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		
Building Drawing Construction						

Lecturer in Charge	**Nadra Mutiara Sari, S.Pd.,M.Eng**	**Lecturer in Charge**

Remarks	**Dean of Faculty of Engineering**	**Head of Civil Engineering Department**	**Coordinator of CEVE**
	Dr. Fahmi Rizal, M.Pd., M.T NIP. 195912041985031004	Faisal Ashar, Ph.D. NIP. 19750103 200312 1001	Drs. Revian Body, MSA. NIP. 19600103 198503 1003

Program Learning Outcomes	**Program Learning Outcomes (PLO)**

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).
   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 educatipn 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 woks. 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.

<table>
<tr><td>Course Learning Outcomes</td><td>Course Learning Outcomes (CLO): BUILDING DRAWING CONSTRUCTION
<table>
<tr><th>Course LO</th><th>PLO</th></tr>
<tr><td>1. Have knowledge about soil and its characteristics as a building site, building structures, types of single-story building foundations.</td><td>1.1, 1.3</td></tr>
<tr><td>2. Able to draw type of shallow foundation (stone foundation)</td><td>1.3, 2.4, 3.4, 6.1, 6.2, 6.3</td></tr>
<tr><td>3. Understand the reinforced concrete construction in non-storey buildings</td><td>1.3, 2.4, 3.4, 6.1, 6.2, 6.3</td></tr>
<tr><td>4. Understand the construction of floors and building walls with various materials</td><td>1.3, 2.4, 3.4, 6.1, 6.2, 6.3</td></tr>
<tr><td>5. Understand the construction of door frames, doors, windows, and ventilation</td><td>1.3, 2.4, 3.4, 6.1, 6.2, 6.3</td></tr>
<tr><td>6. Understand the construction of the truss, ceiling, able to draw the construction of the truss and ceiling</td><td>1.3, 2.4, 3.4, 6.1, 6.2, 6.3</td></tr>
<tr><td>7. Understand the roof and truss construction and draw the roof truss construction</td><td>1.3, 2.4, 3.4, 6.1, 6.2, 6.3</td></tr>
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<tr><td>Course Description</td><td>This course provides knowledge and understanding of the construction of single-story building components and can describe and drawing the components of a one-story building manually.</td></tr>
<tr><td>Literature</td><td>Main (ML) :
1. Konstruksi Bangunan Gedung, oleh Ir. Iman Subarkah.
Penerbit Idea Dharma Bandung.
2. Konstruksi Bangunan 1, 2 oleh Henz Prick, tahun 1980
3. A. Text Book of Building Construction oleh SK Sharma dan BK Kaul
Penerbit S Chand & Co. (PVT) LTD, tahun 1976
4. Ringkasan Ilmu Bangunan Bagian A dan B oleh J Kwantes dkk terjemahan Hendarsin H. Penerbit Erlangga, tahun 1983
5. Konstruksi Bangunan Gedung oleh Ir. Sugeng Djojowirono
Penerbit Keluarga Mahasiswa Teknik Sipil Fakultas Teknik UGM, tahun 1988
Bangunan Bertingkat Rendah
Supporting (SL)
1. Israr, Chairul. Konstruksi Bangunan dan Menggambar Seri Sambungan dan Hubungan Kayu. Padang: MRC, 1984.
2. Jabar, Maryati. Dasar-Dasar Menggambar Teknik. Padang: MRC, 1983.
3. Schaarwachter. Perspektif untuk Para Arsitek. Jakarta: Erlangga, 1984.
4. Gambar – Gambar Dasar Ilmu Bangunan 1, 2, 3 dan Suplemen Seri Bina Bangunan oleh R. Sugiharjo, BAE, tahun 1976</td></tr>
</table>

	5. Diktat Kuliah Konstruksi Bangunan Gedung – Gedung I dan II oleh R. Soemadi. Penerbit ITB 6. Keputusan Menteri PU – RI No 441/KPTS/1998 tentang Persyaratan Teknis Bangunan Gedung	
Teaching Media	**Software:**	**Hardware:**
		Computer, LCD Projector and white board
Team Teaching	Drs. Revian Body, MSA., Risma Apdeni, ST., MT., Yuwalitas Gusmareta, S.Pd., M.Pd, Nadra Mutiara Sari, S.Pd.,M.Eng., Laras Oktavia Andreas, S.Pd., M.Pd	
Assessment	Mid-Semester Exam, Final Exam, Individual Assignment, Group Assignment, Presentation	
Prerequisite	n.a.	

TEACHING MATERIAL

Week	Expected Competency	Study Material	Teaching Method and Strategy	Assignment	Assessment Criteria/ Indicator	Reference
(1)	CLO-1 1. Knowledge and understanding of: a. Soil b. Soil Characteristic c. Determination of foundation type based on soil type.	**Soil characteristics and determination of single-story building foundation.**	Lecture and discussion	Single-story house plan drawing	1. Attitude 2. Knowledge 3. Skill	ML & SL
(2)	CLO-2 1. Knowledge and understanding of shallow foundation types. 2. Skill to draw shallow foundation plan	**Shallow Foundation Drawing**	Lecture and discussion	Stone foundation plan drawing	1. Attitude 2. Knowledge 3. Skill	ML & SL
(3)	CLO-2 Skill to draw stone foundation.		Demonstration, lecture and discussion	Section and details of stone foundation drawing	1. Attitude 2. Knowledge 3. Skill	ML & SL
(4)	CLO-3 1. Knowledge and understanding of: a. Beam b. Column	**Reinforced concrete construction in single-story buildings**		Details reinforced concrete drawing	1. Attitude 2. Knowledge 3. Skill	ML & SL

Week	Expected Competency	Study Material	Teaching Method and Strategy	Assignment	Assessment Criteria/ Indicator	Reference
	c. Riang beam					
(5)	CLO-3 Skill to draw longitudinal section dan cross section od single-story building		Demonstration, lecture and discussion	Longitudinal and cross section drawing	1 Attitude 2. Knowledge 3. Skill	ML & SL
(6)	CLO-4 1. Knowledge and understanding of the type of floor	**Floor and wall construction**	Demonstration, lecture and discussion	Ceramic floor plan drawing	1 Attitude 2. Knowledge 3. Skill	ML & SL
(7)	CLO-4 2. Knowledge and understanding of the types of wall		Lecture and discussion		1. Attitude 2. Knowledge 3. Skill	ML & SL
(8)	**Mid-semester Evaluation through Mid-Semester Exam**					
(9)	**CLO-5** 1. Knowledge and understanding of the construction of door frames, door, windows, and ventilatuon 2. Skill to draw the frame and door construction.	**Door frames, doors, windows and ventilation construction**	Demonstration, lecture and discussion	1. Door dan windows plan drawing of single-story building 2. Details and section drawing of doors and windows frames.	1. Attitude *2.* Knowledge 3. Skill	ML & SL
(10)			Demonstration, lecture and discussion	Details and section drawing of doors and windows.	1. Attitude *2.* Knowledge 3. Skill	ML & SL
(11)	CLO-5 Skill to draw ventilation construction		Demonstration, lecture and discussion	Details and section drawing of ventilation	1. Attitude *2.* Knowledge 3. Skill	ML & SL
(12)	**CLO-6** 1. Knowledge and	**Truss construction, ceilings**	Demonstration, lecture and discussion	Truss construction drawing (completed	1. Attitude *2.* Knowledge	ML & SL

Week	Expected Competency	Study Material	Teaching Method and Strategy	Assignment	Assessment Criteria/ Indicator	Reference
	understanding of truss construction. 2. Skill to draw truss construction			with section and details).	3. Skill	
(13)	**CLO-6** 1. Knowledge and understanding of ceilings construction 2. Skill tro draw: a. Ceilings construction b. Ceilings plan		Demonstration, lecture and discussion	1. Ceilings plan drawing 2. Ceilings construction drawing	1. Attitude 2. Knowledge 3. Skill	ML & SL
(14)	Knowledge and understanding of roof construction	**Construction and truss of roof**	Lecture and discussion	Ceiling plan drawing	1. Attitude 2. Knowledge 3. Skill	ML & SL
(15)	Skill to drawa roof and roof truss		Lecture and discussion	Roof construction and roof truss drawing	1. Attitude 2. Knowledge 3. Skill	ML & SL
(16)	**Final Exam (Evaluation to reveal the learning outcomes of students)**					

Note :

Correlation between CLO, PLO and Assessment Methods

	Assesment	Weigh t (%)	PLO-1			PLO-2				PLO-3				PLO-4			PLO-5		
			1	2	3	1	2	3	4	1	2	3	4	1	2	3	1	2	3
CLO 1	Mid-Semester Exam (Question1)	5																	
CLO 2	Mid-Semester Exam	5																	

	(Question2)																			
CLO 3	Mid-Semester Exam (Question3)	5																		
CLO 4	Mid-Semester Exam (Question4)	5																		
CLO 5	Quiz	5																		
CLO 6	Final Exam	25																		
CLO 7																				
Final Assignment (CLO 1-7)		40																		
Presence		10																		
TOTAL		**100**																		

Assessment Component

Mid-Semester Exam : 20 %

Quisz : 5%

Final Exam : 25 %

Assignment : 40 %

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				