



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		
English for engineering	MES1.61.6103	Study Program Compulsory Courses / Supporting tools	2	0	6	1
Responsible	Delima Yanti Sari, ST, MT, Ph.D .; Dr. Waskito, MT, Rifelino, S.Pd., MT		Signature _____			
<u>INFORMATION</u>	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 Outcomes	Program Learning Outcomes (PLO): <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 thinking 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

Couse Learning Outcomes

Course Learning Outcomes (CLO)	
CLO	PLO
1. Explain language skills in English	6.3
2. Explain the procedures for writing positive sentences in the form of 16 different tenses in the context of machining techniques.	6.3
3. Explain the procedure for writing negative sentences in the form of 16 different tenses in the context of machining techniques.	6.3
4. Explain the procedure for writing interrogative sentences in the form of 16 different tenses in the context of machining techniques.	6.3
5. Describe the tools and components related to the machining field in English.	6.3
6. Explain the concept of pre-position in English.	6.3

Course descriptions	This subject provides knowledge and skills in communicating English in engineering persolana, especially in the field of mechanical engineering in spoken and written form and has the ability to read and understand engineering text books in English.	
References	Main references (RU):	
	1. Betty Schrampfer Azar. 1995. Understanding and Using English Grammar. Second edition. New Jersey: Prentice Hall Regents. 2. Marian et al Dunn. 2008. English for Mechanical Engineering in higher education studies. UK: Garnet Publishing	
	Additional references (RP)	
	1. Gaudart et al. 2001. Towards better English Grammar. OXford University Press	
Learning Media	Software:	Hardware:
		Computer, LCD Projector and Whiteboard and peripherals
Team Teaching		
Assessment	Mid-Term 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-1.1 Students are able to explain Concept of language skills in English.	Concept of language skills in English.	Material explanation [1x70 ' Question and answer [1x10 ' Discussion [1x20 '	Make a summary and description of the material presented in the resume book	Able to explain right Concept of language skills in English.	RU-1, RU-2. RP-1
(2)	CLO-2, CLO-3, CLO-4: Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.	Positive, negative, and interrogative sentence forms in the form of present tense and present continuous tense. Conversations in the form of individual introductions and activities that have been carried out.	Material explanation [1x60 ' Question and answer [1x10 ' The task of doing practice questions [1x30 '	<ul style="list-style-type: none"> • Make a summary and description of the material presented in the resume book • Exercise questions make positive, negative, and interrogative sentences in the form of the present tense and the present continuous tense 	able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques	RU-1, RU-2. RP-1
(3)	CLO-2, CLO-3,	Positive, negative, and interrogative sentence	Material explanation [1x60 '	<ul style="list-style-type: none"> • Make a summary and description of 	Be able to explain positive, negative,	RU-1, RU-2.

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	CLO-4: Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.	forms are in the form of the present perfect tense and the present perfect continuous tense. Conversations in the form of present and past activities.	Question and answer [1x10 ' The task of doing practice questions [1x30 ']	the material presented in the resume book • Task work on questions	and interrogative sentences in the form of the present perfect tense and the present perfect continuous tense. Able to communicate in the form of activities now and in the past.	RP-1
(4)	CLO-2, CLO-3, CLO-4: Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.	Positive, negative, and interrogative sentence forms in the past tense and past continuous tense. Conversation in the form of an interview	Material explanation [1x60 ' Question and answer [1x10 ' The task of doing practice questions [1x30 ']	• Make a summary and description of the material presented in the resume book • Task work on questions	Be able to explain positive, negative, and interrogative sentences in the form of the present perfect tense and the present perfect continuous tense. Able to communicate in the form of interviews	RU-1, RU-2. RP-1
(5)	CLO-2, CLO-3,	Positive, negative, and interrogative sentence forms are in the past	Material explanation [1x60 ']	• Make a summary and description of	Be able to explain positive, negative, and interrogative	RU-1, RU-2.

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	CLO-4: Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.	perfect tense and past perfect continuous tense. Conversations in the form of daily activities at work.	Question and answer [1x10 ' The task of doing practice questions [1x30 ']	the material presented in the resume book • Task work on questions	sentences in the past perfect tense and past perfect continuous tense. Able to communicate in form daily activities at work.	RP-1
(6)	CLO-2, CLO-3, CLO-4: Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.	Positive, negative, and interrogative sentence forms in the form of future tense and future continuous tense. Conversation in the form of activities at work.	Material explanation [1x60 ' Question and answer [1x10 ' The task of doing practice questions [1x30 ']	• Make a summary and description of the material presented in the resume book • Task work on questions	Be able to explain positive, negative, and interrogative sentences in the form of future tense and future continuous tense. Able to communicate in form activities at work.	RU-1, RU-2. RP-1
(7)	CLO-2, CLO-3, CLO-4: Students are able to explain the	Positive, negative, and interrogative sentence forms in the future perfect tense and future perfect continuous tense. Conversation in the form	Material explanation [1x60 ' Question and answer [1x10 ' The task of doing practice questions [1x30 ']	• Make a summary and description of the material presented in the resume book	Be able to explain positive, negative, and interrogative sentences in the form of the future perfect tense and the future perfect	RU-1, RU-2. RP-1

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.	of activities at work.		<ul style="list-style-type: none"> Task work on questions 	<p>continuous tense.</p> <p>Able to communicate in form activities at work.</p>	
(8)	MID TEST					RU-1 and RU-2
(9)	<p>CLO-2, CLO-3, CLO-4:</p> <p>Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.</p>	<p>Positive, negative, and interrogative sentence forms are in the form of past future perfect tense and past future perfect continuous tense.</p> <p>Conversation in the form of activities at work.</p>	<p>Material explanation [1x60 ']</p> <p>Question and answer [1x10 ']</p> <p>The task of doing practice questions [1x30 ']</p>	<ul style="list-style-type: none"> Make a summary and description of the material presented in the resume book Task work on questions 	<p>Be able to explain positive, negative, and interrogative sentences in the form of past future perfect tense and past future perfect continuous tense.</p> <p>Able to communicate in form activities at work.</p>	RU-1, RU-2. RP-1
(10)	<p>CLO-2, CLO-3, CLO-4:</p> <p>Students are able to explain the procedures for writing positive,</p>	<p>Read writings that contain mechanical engineering content and tenses.</p> <p>Conversation in the form</p>	<p>Material explanation [1x30 ']</p> <p>Question and answer [1x10 ']</p> <p>group discussion [1x60 ']</p>	<ul style="list-style-type: none"> Make a summary and description of the material presented in the resume book Group discussion 	<p>Able to read writing that contains mechanical engineering content and tenses.</p> <p>Able to communicate in</p>	RU-1, RU-2. RP-1

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.	of activities at work.		about	form activities at work.	
(11)	<p>CLO-2, CLO-3, CLO-4, CLO-5, CLO-6</p> <p>CLO-2, CLO-3, CLO-4</p> <p>Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.</p> <p>CLO-5:</p> <p>Students are able to explain the tools and components related to the engineering field in English.</p> <p>CLO-6:</p> <p>Explain the concept of pre-</p>	<p>Read writings that contain mechanical engineering content and tenses.</p> <p>Conversation in the form of activities at work.</p>	<p>Material explanation [1x30 ']</p> <p>Question and answer [1x10 ']</p> <p>group discussion [1x60 ']</p>	<ul style="list-style-type: none"> • Make a summary and description of the material presented in the resume book • Group discussion about 	<p>Able to read writing that contains mechanical engineering content and tenses.</p> <p>Able to communicate in form activities at work.</p>	<p>RU-1, RU-2.</p> <p>RP-1</p>

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	position in English.					
(12)	<p>CLO-2, CLO-3, CLO-4, CLO-5, CLO-6</p> <p>CLO-2, CLO-3, CLO-4</p> <p>Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.</p> <p>CLO-5:</p> <p>Students are able to explain the tools and components related to the engineering field in English.</p> <p>CLO-6:</p> <p>Explain the concept of preposition in English.</p>	<p>Write descriptions of mechanical engineering tools and materials and forms of tenses.</p> <p>Conversation in the form of activities at work.</p>	<p>Material explanation [1x30 ']</p> <p>Question and answer [1x10 ']</p> <p>group discussion [1x60 ']</p>	<ul style="list-style-type: none"> • Make a summary and description of the material presented in the resume book • Group discussion about 	<p>Able menwrite descriptions of mechanical engineering tools and materials and forms of tenses.</p> <p>Able to communicate in form activities at work.</p>	RU-1, RU-2. RP-1
(13)	CLO-2, CLO-3, CLO-4, CLO-5,	Read writings that contain mechanical	Material explanation [1x30 ']	<ul style="list-style-type: none"> • Make a summary 	Able to read writing that contains	RU-1, RU-2.

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	<p>CLO-6</p> <p>CLO-2, CLO-3, CLO-4</p> <p>Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.</p> <p>CLO-5:</p> <p>Students are able to explain the tools and components related to the engineering field in English.</p> <p>CLO-6:</p> <p>Explain the concept of preposition in English.</p>	<p>engineering content and tenses.</p> <p>Conversation in the form of activities at work.</p>	<p>Question and answer [1x10 ']</p> <p>group discussion [1x60 ']</p>	<p>and description of the material presented in the resume book</p> <ul style="list-style-type: none"> • Group discussion about 	<p>mechanical engineering content and tenses.</p> <p>Able to communicate in form activities at work.</p>	RP-1
(14)	<p>CLO-2, CLO-3, CLO-4, CLO-5, CLO-6</p> <p>CLO-2, CLO-3, CLO-4</p>	<p>Write descriptions of mechanical engineering tools and materials and forms of tenses.</p> <p>Conversation in the form</p>	<p>Material explanation [1x30 ']</p> <p>Question and answer [1x10 ']</p> <p>group discussion [1x60 ']</p>	<ul style="list-style-type: none"> • Make a summary and description of the material presented in the resume book 	<p>Able Write descriptions of mechanical engineering tools and materials and forms of tenses.</p>	RU-1, RU-2. RP-1

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	<p>Students are able to explain the procedures for writing positive, negative and interrogative sentences in the form of 16 different tenses in the context of machining techniques.</p> <p>CLO-5: Students are able to explain the tools and components related to the engineering field in English.</p> <p>CLO-6: Explain the concept of preposition in English.</p>	of activities at work.		<ul style="list-style-type: none"> Group discussion about 	Able to communicate in form activities at work.	
(15)	<p>CLO-1, CLO-2, CLO-3, CLO-4, CLO-5, CLO-6</p> <p>CLO-1: Explain language skills in English</p> <p>CLO-2, CLO-3, CLO-4</p> <p>Students are able to explain the procedures for writing positive, negative and interrogative</p>	- Presentation in English	Presentation	Group presentation	Able to communicate in English	RU-1, RU-2. RP-1

Week	Expected competencies	Topics	Method and strategy for learning	Assignment	Criterion / Assessment indicator	References
	<p>sentences in the form of 16 different tenses in the context of machining techniques.</p> <p>CLO-5:</p> <p>Students are able to explain the tools and components related to the engineering field in English.</p> <p>CLO-6:</p> <p>Explain the concept of preposition in English.</p>					
(16)	Final Test					

Note : 1 credits = (50 'TM + 60' BT + 60 'BM) / Week BM = Independent Study

T = Theory (aspects of science)

TM = Face to Face (Lecture)

PS = Simulation Practicum (160 minutes / week)

P = Practice (aspects of work skills)

BT = Structured Learning.

PL = Laboratory Practicum (160 minutes / week)

Relationship between CLO and PLO and assessment methods

MSN1.62.4007	Assesment	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	Duty	35																			V		
CLO-2	UTS	13																			V		
CLO-3	UTS	5																			V		
CLO-4	UTS	5																			V		
CLO-5	UAS	15																			V		
CLO-6	UAS	15																			V		
Presence		10																					
TOTAL		100																					

Assessment Components

- Midterm exam (UTS) : 25%
- Final exams (UAS) : 30%
- Assignment : 35%
- 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 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				

