



TEACHING PLAN
BUILDING ENGINEERING VOCATIONAL EDUCATION (BEVE) STUDY PROGRAM
CIVIL ENGINEERING DEPARTMENT, FACULTY OF ENGINEERING, UNIVERSITAS NEGERI PADANG

COURSE	CODE	COURSE CLUSTER	CREDITS		SEM	VERSION
			Theory	Practice		
Project Management & Quantity Surveying	SIP026	Compulsory Course of Study Program	3		6	1
Lecturer in Charge			Lecturer in Charge Dr. Ari Syaiful R.A, ST, MT NIP.198207072009121004			
Remarks	Dean of Faculty of Engineering	Head of Civil Engineering Department	Coordinator of BEVE			
	<u>Dr. Fahmi Rizal, M.Pd., M.T</u> NIP. 195912041985031004	<u>Faisal Ashar, Ph.D.</u> NIP. 19750103 200312 1001	<u>Drs. Revian Body, MSA.</u> NIP. 19600103 198503 1003			
Program Learning Outcomes	Program Learning Outcomes (PLO)					
	<p>At the time of graduation, students from Building Engineering Vocational Education study program are expected to have:</p> <ol style="list-style-type: none"> 1. The ability to apply basic knowledge of science (mathematics, natural sciences) and other multidisciplinary knowledges which are the basis of Building Engineering Vocational Education field in carrying out its professional work (Knowledge and Understanding). <ol style="list-style-type: none"> 1.1. Able to show good understanding and to implement the basic concept of mathematics to solve various problems in building engineering field. 1.2. Have a high understanding and able to implement the basic concept of Physics and Chemistry (natural sciences) in building engineering field. 1.3. Have a high understanding and able to implement the basic concept of basic engineering (Mechanics, Engineering Drawings) in building engineering field. 					

2. The ability to think critically and creatively in identifying, formulating, problem solving, and evaluating various problems in building engineering vocational education field by using the most appropriate and effective scientific method (Engineering analysis, investigations and assessment).
 - 2.1. Able to identify various technical problems in building engineering field.
 - 2.2. Able to analyze various technical problems in building engineering field.
 - 2.3. Able to evaluate various technical problems in building engineering field
3. The reliable ability to plan, implement, and supervise the works in building engineering field. (Engineering design).
 - 3.1. Able to implement shop drawings in collaboration with various related parties.
 - 3.2. Able to manage building engineering works by paying attention to environmental, social, health and safety aspects.
 - 3.3. Able to supervise the implementation of building engineering works.
4. The reliable ability to plan, implement, and evaluate the learning process in Building Engineering Vocational Education study program (Education design).
 - 4.1. Able to plan the curriculum and learning process in building engineering field.
 - 4.2. Able to carry out, control, evaluate and improve the quality of the learning process.
 - 4.3. Able to develop an effective, efficient and interesting teaching media.
5. The ability to adapt to and innovate towards the development of science and technology and implement it into educational and professional work goals by considering non-technical risks that may occur (Engineering practice).
 - 5.1. Able to innovate and develop the technology in the field of building engineering by considering social, economic and environmental aspects.
 - 5.2. Able to analyze environmental conditions in the planning, implementation and supervision of buildings.
 - 5.3. Implement information technology and computers into the planning, implementation, and supervision processes of buildings.
6. Social and managerial competencies, collaboration and effective communication skills, entrepreneurial character, environmental insight, and awareness of the importance of lifelong

- learning (Transferable and softskill).
- 6.1. Able to work creatively, innovatively, collaboratively, carefully, responsibly, and responsive to environmental change.
 - 6.2. Have curiosity and critical thinking, open-minded, and objective.
 - 6.3. Able to communicate effectively, and to collaborate in a team work.

Course Learning Outcomes

Course Learning Outcomes (CLO)

Course LO	PLO
1. Understand the concept of the organization, the management process, and the principles of good leadership	2.1, 2.2, 2.4, 3.4, 6.1, 6.2, 6.3
2. Understand the principles, scope and criteria for the success of project management	2.1, 2.2, 2.4, 3.2, 3.3, 3.4, 6.1, 6.2, 6.3
3. Knowing and understanding the various organizations (stakeholders) in construction services and legal products related to construction service work.	2.1, 2.2, 2.4, 3.2, 3.3, 3.4, 5.2, 5.3, 6.1, 6.2, 6.3
4. Understand the construction project planning process and the resulting documents	2.1, 2.2, 2.4, 3.2, 3.3, 3.4, 5.2, 5.3, 6.1, 6.2, 6.3
5. Understand the contents of the project documents and their completeness	2.1, 2.2, 2.4, 3.2, 3.3, 3.4, 5.2, 5.3, 6.1, 6.2, 6.3
6. Understand the construction project tender process, including planning, supervision and implementation tenders	2.1, 2.2, 2.4, 3.2, 3.3, 3.4, 5.2, 5.3, 6.1, 6.2, 6.3
7. Know and understand the project administration management system in the field	2.1, 2.2, 2.4, 3.2, 3.3, 3.4, 5.2, 5.3, 6.1, 6.2, 6.3
8. Knowing the various main activities in the physical implementation of a construction project	2.1, 2.2, 2.4, 3.2, 3.3, 3.4, 5.2, 5.3,

		6.1,.6.2,6.3
	9. Able to compile a complete RAB of a construction work	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.4, 5.2, 5.3,
	10. Able to calculate construction implementation costs, material cost requirements, equipment costs, and administrative costs	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.4, 5.2, 5.3,
	11. Able to compile project work schedules well	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 3.4, 5.2, 5.3,
	12. Having the ability to work in teams, present ideas and ideas, discuss, and be highly creative.	2.1, 2.2, 2.4, 3.2, 3.3,3.4, 6.1,.6.2,6.3
Course Description	This course provides knowledge about the concept of organization, management and leadership in general, followed by the understanding and scope of construction project management, organization and regulations covering construction projects, project planning processes, project documents, tendering processes, physical implementation processes, supervision and control processes. project. Then equipped with the knowledge and skills to calculate RAB, construction costs, management costs, calculation and regulation of the use of human resources and resources, preparation of work schedules, project network and project report preparation.	
Literature	<p>Main (ML):</p> <ol style="list-style-type: none"> 1. Soeharto Iman. 1999. <i>Manajemen Proyek (Dari Konseptual Sampai Operasional) Jilid 1. Konsep, Studi Kelayakan dan Jaringan Kerja</i>. Penerbit Erlangga, Jl. H. Baping Raya No. 100 Ciracas, Jakrta 13740 (Anggota Ikapi). 2. Widiasanti, Irika & Lenggogeni. 2013. <i>Manajemen Konstruksi</i>. PT Remaja Rosdakarya, Bandung. 3. Ervianto, Wulfram I. 2005. <i>Manajemen Proyek Konstruksi</i>. Penerbit ANDI, Yogyakarta. 4. Hansen, Seng. 2015. <i>Manajemen Kontrak Konstruksi (Pedoman Praktis dalam Mengelola Proyek Konstruksi)</i>. PT. Gramedia Pustaka Utama, Jakarta 5. Susanta Gatut. 2016. <i>Panduan Praktis Menghitung Anggaran Membangun Rumah</i>. Griya Kreasi (Penebar Swadaya Group) Jakarta. 6. Dmaximus Arc. 2018. <i>Desain Rumah 100-200 juta</i>. Griya Kreasi (Penebar Swadaya Group) Jakarta. <p>Supporting (SL):</p> <ol style="list-style-type: none"> 1. <i>Perpres no 16 Tahun 2018 tentang pengadaan barang dan jasa</i> 2. <i>Permen PU PR no 22 tahun 2018 tentang pedoman pembangunan gedung negara</i> 3. <i>Undang-undang no 2 tahun 2017 tentang jasa konstruksi</i> 4. <i>Harsat PU tahun 2019</i> 	
Teaching Media	Software:	Hardware:
	Office Word and Excell	Computer, LCD Projector and white board.
Team Teaching	Prof. Dr. M. Giatman, ST, MM., Ari Syaiful Rahman Arifin, ST, MT, Henny Yustisia, ST, MT	
Assessment	Mid-Semester Exam, Final Exam, Individual Assignment	

Prerequisite	Building Drawing Course
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TEACHING MATERIAL

Week	Expected Competency	Study Material	Teaching Method and Strategy	Assignment	Assessment Criteria/ Indicator	Reference
(1)	CLO-1 Knowledge and understanding of organizational concepts, management processes, and principles of good leadership	Basic concepts of Management and Organization (Definition of organization and management, process management, leadership)	Presentation, Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3
(2)	CLO-2 Knowledge and Understanding of the Principles, scope and success criteria of project management	Construction Project Management (Definition of a project, the scope of a construction project, the main criteria for a construction project)	Presentation, Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3

Week	Expected Competency	Study Material	Teaching Method and Strategy	Assignment	Assessment Criteria/ Indicator	Reference
(3)	CLO-3 Knowledge and understanding of organizations (stakeholders) in construction services and legal products related to construction service work	Organization and regulations related to construction projects (Roles and functions of related organizations (LPJK, PU, Professional Associations, companies, owners, etc.)	Presentation, Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3,4 SL 1,2,3
(4)	CLO-4 Knowledge and understanding of the construction project planning process and the resulting documents	Construction project planning process (TOR, design planning, planning documents etc.)	Presentation, Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3,4 SL 1,2,3
(5)	CLO-5 Knowledge and understanding of project document contents and completeness	Project documents (Contents and types of project documents)	Presentation, Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3,4 SL 1,2,3
(6)	CLO-6 Knowledge and understanding of the construction project tender process for planning, monitoring	Tender process (Tender planning, implementation and supervision)	Presentation, Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3,4 SL 1,2,3

Week	Expected Competency	Study Material	Teaching Method and Strategy	Assignment	Assessment Criteria/ Indicator	Reference
	and implementation					
(7)	CLO-7 Knowledge and understanding of the project administration management system in the field	Project administration system (The process of implementing project administration when physical work is running)	Presentation, Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3,4 SL 1,2,3
(8)	Mid-Semester Exam					
(9)	CLO-8, Knowledge and understanding of the main activities in the physical implementation process of a construction project	Physical implementation processes (preparation, resource mobilization, structural work, finishing, handover and maintenance)	Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3,5,6 SL 1,4
(10-11)	CLO-9 Able to compile a complete budget plan for a construction work	Calculate the cost budget plan (RAB) (Calculate the volume, unit price of the complete RAB)	Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3,5,6 SL 1,2,3,4
(12-13)	CLO-10 Able to calculate construction implementation costs, material cost	Calculate construction costs and management costs (material costs, equipment costs, wages, administrative costs)	Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	ML 1,2,3,5,6 SL 1,2,3,4

Week	Expected Competency	Study Material	Teaching Method and Strategy	Assignment	Assessment Criteria/ Indicator	Reference
	requirements, equipment costs and administrative costs					
(14-15)	CLO-11 Able to compile a project work time schedule properly	Creating a project work schedule (Types of work schedules, NWP making exercises and precedent diagrams, S curve)	Explanation and Discussion	Individual Assignment	1. Attitude 2. Knowledge 3. Skill	RU 1,2,3,5,6 RP 1,2,34
(16)	Final Exam (Evaluation to reveal the learning outcomes of students)					

Correlation between CLO, PLO and Assessment Methods

	Assesment	Weigh t (%)	PLO-1			PLO-2				PLO-3				PLO-4			PLO-5			PLO-6			
			1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	3	1	2	3	
CLO 1	Mid-Semester Exam (Question 1)	3																					
CLO 2	Mid-Semester Exam (Question 1)																						
CLO 3	Mid-Semester Exam (Question 2)	3																					
CLO 4	Mid-Semester Exam (Question 3)	3																					
CLO 5	Mid-Semester Exam (Question 4)	4																					
CLO 6	Mid-Semester Exam (Question 5)	3																					
CLO 7	Mid-Semester																						

	Exam (Question 5)																				
CLO 8	Mid-Semester Exam (Question 6)	4																			
CLO 9	Final Exam	25																			
CLO 10																					
CLO 11	Individual Assignment	25																			
CLO 12	Group Assignment	20																			
Presence		10																			
TOTAL		100																			

Assessment Component

Mid-Semester Exam : 20%

Final Exam : 25%

Individual & Group Assignment : 45%

Presence : 10%

Total : 100%

Description of Assessment Level

	Excellent	Good	Satisfy	Fail
Description	80-100	70-79	51-69	>50
Formulation	-	-	-	-
Count	-	-	-	-
Analysis	90-100	70-89	51-69	>50

Assessment System

Score Range	Grade Letter	Grade Point	Notes	Score Range	Grade Letter	Grade Point	Notes
85 – 100	A	4.0	Exceptional	55 – 59	C	2.0	Quite Satisfactory
80 – 84	A-	3.6	Excellent	50 – 54	C-	1.6	Poor
75 – 79	B+	3.3	Very Good	40 – 49	D	1.0	Very Poor
70 – 74	B	3.0	Good	≤ 39	E	0.0	Fail
65 – 69	B-	2.6	Fairly Good	-	T	-	Delayed
60 – 64	C+	2.3	Satisfactory				



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MID-SEMESTER EXAM

Course : Project Management & Quantity Surveying
Code / Credits : SIP026
Type of Exam : *Close Book*
Lecturer : Team
Time Allocation : 60 Minutes
Maximum Grade : 20%

	Question	Grade
	1. Explain the meaning of Project Management and provide at least 5 examples of implementing project management in construction project work.	3%
	2. describe stakeholder involved in the construction project from the start to the end of the project and explain their respective tasks and their relationship?	3%
	3. Explain what documents are contained in the construction planning document?	3%
	4. Explain what is meant by a feasibility study and explain what studies are included in the feasibility study stage?	4%
	5. Describe the stages of the process of implementing the construction service tender electronically?	3%
	6. Describe the main activities in the physical implementation process of a construction project?	4%

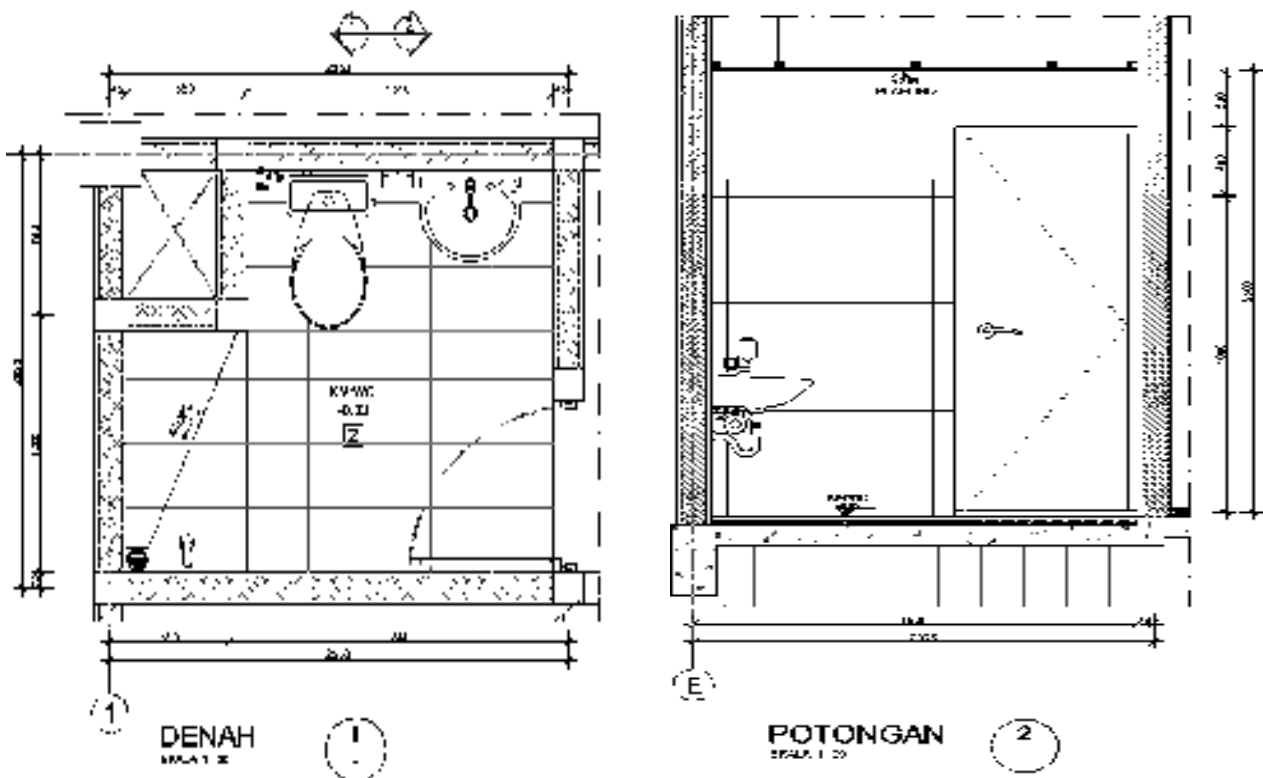


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FINAL EXAM

Course : Project Management & Quantity Surveying
Code / Credits : SIP026
Type of Exam : *Close Book*
Lecturer : Team
Time Allocation : 60 Minutes
Maximum Grade : 20%



From the picture above, calculate:

- Volume of $\frac{1}{2}$ masonry masonry with the assumption; no bathtub, 70cm wide door km / toilet, and ventilation 40x60cm west wall! (5%)
- The volume of plastering work inside and out and plastering! (5%)
- The volume of tiled floor work, size 25x25 cm! (5%) Provided: the height of the building is 2.5m + 0, X (X value = your Last NIM!) Ex: Last Nim = 1, then 2.5 m + 0.1 = 2.6 m It will take 100 minutes, open a notebook!

Name :
No :
Section :

No	Description	Sket	Calculation	Volume	Unit
1.	Pekerjaan Pasangan Bata 1:2				
2.	Pekerjaan Plesteran 1:2				
3.	Pekerjaan Pasangan Bata 1:4				
4.	Pekerjaan Plesteran 1:4				
5.	Pekerjaan acian				
6.	Pekerjaan Pasangan lantai keramik 25x25				

(5%)

From the volume calculation above, calculate the cost required and the weight of the work!

(5%)

No	Description	Volume	Unit	Unit Price (Rp)	Total (Rp)	Weight %
1.	Pekerjaan Pasangan Bata 1:2		M2	161,791.20		
2.	Pekerjaan Plesteran 1:2		M2	82,308.08		
3.	Pekerjaan Pasangan Bata 1:4		M2	151,913.28		
4.	Pekerjaan Plesteran 1:4		M2	77,268.96		
5.	Pekerjaan acian		M2	47,259.25		
6.	Pekerjaan pemasangan lantai keramik km/wc 25x25		M2	232,000.00		
				Jumlah		100%
				PPN 10%		
				Total		



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Group Assignment

Course : Project Management & Quantity Surveying
Code / Credits : SIP026
Type of Exam : *Close Book*
Lecturer : Team
Time Allocation : 30 Minutes
Maximum Grade : 40%

	Question	Grade
	Study literature and field, make assignments in the form of papers and powerpoints, then present them in the form of group discussions	30%
	Paper 1. Basic Concept of Project Management 2. Construction Project Management Organization 3. Construction Project Planning 4. Construction Project Feasibility Study 5. Construction Project Tender 6. Project Management Administration Documents 7. Construction Project Implementation Process 8. Process Supervision 9. K3 Construction 10. Maintenance and Retrofitting	
	Performance	10%

