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		
Learning Media		MES1.61.4201	Study Program Compulsory Courses/ MEVE (Educational aspect) core course	2	0	5	1
Responsible		Prof. Dr. Suparno, M.Pd, Prof. Dr. Ambiyar, M.Pd and Dr. Waskito, MT		Signature _____			

INFORMATION		**Dean**	**Head of Department**	**Coordinator of study program**
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Program Learning Outcome	**Program learning outcome of Mechanical engineering vocational education:**
	1. Possess a good ability to apply the basic science (mathematics and natural sciences) and other disciplines in profesional jobs / projects (Knowledge-understanding)
	  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 *(Engineering analysis, investigations and assessment):*
	  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 outcomes	Course learning outcomes	
	CLO	**PLO**
	1. Understand the basic concepts of educational media	4.3, 6.3.
	2. Understanding two-dimensional media in educational media	4.3, 6.3.
	3. Understanding Print Media	4.3, 6.3.
	4. Understanding three dimensional media / models	4.3, 6.3.
	5. Understanding Projection Media	4.3, 6.3.
	6. Understand flash media Macros, Audiovisual Media and CAI, E-learning, Multimedia, and Blogs	4.3, 6.3.

C ourse descriptions	Learning educational media contains material on communication and learning theory, concepts and principles of media, types and types of media, characteristics of learning media, organizational systems and media selection, advantages and disadvantages, non-projection two-dimensional learning media, printed media, three-dimensional media / models , projection media, photography, computer-based media, Audio Visual media, and interactive multimedia. Design, create and present media learning.	
References	**Main reference (RU):**	
	1. Suparno, et al. 2018. Constructiveism-Based Learning Media Module. 2. Arief S Sadiman, et al. 2007. Media Education. Jakarta: PT. Raja Grafindo Persada. 3. Daryanto. (2015). Learning Media. 3rd printing. Bandung: PT. Prosperous Conscience Tutorial Tools. 4. Sanaky (2009). Learning Media. Yogyakarta: Kaukaba.	
	Additional Reference (RP)	
	1. Anderson, Renald (1994) Media Selection and Development for Teaching, Jakarta: CV. Eagle.	
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 Objects

Week	Expected competencies	Topics	Method and strategy for leraning	Assignment	Criterion / Assessment indicattor	References
(1)	CLO-1: (PLO-4.3) Students are able to explain: The Relationship between Communication Theory and Learning Theory	Theory communication, Model Shannon Weaver Communications, The function of communication theory, learning theory, descriptive learning theory and perspective, Behavioral learning theory, Cognitive learning theory, Humanistic learning theory, Constructive learning theory	Material description [1x75 '] Frequently asked questions [1x10 '] Discussion [1x15 ']	Make a summary and description of the material presented in the resume book	Able to explain Communication Theory and Learning Theory	RU-1, RU-3 and RU-4
(2)	CLO-1: [PLO-4.3, 6.3] Students are able to explain: Definition and Classification of Educational Media, Bloom's Taxonomy, ASSURE Model	Definition of educational media, function of learning media, principles of learning media, benefits of learning media, selection of learning media, purpose of using learning media, differences in educational media with learning resources, taxonomy of bloom, ASSURE Model	Material description [1x75 '] Frequently asked questions [1x10 '] Discussion [1x15 ']	• Make a summary and description of the material presented in the resume book	Able to explain Definition and Classification of Educational Media, Bloom's Taxonomy, ASSURE Model	RU-1, RU-2. and RU-4
(3)	CLO-2: [PLO-4.3, 6.3] Students are able to explain:Types of Media, Advantages and Disadvantages of Media	Types of Learning Media, Strengths and Weaknesses of Audio Media, Strengths and Weaknesses of Projection Media, Strengths and Disadvantages of Three-Dimensional (3D) Media, Strengths and Disadvantages of Human-Based Media, Strengths and Disadvantages	Material description [1x75 '] Frequently asked questions [1x10 '] Discussion [1x15 ']	• Make a summary and description of the material presented in the resume book	Be able to explain Types of Media, Advantages and Disadvantages of Media	RU-1, RU-2. RU-3 and RU-4

Week	Expected competencies	Topics	Method and strategy for leraning	Assignment	Criterion / Assessment indicattor	References
		of Visual Media, Strengths and Disadvantages of Audio-Visual Media, Strengths and Lack of Computer Media, Advantages and Disadvantages of Print Media				
(4)	**CLO-2 [PLO-4.3, 6.3]** Students are able to explain:Non-Projection Two Dimensional Learning Media, Blackboard, White Board and Electronic Whiteboard	Non-projection two-dimensional learning media (meaning two-dimensional media, 2-dimensional media types), board-shaped media, printed media, 2-dimensional media characteristics, advantages and disadvantages of 2-dimensional media and examples of 2-dimensional media, whiteboards, white boards, Electronic whiteboard	Material description [1x75 '] Frequently asked questions [1x10 '] Discussion [1x15 ']	• Make a summary and description of the material presented in the resume book	Be able to explain Non-Projection Two Dimensional Learning Media, Blackboard, White Board and Electronic Whiteboard	RU-1, RU-2, RU-3
(5)	**CLO-2 [PLO-4.3, 6.3]** Students are able to explain:Learning Media Two Dimensions Non Projection Wall Chart, and Flip Chart	Understanding of wall chart media, the function of wall chart media, the relationship of wall chart media with language learning, especially writing, Application of wall chart media in writing arguments, Definition of flipcharts, flipchart form, advantages of flipcharts, use and parts of flipcharts, flipchart making techniques , Lack of flipcharts, Definition of flashcards, form and	Material description [1x75 '] Frequently asked questions [1x10 '] Discussion [1x15 ']	a. Make a summary and description of the material presented in the resume book b. The task of making a flipchart c. The task of making Flashcards	Be able to explain Learning Media Two Dimensions Non Projection Wall Chart, and Flip Chart	RU-1, RU-3, RP-1

Week	Expected competencies	Topics	Method and strategy for leraning	Assignment	Criterion / Assessment indicattor	References
		advantages of flashcards, How to use flashcards, Flashcard manufacturing techniques, Lack of flashcards, Non-Projection Two-Dimensional Learning Media Wall Chart, Flip Chart, Flashcards				
(6)	**CLO-3 [PLO-4.3, 6.3]** Students are able to explain: Print Media (Handouts, Modules and Job Sheet)	Print media, Definition of handouts, Handout form, Handout preparation, Characteristics, Strengths & weaknesses of handouts, Handout functions & benefits, Definition of modules, Purpose of module writing, Module characteristics, Module display quality, Module advantages, Module components, Module writing guidelines, Job sheet	Material description [1x75 '] Frequently asked questions [1x10 '] Discussion [1x15 ']	a. Make a summary and description of the material presented in the resume book b. The task of creating a Module c. The task of creating a Job Sheet	Be able to explain Print Media (Handouts, Modules and Job Sheet)	RU-1, RU-2, RP-1
(7)	**CLO-4 [PLO-4.3, 6.3]** Students are able to explain:Three-Dimensional Media / Models (Solid Model, Cuteway Model, Working Model, Builed-Up Model)	Definition of three-dimensional media / model, characteristics of three-dimensional media, advantages and disadvantages of three-dimensional media, solid model, cuteway model, working model, built-up model	Material description [1x75 '] Frequently asked questions [1x10 '] Discussion [1x15 ']	• Make a summary and description of the material presented in the resume book	Be able to explain*Model, Working Model, Builed-Up Model*	RU-1, RU-2, RU-3, RP-1
(8)	**Midd Test Exam**					

Week	Expected competencies	Topics	Method and strategy for leraning	Assignment	Criterion / Assessment indicattor	References
(9)	**CLO-4 [PLO-4.3, 6.3]** Students are able to explain about: Projection Media (OHP, OHT)	OHP / OHT projection media, OHP media types,characteristics OHP media, Strengths and weaknesses of transparency media (OHT), Techniques for making transparency media, Techniques for presenting OHP transparency	Group percentage [1x80 '] Frequently asked questions [1x10 '] Conclusion [1x10 ']	• Making material for presentations and group discussions about Projection Media (OHP, OHT) • Task Making OHT	Be able to explain Projection Media (OHP, OHT)	RU-1, RU-2, RU-3 RP-1
(10)	**CLO-5 [PLO-4.3, 6.3]** Students are able to understand about: Photography Technique	Definition of photography, photos as learning media, use of image media / photo data of the teaching and learning process, advantages of image media, weaknesses of images or photos	Group percentage [1x80 '] Frequently asked questions [1x10 '] Conclusion [1x10 ']	Making material for presentations and group discussions about Photography Technique	Be able to explain Photography Technique	RU-1, RU-2. and RU-3
(11)	**CLO-6 [PLO-4.3, 6.3]** Students are able to: Power point	Definition of PowerPoint, History of PowerPoint, Functions and Uses of Microsoft PowerPoint, Microsoft PowerPoint data formats, Strengths of Microsoft Office PowerPoint, Weaknesses of Microsoft Powerpoint, How to Make Good and Interesting PowerPoint Presentation Slides	Group percentage [1x80 '] Frequently asked questions [1x10 '] Conclusion [1x10 ']	• Making material for presentations and group discussions about Power point • Task: Create Power point	Able to master Power point	RU-1 RP-1
(12)	**CLO-6.1 [PLO-4.3, 6.3]** Students are able to: Macro Media Flash	Understanding Macromedia Flash, History of Macromedia Flash, Versions - Versions of Macromedia Flash to Adobe	Group percentage [1x80 '] Frequently asked questions [1x10 ']	• Making material for presentations and group discussions	Able to master Macro Media Flash	RU-1, RP-4

Week	Expected competencies	Topics	Method and strategy for leraning	Assignment	Criterion / Assessment indicattor	References
		Flash, Macromedia Flash Home, Pros and Cons of Macromedia Flash, Pictures - Display Flash MX, Pictures - Document Properties dialog box	Conclusion [1x10 ']	about Macro Media Flash		
(13)	**CLO-6.2 [PLO-4.3, 6.3]** Students are able to: Audiovisual Media	Definition of Audio Visual, Benefits of Audio Visual learning media, Strengths and Weaknesses of Media, Audio Visual Learning, Planning Process for Making Audio Visual Learning Media, Process for Making Audio Visual Media, Various Audio Visual Media	Group percentage [1x80 '] Frequently asked questions [1x10 '] Conclusion [1x10 ']	• Making material for presentations and group discussions about Audiovisual Media • The task of making learning videos	Able to master Audiovisual Media	RU-1, RU-2. RU-3 and RU-4
(14)	**CLO-6.3 [PLO-4.3, 6.3]** Students are able to explain CAI and E-Learning	CAI and E-Learning	Group percentage [1x80 '] Frequently asked questions [1x10 '] Conclusion [1x10 ']	• Make a summary and description of the material presented in the resume book	Able to master CAI and E-Learning	RU-1, RU-2 RU-3
(15)	**CLO-6.4 [PLO-4.3, 6.3]** Students are able to explain Multimedia, and BLOG	Multimedia, and BLOG	Group percentage [1x80 '] Frequently asked questions [1x10 '] Conclusion [1x10 ']	Creating material for presentations and group discussions on Multimedia, and BLOG The task of creating a BLOG	Able to explain Multimedia, and BLOG	RU-1, RU-2
(16)	**Final Exam**					

Note : 1 credit = (50 'TM + 60' BT + 60 'BM) / Week

TM = Face to Face (Lecture)	BM = Independent Study
BT = Structured Learning.	PS = Simulation Practicum (160 minutes / week)
	PL = Laboratory Practicum (160 minutes / week)

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

The linkage between CLO and PLO and assessment methods

MES1.61.4201	Assessment	Point (%)	PLO-1			PLO-2			PLO-3				PLO-4			PLO-5			PLO-6				
			1	2	3	1	2	3	1	2	3	4	1	2	3	1	2	3	1	2	3	4	5
CLO-1.1	UTS. 1	5													V								
CLO-1.3	UTS. 2	7.5													V								
CLO-2.2	UTS. 3	7.5													V								
CLO-3.1	UTS. 4	3.75													V								
CLO-3.3	UTS. 5	3.75													V								
CLO-4.2	UTS. 6	3.75													V								
CLO-4.4	UTS. 7	3.75													V								
CLO-3.2	UAS. 1	7.5													V								
CLO-4.2	UAS. 2	7.5													V								
CLO-5.2	UAS. 3	7.5													V								
CLO-6.2	UAS. 4	7.5													V								
CLO-6.3	UAS. 5	5													V								
CLO-5.1	Task 1	20																			V		
CLO-5.2	Task 2																				V		
Presence		10																					
TOTAL		100																					

Assessment Component

Midterm exam   : 35%

Final exams   : 35%

Duty   : 20%

Presence   : 10%

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 analysize 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				