



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

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date		
DIESEL MOTORCYCLE PRACTICE	8320302243		T=0 P=2 ECTS=3.18	4	July 17, 2024		
AUTHORIZATION	SP Developer		Course Cluster Coordinator		Study Program Coordinator		
	Rachmad Syarifudin Hidayatullah, S.Pd., M.Pd. ; Iskandar, S.T., M.T.		Rachmad Syarifudin Hidayatullah, S.Pd., M.Pd.		Ir. Wahyu Dwi Kurniawan, S.Pd., M.Pd.		
Learning model	Project Based Learning						
Program Learning Outcomes (PLO)	PLO study program which is charged to the course						
	PLO-5	Have social competence and personality competence in mechanical engineering education					
	PLO-8	Able to carry out maintenance and repairs in the automotive engineering field (automotive concentration) or able to operate various production equipment and machines in the manufacturing sector (production concentration)					
	Program Objectives (PO)						
	PLO-PO Matrix						
		P.O	PLO-5	PLO-8			
Short Course Description	This course is a practical diesel motor technology course which will teach students about techniques and how to carry out maintenance, care and repair of diesel engines, including: fuel systems, lubrication and cooling systems, and other components supporting diesel motors, considering the covid outbreak -19 is still hitting practicum activities carried out in workshops or in/around the student's residence with mechanical guidance at that place. In the practicum process, students are required to follow and obey the Covid-19 health protocol. Apart from the practicum, students also have to make practicum reports in 2 forms, namely video editing and scientific work. These reports will be presented by students individually 2 weeks after the practicum.						
	References	Main : 1. Petrovsky,N. 1968.Manne Internal Combustion Engine.Moscow: MIR Publisher.ObbertEdward F.Internal Combustion Engines andAir Polution. New York: Harper & Row.Anonim, 1995, NewStep 1 Training Manual. Jakarta: PT. Toyota Astra Motor.Anonim, 1995, Materi PelajaranEngine Group Step 2. Jakarta: PT. Toyota Astra Motor. 2. sumber lain yang relevan Supporters: 1. sumber lain yang relevan					
Supporting lecturer	Iskandar, S.T., M.T. Rachmad Syarifudin Hidayatullah, S.Pd., M.Pd.						
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 understand the RPS, SOP for conducting lectures, and assessment mechanisms	A) Students can explain how to assess, B) Students can explain assignments and evaluation methods,	Criteria: non-test Form of Assessment : Participatory Activities	Discovery learning/Project based learning 3 X 50		Material: lecture soup Literature: <i>other relevant sources</i>	1%
2	Students can perform injector tune-ups	1.Students can check the injector visually according to the SOP 2.Students can check the injector using a special tool according to the SOP	Criteria: non-test Forms of Assessment : Project Results Assessment / Product Assessment, Practical Assessment	Discovery learning/Project based learning 3 X 50		Material: injector tune-up Reference: <i>other relevant sources</i>	5%
3	Students can tune-up a 1 cylinder diesel engine	1.Students can check injectors according to the SOP 2.Students can check the bosh pump according to the SOP	Criteria: non-test Form of Assessment : Project Results Assessment / Product Assessment	Discovery learning/Project based learning 3 X 50		Material: 1 cylinder diesel engine tune up References: <i>other relevant sources</i>	5%
4	Students can tune-up a 1 cylinder diesel engine		Criteria: attached Form of Assessment : Practical Assessment	Discovery learning/Project based learning 3 X 50		Material: 1 cylinder diesel engine tune up References: <i>other relevant sources</i>	5%
5	Students can tune-up the fuel system of a 4 cylinder diesel motorbike	1.Students can check the priming pump according to the SOP 2.students can tune-up fuel filters according to SOP 3.Students can tune-up injectors on 4 cylinder diesel engines according to the SOP	Criteria: 1.non-test 2.11 Form of Assessment : Project Results Assessment / Product Assessment	Discovery learning/Project based learning 3 X 50		Material: 4 cylinder diesel engine tune up References: <i>other relevant sources</i>	5%
6	Students can tune-up rotary type bosh pumps	Students can carry out the stages of servicing a rotary type bosh pump according to the SOP	Criteria: non-test Form of Assessment : Project Results Assessment / Product Assessment	Discovery learning/Project based learning 3 X 50		Material: tune up bosh pump References: <i>other relevant sources</i>	11%
7	Students can perform in-line type bosh pump tune-ups	Students can carry out the stages of servicing an inline type Bosp pump according to the SOP	Criteria: attached Forms of Assessment : Project Results Assessment / Product Assessment, Practical Assessment	Discovery learning/Project based learning 3 X 50		Material: tune up bosh pump References: <i>other relevant sources</i>	5%

8	Students can answer questions honestly and correctly (UTS)	Students can answer questions quickly and honestly correctly	Criteria: attached Form of Assessment : Assessment of Project Results / Product Assessment, Practices / Performance	Discovery learning 3 X 50		Material: tune up 4 cylinder diesel motorbike Reference: <i>other relevant sources</i>	10%
9	Students can practice diesel motorbikes at DU/DI	A) Students can help with work, maintenance and repair of diesel motorbikes in accordance with the standards of the workshop they occupy,	Criteria: non-test Forms of Assessment : Project Results Assessment / Product Assessment, Portfolio Assessment, Practical Assessment	Discovery learning/Project based learning 3 X 50		Material: diesel motor tune up Reference: <i>other relevant sources</i>	5%
10	Students can practice diesel motorbikes at DU/DI	1.A) Students can help with work, maintenance and repair of diesel motorbikes in accordance with the standards of the workshop they occupy, 2.B) Students can comment on the work in the workshop in video form	Criteria: non-test Forms of Assessment : Project Results Assessment / Product Assessment, Portfolio Assessment, Practical Assessment, Practice / Performance	Discovery learning/Project based learning 3 X 50		Material: diesel motor tune up Reference: <i>other relevant sources</i>	5%
11	Students can practice diesel motorbikes at DU/DI	1.A) Students can help with work, maintenance and repair of diesel motorbikes in accordance with the standards of the workshop they occupy, 2.B) Students can comment on the work in the workshop in video form	Criteria: attached Forms of Assessment : Project Results Assessment / Product Assessment, Portfolio Assessment, Practical Assessment	Discovery learning 3 X 50		Material: diesel motor tune up Reference: <i>other relevant sources</i>	5%

12	Students can practice diesel motorbikes at DU/DI	1.A) Students can help with work, maintenance and repair of diesel motorbikes in accordance with the standards of the workshop they occupy, 2.B) Students can comment on the work in the workshop in video form	Criteria: non-test Forms of Assessment : Project Results Assessment / Product Assessment, Portfolio Assessment, Practical Assessment	Discovery learning/Project based learning 3 X 50		Material: diesel motor tune up Reference: <i>other relevant sources</i>	5%
13	Students can practice diesel motorbikes at DU/DI	1.A) Students can help with work, maintenance and repair of diesel motorbikes in accordance with the standards of the workshop they occupy, 2.B) Students can comment on the work in the workshop in video form	Criteria: non-test Forms of Assessment : Project Results Assessment / Product Assessment, Portfolio Assessment, Practical Assessment	Discovery learning/Project based learning 3 X 50		Material: diesel motor tune up Reference: <i>other relevant sources</i>	5%
14	Students can disseminate practice reports at DU/DI	A) Students can use power point broadcast materials, B) Students can present their practicum results verbally using correct and polite language	Criteria: attached Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Discovery learning/Project based learning 3 X 50		Material: diesel motor tune up Reference: <i>Petrovsky,N. 1968. Manne Internal Combustion Engine. Moscow: MIR Publisher. Obbert Edward F. Internal Combustion Engines and Air Pollution. New York: Harper & Row. Anonymous, 1995, NewStep 1 Training Manual. Jakarta: PT. Toyota Astra Motor. Anonymous, 1995, Study Material Engine Group Step 2. Jakarta: PT. Toyota Astra Motor.</i> Material: diesel motor tune up Reference: <i>other relevant sources</i>	8%

15	Students can determine the bosh pump timing on the engine	students can install bosh pumps according to the SOP	Criteria: 5 Form of Assessment : Project Results Assessment / Product Assessment	Discovery learning/Project based learning 3 X 50		Material: injector timing References: <i>other relevant sources</i>	5%
16	UAS	Students can carry out work orders according to the provisions	Forms of Assessment : Project Results Assessment / Product Assessment, Practical Assessment, Practice / Performance, Test	Discovery learning		Material: service Bibliography: <i>other relevant sources</i>	15%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	5%
2.	Project Results Assessment / Product Assessment	51.68%
3.	Portfolio Assessment	7.93%
4.	Practical Assessment	21.68%
5.	Practice / Performance	10%
6.	Test	3.75%
		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.
- 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.
- 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.
- Forms of assessment:** test and non-test.
- 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.
- 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.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 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%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.