	Universitas Negeri Surabaya Faculty of Engineering, Building Engineering Education Undergraduate Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date
Project Quality Control*	8320502257	Study Program Elective Courses	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: Case Studies

Program Learning Outcomes (PLO)

PLO study program that is charged to the course

Program Objectives (PO)

PO - 1	Students are able to have knowledge about project quality control for carrying out civil engineering work in the field.
PO - 2	Students are able to plan and implement a project quality control system when designing, implementing and supervising civil engineering work.

PLO-PO Matrix

P.O
PO-1
PO-2

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																

Short Course Description: This course contains basic concepts and statistical tools for quality control and how they apply to the construction industry. Learning is carried out using a combination of direct teaching methods and case study models. Learning is carried out using a constructivist paradigm by emphasizing learning at the student center.

References

Main :

1. Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: Penerbit ANDI.
2. Soeharto Iman. 2001. Manajemen Proyek dari Konseptual Sampai Operasional Jilid 2.Jakarta: Erlangga.
3. M. Z. T. Yuri, Nurcahyo Rahmat. 2013. TQM Manajemen Kualitas Total dalam Perspektif Teknik Industri.Jakarta: Indeks.
4. Wiryodiningrat Prijono., et. al. 1997. ISO 9000 Untuk Kontraktor. Jakarta:Gramedia Pustaka Umum.
5. Usman Ramly. 2017. Pengendalian dan Penjaminan Mutu: Konsep, Metode dan Analisis

Supporters:

1. Journal of Construction Engineering and Management (ASCE)
2. Mears Peter. 1995. QualityImprovement Tools & Techniques. New York: McGraw-Hill.

Supporting lecturer: Dr. Gde Agus Yudha Prawira Adistana, 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	Understand the meaning, history and quality management system.	Students can state the meaning and tell the history of quality	**Criteria:** Able to state the meaning and tell the history of quality 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:** Concept of **Library Quality:** *Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.* **Material:** Library Quality Concept **:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis*	2%
2	Understand the meaning, history and quality management system.	Students can state the meaning and tell the history of quality	**Criteria:** Able to state the meaning and tell the history of quality 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:** Concept of **Library Quality:** *Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.* **Material:** Library Quality Concept **:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis*	2%
3	Understand construction project quality assurance & control	Students can explain construction project quality assurance & control	**Criteria:** Essay 100%	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	**Material:** quality assurance & control **References:** *MZT Yuri, Nurcahyo Rahmat. 2013. TQM Total Quality Management in an Industrial Engineering Perspective. Jakarta: Index.* **Material:** quality assurance & control **Reader:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis*	2%
4	Understand quality control at the project stage.	1. Students can explain quality control at the engineering design stage 2. Students can explain quality control at the procurement stage 3. Students can explain quality control at the construction stage	**Criteria:** Able to explain quality control at project stages completely and 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:** quality at the project stage **Reference:** *Wiryodiningrat Prijono., et. al. 1997. ISO 9000 for Contractors. Jakarta:Gramedia Public Library.*	2%

5	Understand and calculate quality costs	Students can calculate and group quality costs and explain their behavior	**Criteria:** Able to calculate and group quality costs and explain their behavior 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:** quality costs **Reference:** *Wiryodiningrat Prijono., et. al. 1997. ISO 9000 for Contractors. Jakarta:Gramedia Public Library.*	2%
6	Understand the quality management system	Students can explain the quality management system	**Criteria:** Able to explain the quality management system clearly, completely and 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:** quality management system **Reader:** *Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: ANDI Publishers.* **Material:** quality management system **Reference:** *Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.*	2%
7	Understand the basics of Statistical Process Control, Flow Charts and Check Sheets for quality control	1. Students can explain the use of Statistical Process Control tools for quality control 2. Students can make flow charts for quality control 3. Students can create check sheets for quality control	**Criteria:** Able to explain the use of Statistical Process Control tools for quality control well **Form of Assessment** : Participatory Activities, Practice/Performance	Lectures, practice questions, discussions 2 X 50	Lectures, practice questions, discussions 2 X 50	**Material:** Statistical Process Control tools **Library:** *Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: ANDI Publishers.* **Material:** Statistical Process Control tools **Reader:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis*	2%
8	Meeting 01 - 06	Meeting 01 - 06	**Criteria:** Essay 100%	Sub Summative Exam 2 X 50			32%
9	Understanding Pareto's Diagrams and Cause and Effect Diagrams for quality control	1. Students can draw Pareto's Diagram for quality control 2. Students can draw Cause and Effect Diagrams for quality control	**Criteria:** 1. Able to draw Pareto's Diagram for quality control correctly 2. Able to draw Cause Diagrams for quality control correctly **Form of Assessment** : Practice / Performance	Lectures, practice questions, discussions 2 X 50	Lectures, practice questions, discussions 2 X 50	**Material:** Pareto diagram and cause and effect **Reader:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis*	2%

10	Understand the creation and use of Histograms for quality control	1. Students can make a Histogram 2. Students can explain the use of Histograms for quality control	**Criteria:** Able to explain and create Histograms for quality control properly and correctly **Form of Assessment** : Practice / Performance	Lectures, practice questions, discussions 2 X 50	Lectures, practice questions, discussions 2 X 50	**Material:** Histogram for quality control **Reader:** *Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: ANDI Publishers.* **Material:** Histogram for quality control **Reader:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis*	2%
11	Understand the creation and use of Scatter Diagrams for quality control	1. Students can create a Scatter Diagram 2. Students can explain the use of Scatter Diagrams for quality control	**Criteria:** Able to explain and create Scatter Diagrams for quality control properly and correctly **Form of Assessment** : Practice / Performance	Lectures, practice questions, discussions 2 X 50	Lectures, practice questions, discussions 2 X 50	**Material:** scatter diagram **Reader:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis* **Material:** scatter diagram **Bibliography:** *Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: ANDI Publishers.*	2%
12	Understand the creation and use of Scatter Diagrams for quality control	1. Students can create a Scatter Diagram 2. Students can explain the use of Scatter Diagrams for quality control	**Criteria:** Able to explain and create Scatter Diagrams for quality control properly and correctly **Form of Assessment** : Practice / Performance	Lectures, practice questions, discussions 2 X 50	Lectures, practice questions, discussions 2 X 50	**Material:** Control Map Diagram **Bibliography:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis* **Material:** Control Map Diagram **Literature:** *Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: ANDI Publishers.*	2%
13	Understand the quality control of building construction projects	Students can present quality control of building construction projects	**Criteria:** Able to present quality control of building projects clearly and correctly **Form of Assessment** : Practice / Performance	Case study: Presentation, group discussion 2 X 50	Case study: Presentation, group discussion 2 X 50	**Material:** quality control **Reader:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis* **Material:** quality control **References:** *Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: ANDI Publishers.*	2%

14	Understand the quality control of bridge road projects	Students can present quality control of bridge road projects	**Criteria:** Able to present quality control of bridge road projects clearly and correctly **Form of Assessment** : Practice / Performance	Case study: Presentation, group discussion 2 X 50	Case study: Presentation, group discussion 2 X 50	**Material:** quality control **Reader:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis* **Material:** quality control **References:** *Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: ANDI Publishers.*	2%
15	Understand the quality control of water construction projects	Students can present quality control of water construction projects	**Criteria:** Able to present quality control of water construction projects clearly and correctly **Form of Assessment** : Practice / Performance	Case study: Presentation, group discussion 2 X 50	Case study: Presentation, group discussion 2 X 50	**Material:** quality control **Reader:** *Usman Ramly. 2017. Quality Control and Assurance: Concepts, Methods and Analysis* **Material:** quality control **References:** *Tjiptono Fandy, & Diana Anastasia. 2001. Total Quality Management. Yogyakarta: ANDI Publishers.*	2%
16				Summative Exam 100			40%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	11%
2.	Practice / Performance	15%
		26%

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.