



MODULE HAND BOOK

MECHANICAL ENGINEERING VOCATIONAL EDUCATION STUDY PROGRAM

FACULTY OF ENGINEERING – UNIVERSITAS NEGERI PADANG

COURSE NAME	CODE	Course classification	CU		Sem	Version
			Theory	Pract		
Evaluation of learning	MES1.61. 6107	Study Program Compulsory Courses Proficiency	1	1	6	1
Responsible	Prof. Dr. Ambiyar, M.Pd., Dr. Waskito, MT			Signature		
INFORMATION	Dean		Head of Department		Coordinator of study program	
	<u>Dr. Fahmi Rizal, M.Pd., MT</u> NIP. 195912041985031004		<u>Drs. Purwantono, M.Pd</u> NIP. 196308041986031002		<u>Drs. Purwantono, M.Pd</u> NIP. 196308041986031002	
Program Learning Outcome	Program learning outcome of Mechanical engineering vocational education: <ol style="list-style-type: none"> 1. Possess a good ability to apply the basic science (mathematics and natural sciences) and other disciplines in profesional jobs / projects (Knowledge-understanding) <ol style="list-style-type: none"> 1.1. possess a good understanding and can apply the basic concept of mathematics to solve various technical problems 1.2. possess a good understanding and can apply basic the concept of physic to solve various technical problems 1.3. possess a good understanding and can apply basic the concept of chemistry to solve various technical problems 2. Possess a critical and creative thingking in identifying, formulating, problem solving and evaluating various problems in mechanical engineering using the most appropriate and effective scientific method (<i>Engineering analysis, investigations and assessment</i>): <ol style="list-style-type: none"> 2.1. problem identification skills 					

- 2.2. problem analysis skills
- 2.3. problem evaluation skills
- 3. Possess a good ability in designing, manufacturing and operating machines (**Engineering design**)
 - 3.1. able to formulate ideas/concepts into a technical drawing, design and budget plans
 - 3.2. able to operate various machines and other engineering equipment with the correct standard operating procedure
 - 3.3. able to design a machine or machinery system based on a valid scientific theory
 - 3.4. able to realize a concept/design into a prototype, manufacturing process and engineering system
- 4. Possess a good ability to design, organize and evaluate the education and learning process in *mechanical engineering vocational education*. (**Education design**)
 - 4.1. able to design curriculum and learning process by considering various aspects
 - 4.2. able to organize, control, evaluate and improve the quality of the learning process
 - 4.3. able to develop an interesting, effective and efficient learning medias
- 5. Possess a good ability to adapt to development in science and technology and apply it into professional jobs by considering any non-technical aspects. (**Engineering practice**)
 - 5.1. able to innovate and develop technology in the field of mechanical engineering by considering social, economic and environmental aspects
 - 5.2. able to carry out the optimization process and increase the efficiency of machines or machining system.
 - 5.3. able to improve the performance of machine/ machinery system by applying the information technology
- 6. Possess a good softskil and spirit of lifelong learning (**Transferable skill / softskill**)
 - 6.1. possess a religious character
 - 6.2. possess a spirit of nasionalisme, social sensitivity and environmental consevation orientation
 - 6.3. possess the ability to communicate effectively and work together in teamwork
 - 6.4. possess the ability to transfer science and technology to society to improve the quality of life
 - 6.5. possess a good characters of entrepreneur

Course learning

Course learning outcomes

outcomes	CLO		PLO
	1. Understand the principles of assessment and evaluation of learning processes and outcomes in accordance with the characteristics of vocational technology education (PTK), especially in the field of Mechanical Engineering		4.2,
	2. Determine aspects of the process and learning outcomes that are important to assess and evaluate		4.1, 4.2
	3. Developing instruments for assessment and evaluation of learning processes and outcomes, both in the form of tests and non-tests		4.2,4.3
	4. Administering the assessment process and learning outcomes on an ongoing basis using various instruments.		4.2
	5. Analyze the results of the assessment process and learning outcomes for various assessment purposes		4.2
	6. Evaluating the process and learning outcomes.		4.2
Course descriptions	This course. This course discusses the evaluation of student learning outcomes. Lectures start from the concept of measurement, assessment, and evaluation; the scope of learning outcomes being evaluated; assessment reference; learning outcome measurement instruments; learning outcome test planning, instrument quality analysis; implementation of learning outcomes tests, processing of measurement and assessment results; administration and reporting		
References	Main Reference (RU):		
	<ol style="list-style-type: none"> 1. AJ Nitko. 1996. Educational Assessment of Students. 2nd Ed. New Jersey: Prentice Hall 2. Cecil R Reynold, Ronald B Livingston Victor Willson. 2009. Measurement & Assessment in Education. 2nd Ed. Boston: Pearson-Merrill. 3. Butler, SM & McMunn, Nancy. 2006. A Teacher's Guide 4. PP No. 19 of 2005 and Government Regulation No. 32 of 2013 concerning National Education Standards 5. Permendikbud No. 66 of 2013 		
	Additional Reference (RP)		
	<ol style="list-style-type: none"> 1. David A Payne. 2003. Applied Educational Assessment. 2nd Ed. Wadsworth Thompson Learning. 2. Robert J Marzano & John S Kendall. 2007. The New Taxonomy of Educational Objectives. California: Corwin Press 3. Robert J Marzano & John S Kendall. 2010. Designing & Assessing Educational Objectives: Implement the New Taxonomy. California: Corwin Press 4. Suharsimi. A. 1992. Basics of Educational Evaluation. Jakarta: Earth Literacy (3) 5. Asmawi Zainul. 1998. Assessment of Learning Outcomes. PAU Dikti- Depdiknas (4) 6. Sumarna Surapranata. 2005. Analysis, Validity, Reliability, and Interpretation of Test Results. Bandung: Rosda Karya 7. Thomas M. Haladyna. 1997. Writing Test Items to Evaluate Higher Order Thinking. New York: Allyn & Bacon 		

Learning Media	Software:	Hardware:
		Computer, LCD Projector and Whiteboard and peripherals
Team Teaching		
Assessment	Mid-Test Exam, Final Exam, Independent & group assignments, Group presentations	
Requirements Subject	No	

COURSE SUBJECTS

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
(1)	CLO-1: (PLO-2.3, 4.2) Students understand Evaluation and Decision Function in Classroom	Lecture contracts, and an introduction to the RPS learning evaluation method	Lectures and discussions	Students understand the lecture contract and RPS	<i>Question & Answer</i>	RU-1, RU-2, RP-4
(2)	CLO-2: [PLO-2.3, 4.2] Students understand and are able to apply the meaning of evaluation, assessment, assessment, measurement Assessment function in character education	Definition of Evaluation, Assessment, Assessment, Measurement Assessment function	Independent study, discussion groups, and independent assignments	Students understand basic teaching skills	<i>Question & Answer</i>	RU-1, RU-2, RP-4
(3)	CLO-1: [PLO-4.2] Students are able to explain and apply the characteristics &	The characteristics & objectives of formative and summative	Independent study, discussion groups, and independent	Analyze the differences between models, strategies,	<i>Question & Answer</i>	RU-1, RU-2, RP-4

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	objectives of formative and summative assessment in the assessment process	assessment	assignments	methods, and learning approaches		
(4)	CLO-3: [CP-4.2] Students are able to be relevant cognitive domain (C1-C6) with learning objectives	Cognitive Realm	Independent study, discussion groups, and group assignments	Analyze the syllabus, lesson plans, and teaching materials	<i>Question & Answer</i>	RU-1, RU-2, RP-4
(5)	CLO-3, 4: [CP-2.3, 4.2] Students are able to design essay and objective questions accordingly Subject of the Test for the subject & school level	Essay and objective questions	Independent assignments, group assignments and exercises	Doing teaching in front of the class	<i>Question & Answer</i>	RU-1, RU-2, RP-4
(6)	CLO-3, 4: [CP-2.1, 2.2, 2.3, 3.3] Students are able to apply and design Formative Assessment for a particular subject Summative Assessment	Formative Assessment for the subject & Summative Assessment	Independent study, discussion groups, and group assignments	Doing teaching in front of the class	<i>Question & Answer</i>	RU-1, RU-2, RP-4
(7)	CLO-3, 4: [CP-4.2] Students are able to apply and design Performance Appraisal	Performance Appraisal & Practicum	Independent assignments, group assignments and exercises	Doing teaching in front of the class	<i>Question & Answer</i>	RU-1, RU-3, RU-5, RP-4

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	& Practicum Process assessment					
(8)	CLO-3, 4: [CP-4.2] Students are able to design Process Skills Assessment (observation format and test subject)	Process Skills Assessment	Independent assignments, group assignments and exercises	Doing teaching in front of the class	<i>Question & Answer</i>	
(9)	Mid-Test Exam					
(10)	CLO-4.5: [CP-4.2] Students are able to process the results of the assessment: (essay / objective: 10/100/4 scale; % / PAP / PAN)	Processing the results of the assessment	Independent study, discussion groups, and group assignments	Conduct teaching in front of the workshop	<i>Question & Answer</i>	RU-1, RU-3, RU-5 RP-1
(11)	CLO-4, 5: [CP-4.2] Students are able to teach analysis of the subject of the test (tk. Difficulty, distinguishing power, distractor, legibility)	Principal analysis	Independent study, discussion groups, and group assignments	Conduct teaching in front of the workshop	<i>Question & Answer</i>	RU-3 RP-4
(12)	CLO-4, 5: [CP-4.2] Students are able to memvtest subject matter: procedure & type (content,	Practical teaching from students (4 people per meeting)	Independent study, discussion groups, and group assignments	Conduct teaching in front of the workshop	<i>Question & Answer</i>	RU-5 RP-4

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	construction, empirical, prediction)					
(13)	CLO-6: [CP-4.2] Students are able to process the main reliability test	The validity of the test subject	Independent study, discussion groups, and group assignments	Conduct teaching in front of the workshop	<i>Question & Answer</i>	RU-1, RP-4
(14)	CLO-6: [PLO-4.2] Teaching and managing learning using IT	Main test reliability	Independent study, discussion groups, and group assignments	Conduct teaching using IT	<i>Question & Answer</i>	RU-1, RU-2, RU-3, RU-4, RU-5
(15)	CLO-6: [PLO-4.2] Students know and do Portfolio assessment	Portfolio assessment	Independent study, discussion groups, and group assignments	Conduct teaching using IT	<i>Question & Answer</i>	RU-1, RU-3 RU-5
(16)	CLO-6: [PLO-4.2] Students are able to analyze Learning difficulties and their causes as well as carrying out the remedial process	Learning and remedial difficulties	Independent study, discussion groups, and group assignments	Conduct teaching using IT	<i>Question & Answer</i>	RU-1, RU-4
(16)	Final Exam					

Note : 1 credit = (50 'TM + 60' BT + 60 'BM) / Week
 TM = Face to Face (Lecture)
 BT = Structured Learning.

BM = Independent Study
 PS = Simulation Practicum (160 minutes / week)
 PL = Laboratory Practicum (160 minutes / week)

T = Theory (aspects of science)
 P = Practice (aspects of work skills)

CLO-1	TASK 1	5													V						
CLO-2	TACU. 2	5													V	V					
CLO-3-4-5-6	TACU. 3	10														V					
CLO-3-4-5	TACU. 4	10													V	V					
CLO-5-6	TACU. 5	10													V	V					
CLO-5-6	TACU. 6	10														V					
Presence		10																			
TOTAL		100																			

Assessment Component

Midterm exam	: 20%
Final exams	: 30%
Duty	: 40%
<u>Presence</u>	<u>: 10%</u>
Total	: 100%

Scoring/Grading level description

	Excellent	Good	Satisfy	Fail
ability to describe	Able to describe correctly and completely	Able to describe correctly but not complete	Able to describe but less clear and incomplete	Unable to describe
ability to formulate	Able to formulate correctly and completely	Able to formulate correctly but not complete	Able to formulate but less clear and incomplete	Unable to formulate
ability to calculate	Able to calculate correctly and completely	Able to calculate correctly but not complete	Able to calculate but less clear and incomplete	Unable to calculate
ability to analyze	Able to analyze correctly and completely	Able to analyze correctly but not complete	Able to analyze but less clear and incomplete	Unable to analyze

Scoring and grading system

Score	Quality	Quality score	Designation	Score	Quality	Quality score	Designation
85 – 100	A	4.0	Outstanding	55 – 59	C	2.0	Acceptable
80 – 84	A-	3.6	Excellent	50 – 54	C-	1.6	Poor
75 – 79	B+	3.3	Very good	40 – 49	D	1.0	Poor
70 – 74	B	3.0	Good	≤ 39	E	0.0	Fail
65 – 69	B-	2.6	Good	-	T	-	Postpone
60 – 64	C+	2.3	Acceptable				

