			Document Code
 UNESA	**Universitas Negeri Surabaya** **Faculty of Engineering** **Civil Engineering Undergraduate Study Program**		

SEMESTER LEARNING PLAN

Courses		CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Project Planning and Control		2220103085	Compulsory Study Program Subjects	T=3	P=0	ECTS=4.77	4	April 28, 2023

AUTHORIZATION		SP Developer		Course Cluster Coordinator	Study Program Coordinator
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Learning model	Case Studies	
Program Learning Outcomes (PLO)	**PLO study program which is charged to the course**	
	Program Objectives (PO)	
	PO - 1	Students are able to apply mathematical, information technology and managerial knowledge to gain a thorough understanding of project planning and control.
	PO - 2	Students are able to design the process (scheduling) of civil engineering projects to meet expected needs within realistic limits by utilizing the potential of local and national resources.
	PO - 3	Students are able to apply modern methods, skills and technical tools needed for preparing project schedules.
	PO - 4	Students are able to plan, complete and evaluate project scheduling within existing constraints.
	PLO-PO Matrix	

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

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																

Short Course Description	This course contains the project planning process which consists of manually preparing a project schedule in the form of a Gantt Chart, Line Diagram, and Network Planning (CPM, PERT, PDM) manually as the basics for mastering and understanding project scheduling theory and using software (Microsoft Project), followed by project resource planning and techniques that can be used to control project costs and time.
References	**Main :**

1. Suryanto HS, Mas, Dani Hasan. 2006. Manajemen Proyek II . Surabaya: Unipres Unesa.
2. Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Manajemen Proyek Konstruksi 2 . Surabaya: Kartika Yudha.
3. Soeharto Iman. 2001. Manajemen Proyek dari Konseptual Sampai Operasional Jilid 2 . Jakarta: Erlangga.
4. Widiasanti Irika, Lenggogeni. 2013. Manajemen Konstruksi . Bandung: Remaja Rosdakarya.
5. Husen Abrar. 2011. Manajemen Proyek . Yogyakarta: Andi.
6. Suhendi Edi. 2009. Panduan Mengelola Proyek dengan Microsoft Office Project. Bandung: Yrama Widya.

Supporters:	
1. Journal of Construction Engineering and Management (ASCE)	

Supporting lecturer	Krisna Dwi Handayani, S.T., M.MT., M.T. Ir. Mas Suryanto H.S., S.T., M.T.

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	1.Understand the functions and types of project scheduling. 2.Create a project schedule in the form of a Gantt Chart. 3.Create a project schedule in the form of a Line Diagram.	1.Can mention the functions and types of project scheduling. 2.Can create a project schedule in the form of a Gantt Chart. 3.Can create project schedules in the form of Line Diagrams.	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Participatory Activities	Lectures, questions and answers, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Functions and types of project scheduling **Reader:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.* **Material:** Construction project scheduling **Reference:** *Widiasanti Irika, Lenggogeni. 2013. Construction Management. Bandung: Rosdakarya Youth.* **Material:** Functions and types of project scheduling **Reference:** *Husen Abrar. 2011. Project Management. Yogyakarta: Andi.*	5%

| 2 | Understand and draw Network Planning for project scheduling. | Can draw Network Planning for project scheduling. | **Criteria:** Good marks if the practice questions can be done correctly.

Form of Assessment : Project Results Assessment / Product Assessment | Lecture, practice questions 3 X 50 | | **Material:** Project Scheduling with Network Planning **Reader:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.*

Material: Project Scheduling with Network Planning **Reference:** *Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Construction Project Management 2. Surabaya: Kartika Yudha.* | 5% |
| 3 | Understand the project schedule using the CPM Method. | Can create project schedules using the CPM Method. | **Criteria:** Good marks if the practice questions can be done correctly.

Form of Assessment : Participatory Activities | Lecture, practice questions 3 X 50 | | **Material:** Project Scheduling using the CPM Method **Reader:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.*

Material: Project Scheduling with CPM. **References:** *Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Construction Project Management 2. Surabaya: Kartika Yudha.* | 5% |

4	Understand making project schedules using the Project Evaluation and Review Technique (PERT) method.	Can create project schedules using the PERT method.	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Project Results Assessment / Product Assessment	Lectures, questions and answers, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Project Scheduling using the PERT Method **Reader:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.* **Material:** Project Scheduling using the PERT Method **Reference:** *Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Construction Project Management 2. Surabaya: Kartika Yudha.* **Material:** Project Scheduling using the PERT Method **Reader:** *Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.*	5%
5	Able to implement CPM and PERT methods for project scheduling.	1.Can compare project scheduling using the CPM and PERT methods. 2.Can create project scheduling with Gantt charts. 3.Can create project scheduling with line diagrams.	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Project Results Assessment / Product Assessment	Lectures, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Project Scheduling using various methods. **Bibliography:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.* **Material:** Project Scheduling with Network Planning **Reference:** *Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Construction Project Management 2. Surabaya: Kartika Yudha.*	10%

6	Understand the project schedule using the PDM Method.	Can create project schedules using the PDM method.	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Participatory Activities	Lectures, questions and answers, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Project Scheduling using the PDM Method. **Bibliography:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.* **Material:** Project Scheduling using the PDM Method. **Bibliography:** *Husen Abrar. 2011. Project Management. Yogyakarta: Andi.*	5%
7	Implement project scheduling using the PDM method.	Can implement project scheduling in the field using the PDM method.	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Project Results Assessment / Product Assessment	Lectures, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Project Scheduling using the PDM Method. **Bibliography:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.* **Material:** Project Scheduling using the PDM Method. **Bibliography:** *Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.*	10%
8	Midterm Exam (UTS)						0%

9	Understand productivity and project resource allocation.	1.Can calculate labor productivity to estimate project duration. 2.Can carry out project resource allocation.	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Project Results Assessment / Product Assessment	Lectures, questions and answers, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Productivity and Resource Allocation **Reader:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.* **Material:** Project Resource Allocation **Bibliography:** *Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Construction Project Management 2. Surabaya: Kartika Yudha.*	5%
10	Understand project scheduling using Microsoft Project Software.	Can create project schedules using Microsoft Project Software	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Practice / Performance	Lectures, questions and answers, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Project Scheduling using Microsoft Project **Reader:** *Suhendi Edi. 2009. Guide to Managing Projects with Microsoft Office Project. Bandung: Yrama Widya.*	10%
11	Complete project schedule case studies using Microsoft Project software.	Can complete project schedule case studies using Microsoft Project software.	**Criteria:** Good marks if the case study can be done correctly. **Form of Assessment** : Practice / Performance	Lectures, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Project Scheduling with Microsoft Project **Reader:** *Suhendi Edi. 2009. Guide to Managing Projects with Microsoft Office Project. Bandung: Yrama Widya.*	15%
12	Understand the basic principles and controls at the project stage.	1.Can state the basic principles of project control. 2.Can mention the types of control at the project stages.	**Criteria:** Good marks if questions are answered correctly. **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers. 3 X 50	Lectures and questions and answers. 3 X 50	**Material:** Project Control **Literature:** *Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.*	5%

13	Understand project cost and time control.	1. Can mention and explain the types and methods of controlling project costs. 2. Can mention and explain the types and methods of controlling project time. 3. Can create S Curves for controlling project costs and time.	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Project Results Assessment / Product Assessment	Lectures, questions and answers, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Controlling Project Costs and Time **References:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.* **Material:** Project Cost and Time Control **References:** *Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Construction Project Management 2. Surabaya: Kartika Yudha.*	10%
14	Understand project cost and time control methods.	Can explain methods of controlling project costs and time.	**Criteria:** Good marks if questions are answered correctly. **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers. 3 X 50	Lectures and questions and answers. 3 X 50	**Material:** Controlling project costs and time **References:** *Suryanto HS, Mas, Dani Hasan. 2006. Project Management II. Surabaya: Unipres Unesa.* **Material:** Concept of Value **Literature Results:** *Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.*	5%
15	Understand project reports.	Can create project reports.	**Criteria:** Good marks if the practice questions can be done correctly. **Form of Assessment** : Project Results Assessment / Product Assessment	Lectures, questions and answers, practice questions. 3 X 50	Lectures, practice questions. 3 X 50	**Material:** Project Report **Literature:** *Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.* **Material:** Project Report **Bibliography:** *Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Construction Project Management 2. Surabaya: Kartika Yudha.*	5%

16	Final Semester Examination (UAS)						0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	25%
2.	Project Results Assessment / Product Assessment	50%
3.	Practice / Performance	25%
		100%

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** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities 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.