



1. Programme Educational Objectives (PEO)
2. Programme Outcomes (PO)
3. Course Learning Outcome (CO)

### **PROGRAMME SPECIFICATION**

<b>1. Programme Name</b>	Bachelor in Civil Engineering			
<b>2. Final Award</b>	Bachelor of Engineering (Civil)			
<b>3. Awarding Institution</b>	UTM			
<b>4. Teaching Institution</b>	UTM			
<b>5. Professional or Statutory Body of Accreditation</b>	Board of Engineers Malaysia (BEM)			
<b>6. Language(s) of Instruction</b>	Bahasa Melayu and English			
<b>7. Mode of Study (Conventional, distance learning, etc)</b>	Distance Learning			
<b>8. Mode of operation (Franchise, self-govern, etc)</b>	Self-governing			
<b>9. Study Scheme (Full Time/Part Time)</b>	Part Time			
<b>10. Study Duration</b>	<u>Minimum</u> : 5 yrs (10 normal semesters) <u>Maximum</u> : 10 yrs (20 normal semesters)			
Type of Semester	No. of Semesters		No. of Weeks / Semester	
	Full Time	Part Time	Full Time	Part Time
Normal	8	10	14	15
Short	4	4	8	9
<b>11. Entry Requirement</b>	<ol style="list-style-type: none"> <li>1. Diploma in Civil Engineering with minimum CGPA of 2.70 from recognized institutions. Or</li> <li>2. For candidates who hold a Diploma in Civil Engineering from recognized institutions, with CGPA lower than 2.70 but with a minimum of 2 years working experience are also eligible to apply</li> </ol>			

### **12. Programme Objectives (PEO) – (Ciri-ciri yang perlu ada pada seorang graduan selepas 3 tahun bekerja)**

PEO1: Graduates are competent, innovative and entrepreneurial in acquiring and applying knowledge towards solving complex civil engineering problems.

PEO2: Graduates possess leadership qualities, able to work, manage in diverse teams and serve the society in multidisciplinary environment.

PEO3: Graduates demonstrate professionalism and uphold ethical values with emphasis on sustainable environment.

PEO4: Graduates are able to communicate effectively, possess strong self-confidence and recognise the need for life-long learning.


**PROGRAMME SPECIFICATION**
**13. Programme Learning Outcomes (PO)**
**(Ciri-ciri yang perlu ada pada seorang graduan sebaik sahaja menamatkan pengajian)**

PLO/GA	Statement of PLO	Assessment Tools
<b>PLO1: Engineering Knowledge</b>	Ability to apply knowledge of mathematics, science, civil engineering fundamentals and other relevant field of studies to solve complex engineering problems.	Examinations, presentations, assignments, problem-based exercises, project reports, design tasks.
<b>PLO 2: Problem Analysis</b>	Ability to identify, formulate, research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.	Examinations, Final year project reports, design tasks, examinations, problem-based assignments.
<b>PLO 3: Design or Development</b>	Ability to design or develop solutions for complex 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.	Examinations, Laboratory reports, design projects, problem-based assignments.
<b>PLO 4 : Investigation</b>	Ability to conduct investigation into complex problems using research based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.	Examinations, Assignments, final year project and presentation, and group projects.
<b>PLO 5: Modern Tool Usage</b>	Ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations.	Examinations, oral presentations, written reports, group projects and design,
<b>PLO 6: The Engineer and Society</b>	Ability to provide contextual reasoning to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.	Examination, Oral presentations, written reports, group projects and design, co-curriculum and social activities.



**PROGRAMME SPECIFICATION**

<p><b>PLO 7 : Environment and Sustainability</b></p>	<p>Ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.</p>	<p>Examination, Oral presentations, written reports, group projects and design, co- curriculum and social activities.</p>
<p><b>PLO 8 : Ethics</b></p>	<p>Ability to uphold the ethic of engineering practice.</p>	<p>Lab report, final year project report, assignments and projects</p>
<p><b>PLO 9 : Communication</b></p>	<p>Ability to communicate effectively with confidence, including able to write and make convincing presentation on complex engineering problem.</p>	<p>Oral presentations, written reports, group projects and design,</p>
<p><b>PLO 10 : Individual Team Work</b></p>	<p>Ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.</p>	<p>Group projects and design, co- curriculum and social activities.</p>
<p><b>PLO 11 : Life Long Learning</b></p>	<p>Ability to continuously seek and acquire contemporary technology changes.</p>	<p>Examinations, presentations, assignments, problem- based exercises, project reports, design tasks.</p>
<p><b>PLO 12 : Project Management and Finance</b></p>	<p>Ability to demonstrate understanding of project and financial management, and possess entrepreneurial skill to create business opportunity.</p>	<p>Examinations, presentations, assignments, problem- based exercises, projects</p>



### PROGRAMME SPECIFICATION

#### 14. Classification of Subjects

No.	Classification	Credit Hours	Percentage
i.	University		
	a. General	8	15%
	b. Language	8	
	c. Entrepreneurship	2	
	d. Co-curriculum	2	
ii.	Faculty / Programme Core	101	74%
iii.	Programme Electives	15	11%
	Total	136	100%
<b>For engineering programmes please complete the following classification. (Others please refer to the Statutory Body guidelines)</b>			
A	Engineering Subjects		
	(a) Lecture/Project/ Laboratory	82	72%
	(b) Workshop/Field/Design Studio	5	
	(c) Industrial Training	5	
	(d) Final Year Project	6	
	Total credit hours for Part A	98	
B	Related Subjects		
	(a) Applied Science/Maths/Computer	18	28%
	(b) Management/Law/Humanities/Ethics	10	
	(c) Language	8	
	(d) Co-Curriculum	2	
	Total credit hours for Part B	38	
	Total Credit Hours for Parts A and B	136	100%

#### 15. Total credit hours to graduate

**136 credit hours**



## **PROGRAMME SPECIFICATION**

### **16. Programme structure and features, curriculum and award requirements**

The programme is offered on part-time mode and is based on a 2 normal-Semester and 1 short-semester in each Academic Session. Courses are delivered and assessed in each Semester. Assessment is based on final examination and coursework conducted throughout the semester.

#### **Award requirements:**

To graduate, students should :

- Attain a total of no less than 135 credit hours with minimum CGPA of 2.0.
- Complete and pass the Industrial Training equivalent to 5 credit hours for students without any working experience. Exemption to industrial training is given to students who have at least one year working experience. To obtain exemption students must submit a technical report on the related experience, attend and pass the interview.
- Complete and pass the undergraduate Final Year Project.
- Complete and pass the Civil Engineering Seminar.

The programme is conducted according to the course menu (Menu Matapelajaran) shown in the following tables.

The first and second tables are the menu for the July and December intakes respectively. The third table shows an example of the course menu for Ipoh Learning Centre, with student intake conducted in December.

### **18. Our Uniqueness**

1. One of the biggest Civil Engineering faculties in the world.
2. One of the biggest and best Civil Engineering lab/facilities in the region.
3. A major contributor of Civil Engineering graduates in the local workforce.
4. High employability rate of graduates.
5. A major contributor of leaders in government and industrial sectors.
6. The first Civil Engineering Faculty to achieve ISO 9001:2000 and ISO 17025 certifications.
7. Diversity of lecturers (qualification background from institutions all over the world).

### **19. Career Prospects and Career Path**

Graduates of the programme can work as a Project Engineer, Construction Engineer, Hydraulic Engineer, Environmental Engineer, Highway and Transport Engineer, Geotechnical Engineer, Site Engineer, Design Engineer and Structural Engineer.

### **20. Facilities available**

Range of facilities;

1. Structural Engineering Laboratory
2. Material Engineering Laboratory
3. Hydraulics and Hydrology Laboratory
4. Environmental Laboratory
5. Geotechnical Laboratory
6. Highway & Transportation Laboratory
7. Computer Laboratory
8. Civil Engineering Testing Unit (CETU)
9. Information Technology Unit of Civil Engineering (ITUCE)
10. Conducive Learning Centres
11. Knowledge Resource Centre at Every Learning Centres
12. Digital library accessible to all students via internet
13. Conventional Lectures (Face-to-face lectures)
14. Similar curriculum and contact credit hours to the full-time mode