

**MASTER OF SCIENCE IN CIVIL ENGINEERING (MIXED MODE)**  
**CURRICULUM STRUCTURE**  
**1 YEAR**  
**(INTEGRATED BACHELOR-MASTER PROGRAMME)**

Category		Course Code	Course Name	Credit Hours
Year 1	Semester 1	GENE 8000	The Integration of Knowledge in Engineering: An Islamic Perspective	3
		CIVE 7950	Research Methodology and Seminar	3
		CIVE 7301	Principle of Structural Systems Analysis and Design*	3
		CIVE 7302	Advanced Hydrology*	3
		CIVE 7071	Research Proposal	0
	Semester 2	CIVE 7303	Advanced Soil Mechanics & Foundation Engineering*	3
		CIVE 7072	Dissertation	21
			Elective 1	3
			Elective 2	3
		TOTAL		42

\*If the students took these 3 core courses (PG courses offered to UG as electives), these courses will be credit transferred if all the requirements are met.

Refer to Malaysian Qualifications Agency, MQA (MQA BIL. 6/2019) PROGRAM INTEGRASI SARJANA MUDA TAHAP 6 MQF DAN SARJANA TAHAP 7 MQF.

**MASTER OF SCIENCE IN CIVIL ENGINEERING (MIXED MODE)**  
**CURRICULUM STRUCTURE (FULL TIME) NORMAL DURATION (4 SEMESTER)**

Category		Course Code	Course Name	Credit Hours
Year 1	Semester 1	GENE 8000	The Integration of Knowledge in Engineering: An Islamic Perspective	3
		CIVE 7950	Research Methodology and Seminar	3
		CIVE 7301	Principle of Structural Analysis and Design	3
	Semester 2	CIVE 7302	Advanced Hydrology	3
		CIVE 7303	Advanced Soil Mechanics & Foundation Engineering	3
			Elective 1	3
Year 2	Semester 3		Elective 2	3
		CIVE 7071	Research Proposal	0

	Semester 4	CIVE 7072	Dissertation	21
<b>TOTAL</b>				<b>42</b>

#### LIST OF ELECTIVE COURSES

No.	Elective by Specialization Courses		CREDIT HOURS
	STRUCTURE AND CONSTRUCTION ELECTIVES		
1	CIVE 7311	Advanced Prestressed Concrete Design	3
2	CIVE 7312	Advanced Solid Mechanics	3
3	CIVE 7313	Advanced Finite Elements Method	3
4	CIVE 7321	Advanced Concrete Technology	3
5	CIVE 7322	Advanced Construction Engineering	3
6	CIVE 7314	Advanced Steel Design	3
7	CIVE 7315	Bridge Analysis and Design	3
8	CIVE 7316	Structural Dynamics	3
9	CIVE 7317	Advanced Structural Wind Engineering	3
10	CIVE 7318	Seismic Design and Analysis of Concrete Structures	3
11	CIVE 7323	Construction Law	3
12	CIVE 7324	Advanced Construction Project Management	
No.	Elective by Specialization Courses		CREDIT HOURS
	WATER RESOURCES AND ENVIRONMENT		
1	CIVE 7331	CFD Modelling	3
2	CIVE 7332	Coastal and Offshore Engineering	3
3	CIVE 7333	River Mechanics	3
4	CIVE 7334	Groundwater Engineering	3
5	CIVE 7341	Solid Waste Remediation and Utilisation	3
6	CIVE 7335	Integrated River Basin Management	3
7	CIVE 7342	Environmental Management	3
8	CIVE 7343	Environmental Biochemistry	3
9	CIVE 7344	Advanced Environmental Engineering	3
	GEOTECHNICAL AND TRANSPORTATION		
1	CIVE 7352	Soil Dynamics	3
2	CIVE 7354	Advanced Slope Engineering	3
3	CIVE 7361	Urban Transportation Engineering	3
4	CIVE 7362	Intelligent Transport System	3
5	CIVE 7363	Pavement Analysis and Design	3
6	CIVE 7364	Pavement Management System	3
7	CIVE 7365	Traffic Management & Analysis	3
8	CIVE 7366	Railway Engineering	3

Kulliyyah of Engineering postgraduate students may select one elective course from any other programmes within the Kulliyyah of Engineering Elective courses listed in table below.

**LIST OF FREE ELECTIVE COURSES**

Course Code	Course Name	Credit Hours
EECE 7129	IoT and Cloud Computing	3
EECE 7130	Artificial Intelligence	3
EECE 7132	Big Data Analytics	3
EECE 7301	Circuits, Signals and Filters	3
EECE 7327	Microelectromechanical Sensors, Actuators and Systems	3
EECE 7328	Industrial Automation and Digital Control	3
MTRE 7003	Contemporary Materials for Engineering Applications	3
MTRE 7004	Advanced Metallic Materials	3
MTRE 7015	Sustainable Plastic	3
MFGA 7206	Additive Manufacturing	3
MFGA 7207	Project Management for Engineers	3
MFGA 7208	Managing Quality and Performance Excellence	3
MCTA 7311	Autonomous Agent Systems	3
MCTA 7107	Vibration Analysis and Control	3
MCTA 7210	Power Electronics Systems and Design	3
MECH 7112	MEMS/NEMS and Smart Material	3
MECH 7013	Applied Finite Element Methods	3
MECH 7016	Solar Energy System	3