators (weight 3)</li> <li>5.4. Task: carried out on each indicator (weight 3)</li> <li>6. Student Final Grade:</li> <li>7. Participation Score (2)%2 Lever Score (3)%2 UTS Score (2)%2 UAS Score (3) divided by 10</li> </ol> <p><b>Form of Assessment :</b> Assessment of Project Results / Product Assessment, Practices / Performance</p>	Discussion and questions and answers Presentation 2 X 50		<p><b>Material:</b> Meeting material 1-7 <b>References:</b> Ze Nian Li, Mark S drew. <i>Fundamentals of Multimedia.</i> 2004 Person</p>	5%

**Evaluation Percentage Recap: Case Study**

No	Evaluation	Percentage
1.	Participatory Activities	52.5%
2.	Project Results Assessment / Product Assessment	17.5%
3.	Practice / Performance	30%
		100%

**Notes**

- 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.
- 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.
- 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.
- 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.