

SEMESTER LEARNING PLAN (RPS)
PROGRAM FOR STUDY S1 BUILDING ENGINEERING EDUCATION
DEPARTMENT OF CIVIL ENGINEERING , FACULTY OF T E KNIK , STATE
UNIVERSITY OF PADANG

COURSE	CODE	GROUP OF COURSE	SCU		S E M	VERSION
			Theory	Pract		
Plumbing and Sanitation Practices	SIP1.61.2301	Currency Class Mandatory Program Study	-	4	2	
Responsible Lecturer				TTD Lecturer in Charge		
Dr. Jonni Mardizal , MM						
<u>Information</u>	Dean of the Faculty of Engineering	Head of the Civil Engineering Department	K ord. S1 Study Program Education Technical angunan			
	<u>Dr. Fahmi Rizal, M.Pd., MT</u> NIP 195912041985031004	<u>Faisal Ashar, Ph.D.</u> NIP 19 750103 200312 1001	Drs. Revian Body, MSA. NIP 196 00103 198503 1003			
Graduate Learning Outcomes	Learning Achievement of Graduates (CPL) Study Programs					
	<p>1. Being able to apply science knowledge (mathematics , natural sciences) and other scientific multidisciplinary knowledge that form the foundation of the <i>Building Engineering Vocational Education</i> field in carrying out professional work in their fields (<i>Knowledge and Understanding</i>).</p> <p>1.1. Being able to point to right understanding of the good and implement the concept of basic mathematical to solve various problems in the field of engineering buildings .</p> <p>1.2. Having an understanding that high and can implement the concept of basic physics and chemistry (<i>sciences</i>) in the field of engineering buildings .</p>					

- 1.3. Having an understanding that high and can implement the principles of basic *and engineering* (mechanics , image engineering , material science) in the field of engineering buildings .
2. Able b erpikir critical and creative in identifying , formulating , *problem solving* , eva the various problems in the field of *Building Engineering Vocational Education* with m of scientific most appropriate and effective (*Engineering analysis, investigations and assessment*) .
 - 2.1. Able to identify various technical problems in the field of building engineering
 - 2.2. Able to analyze various technical problems in the field of building engineering
 - 2.3. Able to evaluate various technical problems in the field of building
 - 2.4. Being able to communicate the material *Engineering Analysis, Investigation and Assess* the participant students / training .
3. Having the ability to rel the design , implementation and supervision of building engineering work (*Engineering design*) .
 - 3.1. Able to realize working drawings in collaboration with various related parties .
 - 3.2. Being able to manage the work technique of building with attention to of environmental , social , health , and safety .
 - 3.3. Able to oversee the implementation of building engineering work
 - 3.4. Being able to communicate the matter *Engineeering Design* to participant students .
4. Having a capability that is reliable in mende science , implement and evaluate the of learning in *Building Engineering Vocational Education (Education design)*.
 - 4.1. Being able to design a curriculum and process pembelaja ran the field of engineering buildings .
 - 4.2. Able to implement , control , evaluate and improve the quality of the learning process
 - 4.3. Able to develop media learning are effective , efficient , and attractive .
 - 4.4. Able to carry out research in the field of education
5. Having the ability to adapt and innovate to the development of science and technology and imp it into educational and professional work objectives by considering non- technical risks that may occur (*Engine practice*).
 - 5.1. Able to innovate and develop techno the field of building engineering by considering social , economic , and environmental aspects .
 - 5.2. Able to me nganalisis condition of the environment in the process of planning , implementation , and over the building .

	<p>5.3. Implement technology information and computers into the process of planning , implementation , supervision the building .</p> <p>6. Having competence social and managerial , be able to work together , communicate effectively , characterized by entrepreneurship , with vision of environment and conscious will be the important learning throughout life (<i>Transferable and soft skills</i>).</p> <p>6.1. Being able to work the creative , innovative , collaborative , conscientious , responsible accountable , responsive to changes in environment .</p> <p>6.2. Having a sense of want to know , to think critically , mind open , and objective .</p> <p>6.3. Being able to communicate it effectively and work together in a <i>team work</i> .</p>															
Course Learning Outcomes	<p>Learning Achievement Eye Study (CP MK)</p> <table border="1" data-bbox="623 646 1877 984"> <thead> <tr> <th data-bbox="623 646 1850 686">CPMK</th> <th data-bbox="1850 646 1877 686"></th> </tr> </thead> <tbody> <tr> <td data-bbox="623 686 1850 760">1. Mastering the manufacture of roof sanitation equipment, clean water installation and dirty water installation</td> <td data-bbox="1850 686 1877 760">1</td> </tr> <tr> <td data-bbox="623 760 1850 800">2. Mastering tek nik basic welding to work building</td> <td data-bbox="1850 760 1877 800">1</td> </tr> <tr> <td data-bbox="623 800 1850 841">3. Mastering how to install sanitary ware in a building</td> <td data-bbox="1850 800 1877 841">3</td> </tr> <tr> <td data-bbox="623 841 1850 914">4. Skillfully translates planning drawings or designs of building utility systems in detail and calculations</td> <td data-bbox="1850 841 1877 914">3</td> </tr> <tr> <td data-bbox="623 914 1850 954">5. Mastering the manufacture of pipe wells as a source of water</td> <td data-bbox="1850 914 1877 954">5</td> </tr> <tr> <td data-bbox="623 954 1850 984">6. Master the basic techniques of processing and supplying clean water</td> <td data-bbox="1850 954 1877 984">6</td> </tr> </tbody> </table>	CPMK		1. Mastering the manufacture of roof sanitation equipment, clean water installation and dirty water installation	1	2. Mastering tek nik basic welding to work building	1	3. Mastering how to install sanitary ware in a building	3	4. Skillfully translates planning drawings or designs of building utility systems in detail and calculations	3	5. Mastering the manufacture of pipe wells as a source of water	5	6. Master the basic techniques of processing and supplying clean water	6	
CPMK																
1. Mastering the manufacture of roof sanitation equipment, clean water installation and dirty water installation	1															
2. Mastering tek nik basic welding to work building	1															
3. Mastering how to install sanitary ware in a building	3															
4. Skillfully translates planning drawings or designs of building utility systems in detail and calculations	3															
5. Mastering the manufacture of pipe wells as a source of water	5															
6. Master the basic techniques of processing and supplying clean water	6															
Short description of Mata Kuliah	<p>Eyes This course provides the knowledge Material p r a KTI k p l a m b i n g d a n s a nitasi m e l i p uti system pl a mbing in sua t u a building or a complex , which is associated with penyed i aan a i r be r anyway , provision of water hot , tools sanitary and channeling water b uangan ; Kete r ampi l a n manufacture of threaded pipe galvanized and system installation plamb i n g , pemas a ngan style t - tool sanitary ware to the building and skills to draw pe r encanaan or draft system utility buildings in detail (according ka i dah Gamba r Mech anical) se c a r a clear and Sisti m ATIS</p>															
References	Main (RU):															

	<ol style="list-style-type: none"> 1. <i>Standard National Indonesia (SNI) 8153: 2015 on system plumbing in construction of buildings</i> 2. <i>Babbit , HE (1960. Plambing , (3th.ed), Mc. Graw- Hill Book Company, New York, London, Toronto</i> 3. <i>Ervi Tahar , Toto Suparta , Agus Helmi . (1997) Fundamentals of Plumbing . Publisher Angkasa , Bandung</i> 4. <i>Harsono Wiryosumarto , Okumura, Toshie . (1981). Metal Welding Technology . PT. Pradnya Paramita , Jakarta</i> 5. <i>Rogen, Waren . (1975). Welding, Mc. Graw- Hill Book Company. Sydney, Auckland, New York, Toronto, Johannessburg , Singapore, Mexico, Panama, Tokyo.</i> 	
	Supporters (RP)	
	<ol style="list-style-type: none"> 1. <i>Samian . (1999) Labsheet of Steel and Welding Practices . UNP Faculty of Engineering , Padang</i> 2. <i>Martoyo Askari . (1999). Labsheet , Department of Civil Engineering FT. UNP</i> 3. <i>Martoyo Askari . (1985). Plumbing and Sanitation Las Oxygen-Assetin Series , FPTK IKIP Padang</i> 4. <i>Maman Suratman . (2001). Welding Techniques for Acetylene , Brazing, and Electric Arc Welding , Pustaka Grafika , Jakarta</i> 	
Media Pem learn an	Software :	Hardware :
		<ul style="list-style-type: none"> - Computers, LCD projectors and blackboards and devices - Equipment and practice materials - Tools Patron Self (APD)
Teaching Team	<ol style="list-style-type: none"> 1. Dr., Jonni Mardizal , MM, 2. Muvi Yandra , S.Pd , M.Pd.T , 3. Nadra Mutiara Sari, S.Pd. , M.Eng 4. Yuwalitas Gusmareta , S.Pd , M.Pd.T 	
Assessment	Assessment Continuous (<i>Continuous assessment</i>) in accordance jobs are given	
Terms Course	There is no	

LEARNING MATERIALS

minggu	Competencies to be achieved	Study Materials	Learning Methods and Strategies	Task / assignment	Assessment Criteria / Indicators	Referensi
(1)	CPMK- 1.1: [CPL1.1] Students are able to explain : 1. plambin equipment / material g 2. Health and safety at Plambing work	- General equipment and work materials in plumbing work - Health and Safety Work	- Explanation of material (1 x 50 ') - Discussion (2x50 ') - Practice (1x50 ')	Each student is asked to name the designated equipment and look for the equipment mentioned	Suitability and accuracy of explanation	RU-2 and RU-4
Sunday	Competencies are about to be reached	Study Materials	Learning Methods and Strategies	Task / assignment	Assessment Criteria / Indicators	Reference
(2)	CPMK-1.2: [CPL 1.1 , 3.1] Students are able to make : 1. plate work with a bunch of premises n stained 2. connecting plates Single and double folding joints 3. connecting plates with keeling nails	- Explain the usability of the plate connection	- Explanation of Material (1x50 ') - Working on assignments (3x 50 ')	Do it according to the given jobsheet	Work Process and Work Results	RU-4
(3)	CPMK- 1.3: [CPL 1. 1 , 3.1] Students are able to make double-angle square pipe joints	- Double angle pipe joints	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ')	Do it according to the given jobsheet	Work Process and Work Results	RU-4

(4)	CPMK-1.4: [CPL 1.1 , 3.1] Students are able to make a round corner double pipe joint	- Double angle round pipe joints	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ')	Do it according to the given jobsheet	Work Process and Work Results	RU-4
(5)	CPMK- 1.5 : [CPL5.1] Students are able to make short installations of galvanized pipes and PVC pipes	- Short open installation	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ')	Do it according to the given jobsheet	Work Process and work results	RU-1
Sunday	Competencies are about to be reached	Study Materials	Learning Methods and Strategies	Task / assignment	Assessment Criteria / Indicators	Reference
(6)	CPMK- 1.6 : [CPL5.1] Students are able to make galvanized pipe covered installations	- Installation of covered galvanized pipes	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ') -	Do it according to the given jobsheet	Work Process and work results	RU-1
(7)	CPMK-2.1: [CPL 1.2] Students are able to make welding teeth with Electric welding	- Basic techniques of electric welding - The purpose of welding	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ') -	Do it according to the given jobsheet	Work Process and work results	RU-5 RP-1

(8)	CPMK 2.2: [CPL 1.2, 5.1] Students are able to connect the strip plate seam I and connect the elbow strip plate	- Connecting plates with electric welding	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ' }	Do it according to the given jobsheet	Work Process and work results	RU-5, RP-1
(9)	CPMK 2.3: [CPL1.2, 5.1] Students are able to connect tee plate strips and connect straight steel pipes with electric welding	- Welding Tee plate and steel pipe	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ' }	Do it according to the given jobsheet	Work Process and work results	RU-5 RP-1
(10)	CPMK 2.4: [CPL 1.2, 5.1] Students are able to connect steel pipe angles with electric welding	- Splicing steel pipe angles	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ' }	Do it according to the given jobsheet	Work Process and work results	RU-5 RP-1
(11)	CPMK 2.5: [CPL 1.2, 3.2] Students Are Able to Make Welded Lasers with Acetelin Welding Connect the seam plate I with Las Asetelin	- Making welds with acetylene welding	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ' }	Do it according to the given jobsheet	Work Process and work results	RU-5 RP-3
(12)	CPMK 3.1: [CPL 3.1] Students Are Able to Install squatting toilets and sitting toilets	- Installation of squatting toilets and sitting toilets	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ' }	Do it according to the given jobsheet	Work Process and work results	RU-1
(13)	CPMK 3. 2 : [CPL3.1] Students are able to install a sink and urinal	- Installation of sinks and urinals	- Explanation of Practice Materials (1x50 ') - Working on assignments (3x 50 ' }	Do it according to the given jobsheet	Work Process and work results	RU-1

CPMK 2.4	Jobsheet 1 0	7.5	V																		
CPMK 2.5	Jobsheet 1 1	7.5	V						V												
CPMK 3.1	Jobsheet 1 2	5							V												
CPMK 3.2	Jobsheet 1 3	5							V												
CPMK 4.1	Jobsheet 1 4	5																	V		
CPMK 5.1	Jobsheet 1 5	5							V												
CPMK 6.1	Jobsheet 1 6	5																			V
Presence		10																			
TOTAL		100																			

Components Pénil a his n

Midterm Exams : .. %

Final Semester Exams : .. %

Assignment : .. %

Attendance : .. %

Total : 100%

Description Level P eni Laian

	Excellent	Good	Satisfy	Fail
Description				
Formulation				
Calculate				
Analysis				

Scoring system

Score	Quality Rating	Quality Score	Quality Mention	Score	Quality Rating	Quality Score	Quality Mention
85-100	A	4.0	With compliments	55 - 59	C	2.0	Enough
80-84	I-	3.6	Very very good	50-54	C-	1.6	Not enough
75 - 79	B +	3.3	Very well	40 - 49	D	1.0	Less
70-74	B	3.0	Well	≤ 39	E	0.0	Failed
65-69	B-	2.6	Pretty good	-	T	-	Delayed
60-64	C +	2.3	More than enough				

Note :
 Jobsheet in a separate file