Admission Requirements

i. Bachelor in the field of Engineering or Engineering Technology with CGPA of 2.750 ; or
ii. Bachelor in the field of Engineering or Engineering Technology with CGPA of 2.500-2.749 with at least 3 years of working experience in relevant field ; or
iii. Bachelor in the field of Engineering or Engineering Technology with CGPA of 2.250-2.499 with at least 5 years of working experience in relevant field ; or
iv. Bachelor in any related field of Science or Technology with CGPA of 3.000 ; or
v. Bachelor in any related field of Science or Technology with CGPA of 2.750-2.999 with at least 3 years of working experience in relevant field ; or
vi. Bachelor in any related field of Science or Technology with CGPA of 2.500-2.749 with at least 5 years of working experience in relevant field.

Language Requirements

International candidates are required to fulfill English language requirement as follows:

a) 550 for TOEFL Paper-based Test (Academic Version); or
b) Band 6.0 for IELTS (Academic Training); or
c) 79-80 for TOEFL Internet-based Test (Academic Version).

Candidate without the requisite minimum score for TOEFL or IELTS may be granted a provisional admission. Such candidate will be required to pass an English Placement Test conducted by the University.

Fees

Fees	Master without thesis	
	Malaysian Student	International Student
Basic Fees (1st semester)	RM 1,250	RM 2,300
Basic Fees (2nd and subsequent semester)	RM 1,000	RM 2,050
Credit Fees * subject to change	RM 250 / credit	RM 400 / credit

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APPLICATION

Please apply online via:

http://sgsportal.upm.edu.my:8080/sgsportal
www.sgs.upm.edu.my/prospective_students-2964

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MASTER OF WATER ENGINEERING

Department of Civil Engineering
Faculty of Engineering, Universiti Putra Malaysia

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INTRODUCTION

This programme is designed to offer opportunities to engineers and other professionals to enhance their expertise in water engineering, for them to use in developing, utilising and managing the world's water resources.

PROGRAMME REQUIREMENTS

Credit Requirements for Graduation
Students enrolling under this programme must fulfill 40 credits of courses to graduate. The credit distributions for compulsory courses, elective courses and project are as follows:

- Compulsory Courses 21 credits
- Elective Courses 9 credits
- Dissertation 10 credits

Compulsory Courses
Students must take all the listed compulsory courses;

ECV5100	Research Methodology	3 credits
ECV5422	Surface Hydrology	3 credits
ECV5412	Flow in Closed Conduits	3 credits
ECV5413	Water Quality Engineering	3 credits
ECV5414	Open Channel Hydraulics	3 credits
ECV5415	Design of Water and Wastewater Treatment	3 credits
ECV5416	Hydraulic Structures	3 credits
ECV5990	Dissertation	10 credits

Note : ECV5990 – Dissertation is carried out over two semester

Elective Courses
Students must take only three elective courses (9 credits) out of the listed

ECV5417	Groundwater Hydraulics	3 credits
ECV5418	Sediment Transport	3 credits
ECV5419	Coastal and Port Engineering	3 credits
ECV5420	Water Resources Modelling	3 credits
ECV5421	Fluvial Flood Risk Assessment	3 credits
ECV5514	GIS for Engineers	3 credits
ECV5702	Project Management	3 credits

Course Synopsis

ECV5100 | Research Methodology | 3 Credits
This course covers best practices in research such as research methodology, design and ethics as well as academic writing and oral presentations.

ECV5422 | Surface Hydrology | 3 Credits
This course covers materials that lead to the computation of discharges that are useful for design of water related structures. It also covers aspects of flow routing and the development of model for hydrologic simulation.

ECV5412 | Flow in Closed Conduits | 3 Credits
This course covers analysis of steady and unsteady flow in closed conduits that are required for design of water distribution and drainage as well as sewerage systems.

ECV5413 | Water Quality Engineering | 3 Credits
This course contains analysis of the sources and types, and fate and transport pollutants in surface and groundwater systems, as well as their impacts on human and ecological health. It also covers design of prevention, remedial, and mitigation techniques for water pollution.

ECV5414 | Open Channel Hydraulics | 3 Credits
This course covers principles and applications of flow in open channels by using the concepts of specific energy and momentum. Design of channels is also discussed.

ECV5415 | Design of Water and Wastewater Treatment | 3 Credits
This course covers the processes and design of water and wastewater treatment plants. Sludge treatment and tertiary treatment are also discussed.

ECV5416 | Hydraulic Structures| 3 Credits
This course covers hydraulic structures such as culverts, spillways, energy dissipator and dams. It also covers design of fluvial flood protection structures and detention pond outlets.

ECV5417 | Groundwater Hydraulics | 3 Credits
This course covers the characteristics of aquifers, groundwater flow and design of well. It also includes the use of groundwater model as well as water pollution and remediations

ECV5418 | Sediment Transport | 3 Credits
This course covers sediment characteristics and transport in channels. It also covers behaviour and protection of river banks as well as sedimentation in reservoirs.

ECV5419 | Coastal and Port Engineering | 3 Credits
This course covers wave hydrodynamics and tides as well as their effects on sediment transport and coastal morphology. Port and infrastructure planning and design as well as their operation and maintenance are also discussed.

ECV5420 | Water Resources Modelling | 3 Credits
This course covers developing models of catchment hydrology. It also includes predictions of water resources availability under scenarios of change.

ECV5421 | Fluvial Flood Risk Assessment | 3 Credits
This course covers methods to assess fluvial flood risk, including flood probability and vulnerability assessments. This includes different approaches to model vulnerability to flooding.

ECV5514 | GIS for Engineers | 3 Credits
This course covers GIS components, spatial data structure, data source and acquisition as well as development of spatial database. It will also cover applications in civil engineering as well as formation and management of GIS unit.

ECV5702 | Project Management | 3 Credits
This course covers the discussion on advanced project management framework with the inclusion of the elements of risk management, quality management, life cycle method and systems thinking. The use of Building Information Modelling (BIM) in project planning and monitoring will also be addressed.

ECV5990 | Dissertation | 10 Credits
This course involves a research or study by a student on a specific topic. It covers literature review, methodology, data collection and analysis under a supervision of a lecturer. A proposal report needs to be prepared at the beginning of the study. At the end of the project, the student will submit a complete dissertation and research output for evaluation. The student is also required to present the findings of the study to a panel of assessors.