

## Programme Specifications

Academic Year	(2019-2020) Academic Year
Programme Title	Civil Engineering
Award	Bachelor of Engineering (BE)
Programme Code	CE
Degree Awarding Institution	Technological University (Kyaukse)
Associateship, Membership	
Accreditation status and Accreditors	Provisional, Engineering Education Accreditation Committee (EEAC, Myanmar)
Qualification Level (Myanmar National Qualification Framework)	Level 6
Degree Awarding Requirements	Student must pass 196 credits and obtain passing score in every subject
Department	Department of Civil Engineering
Head of Programme	Dr. Kyaw Moe Aung
Contact	09-401504159, tuksecivildep@gmail.com,kyawmoeaung07@gmail.com
Admission Criteria	As described in admission section
Requirements for sitting exam	see in each course specification
Subject Benchmark	N/A
Mode of Attendance	Full Time
Total Credits	196
Minimum Period of Study	6 years
Maximum period of study	18 years
Teaching/Learning Methods	Combination of lecturers, tutorials, practical, coursework, individual and group work, projects, industrial training
Assessment	Class work, written examinations, projects, reports, oral presentation, practical

## Programme Overview

Civil engineering is one of the professional engineering disciplines that deals with the design, construction, and maintenance of the physical and naturally built environment, including public works such as roads, bridges, canals, dams, airports, sewerage systems, pipelines, structural components of buildings, railways and so on. Civil engineers design, build, and maintain the foundation for our modern society. Buildings and roads provide the basis of city infrastructure so civil engineers are central figures in community development. Water resource and environmental engineering focus on water and sewer systems that balance safety standards with delivery of water and sewer processing, which are key functions in city operation and residents' health and comfort. Structural engineering analyzes, designs, plans and researches structural components and structural systems to achieve design goals and ensure the safety and comfort of users or occupants. Transportation engineers contribute to new and improved sources of public transportation. Geotechnical engineering is concerned with the engineering behavior of earth materials. Construction management is a professional service that uses specialized, project management techniques to oversee the planning, design, and construction of a project, from its beginning to its end.

## Graduate Competencies

1. Ability to apply Engineering Knowledge
2. Problem Analysis Skill
3. Design/Development Skill
4. Research Skill
5. Ability to apply Modern Tool
6. Ability to apply informed reasoning and Professional Engineering practice in society
7. Ability to understand and evaluate Environment and Sustainability

8. Ability to apply ethical principles
9. Ability to function effectively as Individual and a Team member or leader
10. Communication Skill
11. Ability to apply Project Management and Finance
12. Life Long Learning Skill

### **Programme Educational Objectives**

1. To serve as outstanding civil engineers in related research area, education and engineering fields.
2. To communicate and manage in civil societies with safe, sustainable, economical and environmentally sound solutions for civil engineering problems.
3. To pursue life-long learning and professional development to face the challenging and emerging needs of society.

### **Graduate Attributes**

1. Engineering Knowledge - Apply knowledge of mathematics, natural science, engineering fundamentals and civil engineering principles to the solution of complex engineering problems
2. Problem Analysis - Identify, formulate, review literature and analyze civil engineering problems
3. Design/Development of Solutions - Design solutions for complex civil engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations
4. Investigation –Conduct investigations, interpret data and provide conclusions in complex problems related to civil engineering
5. Modern Tool Usage - Create, select and apply appropriate techniques, resources, and modern engineering and IT tools for civil engineering problems.
6. The Engineer and Society - Apply contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice
7. Environment and Sustainability – Understand and evaluate the impact of professional engineering solutions in societal and environmental contexts for sustainable development.

8. Ethics - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
9. Individual and Team Work - Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
10. Communication- Communicate effectively on complex engineering activities with the engineering community and society through reports, documentation and presentations.
11. Project Management and Finance – Understand and apply engineering management principles and economic decision-making to manage projects in multidisciplinary environments.
12. Life Long Learning - Recognize the need for, and have the ability to engage in independent and life-long learning.

## Curriculum

<b>Year I</b>					
<b>Semester I</b>			<b>Semester II</b>		
Code	Title	SLT Credit	Code	Title	SLT Credit
M	12011 Myanmar	1	M	12011 Myanmar	1
E	12011 English	2	E	12011 English	2
EM	12002 Engineering Mathematics I	3	EM	12002 Engineering Mathematics II	3
E.Ch.	12011 Engineering Chemistry	4	E.Ch.	12011 Engineering Chemistry	4
E.Ph.	12011 Engineering Physics	3	E.Ph.	12011 Engineering Physics	3
ME	12011 Basic Engineering Drawing I	2	ME	12011 Basic Engineering Drawing I	2
CE	12011 Building Materials & Construction	3	CE	12022 Building Materials & Construction	3
Total		18	Total		18
Student Learning Time (SLT) per week			Student Learning Time (SLT) per week		

<b>Year II</b>					
<b>Semester I</b>			<b>Semester II</b>		
Code	Title	SLT Credit	Code	Title	SLT Credit
E	21011 English	2	E	22011 English	2
EM	21003 Engineering Mathematics III	3	EM	22004 Engineering Mathematics IV	3
ME	21015 Engineering Mechanics	2	ME	22015 Engineering Mechanics	2
EP	21011 Applied Electrical Engineering	2	EP	22011 Applied Electrical Engineering	2
CE	21011 Surveying I	3	CE	22011 Surveying II	3
CE	21012 Civil Engineering Drawing I	3	CE	22012 Civil Engineering Drawing II	3
CE	21019 Workshop Technologies & Practices I	3	CE	22019 Workshop Technologies & Practices II	3

<b>Year III</b>					
<b>Semester I</b>			<b>Semester II</b>		
Code	Title	SLT Credit	Code	Title	SLT Credit
E	31011 English	2	E	32011 English	2
EM	31005 Engineering Mathematics V	3	EM	32006 Engineering Mathematics VI	3

CE	31011	Surveying III	3	CE	32013	Mechanics of Materials II	2
CE	31013	Mechanics of Materials I	2	CE	32016	Fluid Mechanics II	3
CE	31016	Fluid Mechanics I	3	CE	32017	Transportation Engineering II	2
CE	31017	Transportation Engineering I	2	CE	32015	Geotechnical Engineering II	3
CE	31015	Geotechnical Engineering I	3	Geol	32011	Civil Engineering Geology II	3
Geol	31011	Civil Engineering Geology I	3				

**Year IV**

<b>Semester I</b>			<b>Semester II</b>				
Code	Title	SLT Credit	Code	Title	SLT Credit		
E	41011	English	2	E	42011	English	2
EM	41007	Engineering Mathematics VII	3	EM	42008	Engineering Mathematics VIII	3
CE	41013	Theory of Structures I	2	CE	42013	Theory of Structures II	2
CE	41014	Design of Timber Structures	2	CE	42026	Engineering Hydrology	2
CE	41015	Geotechnical Engineering III	3	CE	42016	Hydraulic Engineering & Applied Hydraulics II	3
CE	41016	Hydraulic Engineering & Applied Hydraulics I	3	CE	42017	Transportation Engineering IV	2
CE	41017	Transportation Engineering III	2				

**Year V**

<b>Semester I</b>			<b>Semester II</b>				
Code	Title	SLT Credit	Code	Title	SLT Credit		
CE	51013	Theory of Structures III	2	CE	52014	Design of Reinforced Concrete Structures II	2
CE	51014	Design of Reinforced Concrete Structures I	2	CE	52012	Construction Engineering Management II	2
CE	51012	Construction Engineering Management I	2	CE	52016	Design of Hydraulic Structures II	2
CE	51016	Design of Hydraulic Structures	2	CE	52024	Design of Steel Structures II	2
CE	51024	Design of Steel Structures I	2	CE	52018	Environmental Engineering II	3
CE	51018	Environmental Engineering I	3	CE	52022	Estimating and Specifications II	3
CE	51022	Estimating and Specifications I	3				

**Year VI**

<b>Semester I</b>			<b>Semester II</b>				
Code	Title	SLT Credit	Code	Title	SLT Credit		
HSS	61011	Humanity and Social Science	2	CE	62001	Industrial Training	4
CE	61019	Computer Application in Civil Engineering	4	CE	62009	Mini Thesis/Graduation Thesis	9
CE	61018	Environmental Engineering III	3				
CE	61029	Integrated Design Project	2				