	Universitas Negeri Surabaya Vocational Faculty, D4 Civil Engineering Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
PROJECT PLANNING & CONTROL	2230502041		T=2	P=0	ECTS=3.18	5	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
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Learning model	**Project Based Learning**	
Program Learning Outcomes (PLO)	**PLO study program which is charged to the course**	
	Program Objectives (PO)	
	PO - 1	Understand the functions and types of project scheduling
	PO - 2	Understand and create a project schedule in the form of a Gantt Char
	PO - 3	Understand and create a project schedule in the form of a Line Diagram
	PO - 4	Understand and draw Network Planning for project scheduling
	PO - 5	Understand the project schedule using the CPM Method
	PO - 6	Understand the project schedule using the PERT Method
	PO - 7	Understand the project schedule using the PDM Method
	PO - 8	Create a project schedule using Microsoft Project Software
	PO - 9	Calculate labor requirements based on the duration of work
	PO - 10	Allocation of resources
	PO - 11	Understand the basic principles of project control
	PO - 12	Understand how to control project costs and time
	PO - 13	Understand project cost and time control methods. Understand project reports
	PLO-PO Matrix	

P.O
PO-1
PO-2
PO-3
PO-4
PO-5
PO-6
PO-7
PO-8
PO-9
PO-10
PO-11
PO-12
PO-13

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																
PO-6																
PO-7																
PO-8																
PO-9																
PO-10																
PO-11																
PO-12																
PO-13																

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. Learning is carried out offline asynchronously or synchronously, or online via Vilearning Unesa, Google Classroom, and Google Meet with a constructivist approach.
References	**Main :**

1. Bayu Dwi Wismantoro . 2022. Manajemen konstruksi profesional . Sleman: Deepublish
2. Eko Kusumo Friatmojo , Adityo Budi Utomo . 2022. Manajemen Konstruksi : Penjadwalan Proyek Kontruksi bagi Pemula. Sleman: Deepublish
3. Paul Nugraha. 2021. Penjadwalan Proyek Konstruksi: dari metode jalur kritis sampai pengenalan pemodelan informasi bangunan 4D. Yogyakarta: Kanisius
4. Sugiyanto. 2020.Manajemen Pengendalian Proyek. Surabaya: Scopindo Media Pustaka
5. Elis Ratna Wulan. 2019.Manajemen Proyek dengan PERT atau CPM. Bandung : Bitread Publishing
6. Hafnidar A.Rani. 2016. Manajemen proyek konstruksi. Sleman: Deepublish
7. Widiasanti Irika, Lenggogeni. 2013. Manajemen Konstruksi . Bandung: Remaja Rosdakarya.
8. Husen Abrar. 2011. Manajemen Proyek . Yogyakarta: Andi.
9. SholehMoh Nur, Asri Nurdiana. 2023. Belajar Cepat Microsoft Project 2019. Yogyakarta: Pustaka Pranala

Supporters:

1. Journal of Construction Engineering and Management (ASCE)

Supporting lecturer	Drs. Hasan Dani, M.T. Puguh Novi Prasetyono, S.Pd., 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	Understand the functions and types of project scheduling	Can mention the functions and types of project scheduling	**Criteria:** Good marks if you can answer correctly **Form of Assessment** : Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	**Material:** types of project scheduling **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** construction project scheduling **Reference:** *Bayu Dwi Wismantoro . 2022. Professional construction management. Sleman: Deepublish*	5%
2	Understand and create a project schedule in the form of a Gantt Chart	Can create a project schedule in the form of a Gantt Chart	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	**Material:** project schedule **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** construction project scheduling **Reference:** *Bayu Dwi Wismantoro . 2022. Professional construction management. Sleman: Deepublish*	5%

3	Understand and create a project schedule in the form of a Line Diagram	Can create project schedules in the form of Line Diagrams	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	**Material:** project scheduling **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** construction project scheduling **Reference:** *Bayu Dwi Wismantoro . 2022. Professional construction management. Sleman: Deepublish*	5%

4	Understand and draw Network Planning for project scheduling	Can draw Network Planning for project scheduling	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	**Material:** preparing network planning **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** construction project scheduling **Reference:** *Bayu Dwi Wismantoro . 2022. Professional construction management. Sleman: Deepublish* **Material:** network planning **Reader:** *Elis Ratna Wulan. 2019.Project Management with PERT or CPM. Bandung: Bitread Publishing* **Material:** critical path in network planning **Reader:** *Paul Nugraha. 2021. Construction Project Scheduling: from critical path methods to an introduction to 4D building information modeling. Yogyakarta: Kanisius*	5%

5	Understand the project schedule using the CPM Method	Can create project schedules using the CPM Method	**Criteria:** Good marks if answered correctly **Forms of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment, Tests	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	**Material:** construction project scheduling **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** project schedule using the CPM method **Reader:** *Elis Ratna Wulan. 2019.Project Management with PERT or CPM. Bandung: Bitread Publishing* **Material:** critical path method **Reader:** *Paul Nugraha. 2021. Construction Project Scheduling: from critical path methods to an introduction to 4D building information modeling. Yogyakarta: Kanisius*	5%

6	Understand the project schedule using the PERT Method	Can create project schedules using the PERT method	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	**Material:** construction project scheduling **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** project schedule using the PERT method **Reader:** *Elis Ratna Wulan. 2019.Project Management with PERT or CPM. Bandung: Bitread Publishing*	0%
7	Understand the project schedule using the PDM Method	Can create project schedules using the PDM method	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	**Material:** construction project scheduling **Reference:** *Bayu Dwi Wismantoro . 2022. Professional construction management. Sleman: Deepublish* **Material:** construction project scheduling **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish*	0%

8	U.S.S	-	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities, Tests	- 2 X 50 Written Exam	- 2 X 50 Written Exam	**Material:** construction project scheduling **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** project management **Reader:** *Bayu Dwi Wismantoro . 2022. Professional construction management. Sleman: Deepublish*	0%
9	Create a project schedule using Microsoft Project Software	Can create project schedules using Microsoft Project Software	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, computer practice 2X 50	Lectures, computer practice 2X 50	**Material:** construction project scheduling **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** preparing a schedule using MS. library project **:** *SholehMoh Nur, Asri Nurdiana. 2023. Fast Learning Microsoft Project 2019. Yogyakarta: Link Library*	0%

10	Create a project schedule using Microsoft Project Software	Can create project schedules using Microsoft Project Software	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, computer practice 2 X 50	Lectures, computer practice 2 X 50	**Material:** construction project scheduling **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** preparing a schedule using MS. library project **:** *SholehMoh Nur, Asri Nurdiana. 2023. Fast Learning Microsoft Project 2019. Yogyakarta: Link Library*	30%
11	Calculate labor requirements based on the duration of work	Can calculate labor requirements based on the duration of work	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	**Material:** calculating the duration of work **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** determining the duration of work **Reader:** *Elis Ratna Wulan. 2019.Project Management with PERT or CPM. Bandung: Bitread Publishing*	0%

12	Allocation of resources	Can carry out resource allocation	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	**Material:** resource allocation **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** resource allocation **Reader:** *Bayu Dwi Wismantoro . 2022. Professional construction management. Sleman: Deepublish*	0%
13	Understand the basic principles of project control	Can mention and explain the basic principles of project control	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities	Lecture, question and answer 2 X 50	Lecture, question and answer 2 X 50	**Material:** construction project control **Reference:** *Sugiyanto. 2020.Project Control Management. Surabaya: Scopindo Media Pustaka* **Material:** construction project control **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish*	5%

14	Understand how to control project costs and time	Can control project costs and time	**Criteria:** Good marks if answered correctly **Form of Assessment** : Participatory Activities	Lectures, questions and answers, practice questions 2 X 50	Lectures, questions and answers, practice questions 2 X 50	**Material:** project cost and time control **Reader:** *Sugiyanto. 2020.Project Control Management. Surabaya: Scopindo Media Pustaka* **Material:** cost and time control **Reader:** *Hafnidar A.Rani. 2016. Construction project management. Sleman: Deepublish*	5%
15	Understand project cost and time control methods. Understand project reports	Can apply project cost and time control methods. Can create project reports	**Criteria:** Good marks if you can answer correctly **Form of Assessment** : Participatory Activities, Project Results Assessment / Product Assessment	Lecture, question and answer 2 X 50	Lecture, question and answer 2 X 50	**Material:** construction project report **References:** *Eko Kusumo Friatmojo, Adityo Budi Utomo. 2022. Construction Management: Construction Project Scheduling for Beginners. Sleman: Deepublish* **Material:** construction project report\ **Reference:** *Husen Abrar. 2011. Project Management. Yogyakarta: Andi.*	0%
16	Summative Exam	100 marks if answered correctly	**Criteria:** 100 marks if answered correctly **Form of Assessment** : Participatory Activities, Tests	Written Exam 2 X 50	Written Test 2 X 50	**Material:** project planning and control **Reference:** *Bayu Dwi Wismantoro . 2022. Professional construction management. Sleman: Deepublish* **Material:** project scheduling **Reader:** *Paul Nugraha. 2021. Construction Project Scheduling: from critical path methods to an introduction to 4D building information modeling. Yogyakarta: Kanisius*	20%

							Material: project control **Reference:** *Sugiyanto. 2020.Project Control Management. Surabaya: Scopindo Media Pustaka* **Material:** cpm and pert pathways **Reader:** *Elis Ratna Wulan. 2019.Project Management with PERT or CPM. Bandung: Bitread Publishing* **Material:** project planning and control **Reference:** *Hafnidar A.Rani. 2016. Construction project management. Sleman: Deepublish* **Material:** project management **Reader:** *Widiasanti Irika, Lenggogeni. 2013. Construction Management. Bandung: Rosdakarya Youth.* **Material:** project planning and control **Reference:** *Husen Abrar. 2011. Project Management. Yogyakarta: Andi.* **Material:** preparing a schedule using MS. project **Library:** *Suhendi Edi. 2009. Guide to Managing Projects with Microsoft Office Project. Bandung: Yrama Widya.* **Material:** project planning and control **Library:**		

						Journal of Construction Engineering and Management (ASCE) **Material:** preparing a schedule using MS. library project **:** *SholehMoh Nur, Asri Nurdiana. 2023. Fast Learning Microsoft Project 2019. Yogyakarta: Link Library*	

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	54.17%
2.	Project Results Assessment / Product Assessment	19.17%
3.	Test	11.67%
		85.01%

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.