



Universitas Negeri Surabaya
Faculty of Engineering,
Mechanical Engineering Undergraduate Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Research methodology	2120102055	Compulsory Study Program Subjects	T=2	P=0	ECTS=3.18	5	April 29, 2023
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
	Dr.A.Grummy Wailanduw, M.Pd., M.T.				Ir. Priyo Heru Adiwibowo, S.T., M.T.	

Learning model	Project Based Learning																																																																																			
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																																																																			
	PLO-8 Communication																																																																																			
	PLO-13 Project and cost management																																																																																			
	Program Objectives (PO)																																																																																			
	PO - 1 Students are able to understand the concepts and theories of scientific truth, scientific methods and processes and scientific ethics																																																																																			
	PO - 2 Students are able to analyze scientific problems, choose appropriate scientific methods by considering the principles of scientific ethics in trying to explain, discover, solve problems scientifically																																																																																			
	PO - 3 Students are skilled and competent in designing, implementing and evaluating the chosen research methodology in creating scientific papers as a final assignment																																																																																			
	PLO-PO Matrix																																																																																			
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PO Matrix at the end of each learning stage (Sub-PO)																																																																																				
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Short Course Description This course teaches about the philosophy of the nature of scientific truth, the concept-theory of scientific truth, the methodology for finding scientific truth using scientific principles. Scientific methodology takes the form of quantitative and qualitative research approaches starting from recognizing, limiting and formulating problems, reviewing theoretical references-scientific findings to explain problems, formulating hypotheses and designing verification methods starting from determining population-samples, developing measuring instruments, data collection-analysis techniques, and reporting results, complete reports, and scientific publications through scientific journals and scientific proceedings.

References

Main :

1. Moh. Nazir. 2014. Metode Penelitian. Edisi ke IX. Bogor: Penerbit Ghalia.
2. Sugiyono. 2014. Metode Penelitian Kuantitatif, Kualitatif, dan R & D. Bandung: Penerbit Alfabeta.
3. Tim Penyusun Buku Pedoman Penulisan Skripsi Program Sarjana Strata Satu. 2014. Pedoman Penulisan Skripsi. Universitas Negeri Surabaya.
4. Gouri K. Bhattacharyya & Richard A. Johnson. 1977. Statistical Concepts and Methods. NewYork:John Wiley & Sons.

Supporters:

1. <https://www.youtube.com/watch?v=CUXxoBDW6e0&t=105s>
2. <https://www.youtube.com/watch?v=ey7pGb1hgDc&t=1087s>
3. <https://www.youtube.com/watch?v=tZ3lruyRIVU&t=15s>
4. <https://www.youtube.com/watch?v=4Y88TyLd1WM&t=711s>
5. <https://www.youtube.com/watch?v=ZfZLezKjE&t=175s>
6. <https://www.youtube.com/watch?v=jarg2PSk-s8&t=2914s>
7. <https://www.youtube.com/watch?v=GbEjj6XsxyA>
8. <https://www.youtube.com/watch?v=JZMipSLRf-E>

Supporting lecturer Dr. A. Grummy Wailanduw, M.Pd., M.T.
Prof. Dr. I Made Arsana, 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	Students can find out about the material that will be studied in the Research Methodology course, and lecture contracts such as: rules and regulations, and assessment	Can find out the material that will be studied in the Research Methodology course, and lecture contracts such as: rules and regulations, and assessment	Criteria: Know the material of the Research Methodology course and the final targets achieved Form of Assessment : Participatory Activities	Lectures and questions and answers 2 X 50		Material: SAP Research Methodology and lecture contract Reader: Sugiyono. 2014. <i>Quantitative, Qualitative, and R & D Research Methods.</i> Bandung: Alfabeta Publishers.	2%
2	Students can explain the essence of research	Can explain the essence of research	Criteria: Conformity with the concept of the essence of research Form of Assessment : Participatory Activities	Lectures, questions and answers, discussions and practice 2 X 50		Material: The Essence of Library Research : Sugiyono. 2014. <i>Quantitative, Qualitative, and R & D Research Methods.</i> Bandung: Alfabeta Publishers.	3%
3	Students can implement knowledge about types of research in the research proposal design section	Can implement knowledge about types of research in the research proposal design section	Criteria: Knowledge of research types Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Type of Library Research : Sugiyono. 2014. <i>Quantitative, Qualitative, and R & D Research Methods.</i> Bandung: Alfabeta Publishers.	5%
4	Students can implement knowledge about research design in the research proposal design section	Can implement knowledge about research design in the design part of a research proposal	Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Research Design Literature: Moh. Nazir. 2014. <i>Research Methods. IXth Edition.</i> Bogor: Ghalia Publishers.	5%
5	Students can implement knowledge about library studies in the research proposal design section	Can implement knowledge about library studies in the research proposal design section	Criteria: Latest literature Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment, Portfolio Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Literature study Reference: Moh. Nazir. 2014. <i>Research Methods. IXth Edition.</i> Bogor: Ghalia Publishers.	5%

6	Students can implement knowledge about problem formulation in the research proposal design section	Can implement knowledge about problem formulation in the research proposal design section	Criteria: 1.Structured tasks: 2.a. Sharpness Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Problem formulation Reference: Moh. Nazir. 2014. <i>Research Methods. IXth Edition. Bogor: Ghalia Publishers.</i>	10%
7	Students can implement knowledge about variables and measurement techniques in the research proposal design section	Can implement knowledge about variables and measurement techniques in the design part of a research proposal	Criteria: 1.Structured tasks: 2.Format compatibility Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Variables and Measurement Techniques Reference: Moh. Nazir. 2014. <i>Research Methods. IXth Edition. Bogor: Ghalia Publishers.</i>	5%
8	Students can compile the background of the problem, identify the problem, and formulate the problem	Can prepare problem background, problem identification, and problem formulation	Criteria: 1.Take home: 2.a. Preliminary equipment includes: problem background, problem identification, and problem formulation 3.b. Format compatibility Form of Assessment : Project Results Assessment / Product Assessment	Take home examination 2 X 50		Material: Writing the background of the problem, identifying the problem, and formulating the problem References: Team for <i>Preparing the Thesis Writing Guidebook for Undergraduate Undergraduate Programs. 2014. Thesis Writing Guidelines. Surabaya State University.</i>	15%
9	Students can implement knowledge about formulating and testing hypotheses in the research proposal design section	Can implement knowledge about formulating and testing hypotheses in the design part of a research proposal	Criteria: 1.Structured tasks: 2.a. Sharpness 3.b. Completeness 4.c. Format compatibility Form of Assessment : Project Results Assessment / Product Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Formulating and Testing Hypotheses Reference: Moh. Nazir. 2014. <i>Research Methods. IXth Edition. Bogor: Ghalia Publishers.</i>	10%
10	Students can implement knowledge about data collection in the research proposal design section	Can implement knowledge about data collection in the design part of a research proposal	Criteria: 1.Structured tasks: 2.a. Sharpness 3.b. Completeness 4.c. Format compatibility Form of Assessment : Project Results Assessment / Product Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Data Collection Bibliography: Moh. Nazir. 2014. <i>Research Methods. IXth Edition. Bogor: Ghalia Publishers.</i>	10%
11	Students can implement knowledge about experimental design in the design part of a research proposal	Can implement knowledge about experimental design in the design part of a research proposal	Criteria: 1.Structured tasks: 2.b. Completeness 3.c. Format compatibility Form of Assessment : Project Results Assessment / Product Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Experimental Design Reference: Moh. Nazir. 2014. <i>Research Methods. IXth Edition. Bogor: Ghalia Publishers.</i>	10%

12	Students can implement knowledge about sampling techniques in the research proposal design section	Can implement knowledge about sampling techniques in the design part of a research proposal	Criteria: a. Sharpness Form of Assessment : Project Results Assessment / Product Assessment, Portfolio Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Sampling Techniques Literature: Moh. Nazir. 2014. <i>Research Methods. IXth Edition. Bogor: Ghalia Publishers.</i>	5%
13	Students can implement knowledge about sampling techniques in the research proposal design section	Can implement knowledge about sampling techniques in the design part of a research proposal	Criteria: a. Sharpness Form of Assessment : Participatory Activities, Portfolio Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Sampling Techniques Literature: Sugiyono. 2014. <i>Quantitative, Qualitative, and R & D Research Methods. Bandung: Alfabeta Publishers.</i>	5%
14	Students can implement knowledge about data analysis and interpretation in the research proposal design section	Can implement knowledge about data analysis and interpretation in the design part of a research proposal	Criteria: 1.Structured tasks: 2.a. Sharpness 3.b. Completeness Form of Assessment : Participatory Activities, Portfolio Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Analysis and Interpretation of Data Reference: Moh. Nazir. 2014. <i>Research Methods. IXth Edition. Bogor: Ghalia Publishers.</i>	5%
15	Students can implement knowledge about data analysis and interpretation in the research proposal design section	Can implement knowledge about data analysis and interpretation in the design part of a research proposal	Criteria: 1.Structured tasks: 2.a. Sharpness 3.b. Completeness 4.c. Format compatibility Form of Assessment : Project Results Assessment / Product Assessment	Lectures, questions and answers, discussions and practice 2 X 50		Material: Data Analysis and Interpretation Bibliography: Gouri K. Bhattacharyya & Richard A. Johnson. 1977. <i>Statistical Concepts and Methods. New York: John Wiley & Sons.</i>	2%
16	Students can prepare theoretical studies and research procedures	Can prepare theoretical studies and research procedures	Criteria: 1.Structured tasks: 2.a. Sharpness 3.b. Completeness 4.3. Format suitability Form of Assessment : Project Results Assessment / Product Assessment	Take home examination 2 X 50		Material: Study of theory and research procedures References: Moh. Nazir. 2014. <i>Research Methods. IXth Edition. Bogor: Ghalia Publishers.</i>	3%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	24.17%
2.	Project Results Assessment / Product Assessment	66.67%
3.	Portfolio Assessment	9.17%
		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.

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.