Faculty of Engineering
Department of Chemical and Environmental Engineering

Master Of Environmental Technology Management

www.eng.upm.edu.my
INTRODUCTION

This programme is designed to prepare professionals with a comprehensive approach towards monitoring, controlling and managing environmental waste resources systemically in line with future visions of the country. It encompasses topics related to various kinds of environmental pollution such as water and wastewater, land, solid, sound and air pollution. Emphasis on health and industrial safety aspects will also be discussed.

PROGRAMME REQUIREMENTS

Credit Requirements for Graduation

Students enrolling under this programme must fulfil 40 credits of course work to graduate. The credit distributions for compulsory courses, elective courses and project are as follows:

- Compulsory Courses: 22 credits
- Elective Course: 12 credits
- Project: 6 credits

Compulsory Courses

Students must take all the listed compulsory courses:

- ECH 4102 Environmental Health Engineering: 3 credits
- ECH 5104 Solid Waste Management and Design: 3 credits
- ECH 5404 Environmental Engineering Laboratory: 1 credit
- ECH 5501 Atmospheric Risk Management: 3 credits
- ECH 5510 Disaster Management and Emergency Plan: 3 credits
- ECH 5511 Health, Safety and Environmental Protection: 3 credits
- ECH 5512 Water Management: 3 credits
- ECH 5513 Environmental Management Principles: 3 credits

Elective Courses

Students must take four elective courses out of the listed courses:

- ECH 4105 Noise Pollution Control: 3 credits
- ECH 4106 Toxic and Hazardous Waste Engineering: 3 credits
- ECH 5103 Wastewater Treatment Design: 3 credits
- ECH 5502 Hazard Analysis and Risk Assessment: 3 credits
- ECH 5504 Applied Hazard and Operability Studies: 3 credits
- ECH 5555 Process Reliability and Maintainability: 3 credits
- ECH 5556 Mechanical Failure and Electrical Hazards: 3 credits
- ECH 5555 Special Topics: 3 credits
- EMM 5909 Industrial Safety, Health and Environmental Management: 3 credits

Identification on the elective courses for the student will be made by the program coordinator.

Project

Students are required to register ECH5989 - Project for 6 credits to fulfill the project requirement. This course is related to a research project work whereby student will select one appropriate topic and do literature review, data collection and analysis. The research scope will be determined by the supervisor based on the discussion with student. At the end of the semester, students are required to submit a written report. As part of graduation fulfillment, the students need to present their research output to a panel of examiners.
Course Synopsis

- **ECH4102**: Environmental Health Engineering
  - 3 credits
  - This course covers water and air pollutions from various sources, solid and industrial wastes disposal and management and their effect to environment and human health.

- **ECH5104**: Solid Waste Management and Design
  - 3 credits
  - This course covers type, source, composition and handling of municipal solid waste from management, processing to disposal and recovery.

- **ECH5404**: Environmental Engineering Laboratory
  - 1 credit
  - This course covers practical exercises related to pollutants level determination and water, wastewater, air and noise pollution analysis.

- **ECH5501**: Atmospheric Risk Management
  - 3 credits
  - This course covers the understanding of practice of performing and managing regulatory atmospheric risk assessments, the evaluation of the effects of air toxic emissions on human health.

- **ECH5510**: Disaster Management and Emergency Plan
  - 3 credits
  - This course covers the management principles, planning and analysis of disaster and also emergency management for facing disaster and emergency situations in a more systematic and organized manner.

- **ECH5511**: Health, Safety and Environmental Protection
  - 3 credits
  - This course covers the principles and protection of health, safety and environmental protection, risk assessment and management, waste handling as well as the use of personal protective equipment.

- **ECH5512**: Water Management
  - 3 credits
  - This course covers water resource, sustainability and water use characteristics, wastewater collection, measurement and flow, as well as groundwater management and control.

- **ECH5513**: Environmental Management Principles
  - 3 credits
  - This course covers environmental management principle and practice, management standards and monitoring as well as future approaches in handling national and global environmental changes.

- **ECH4105**: Noise Pollution Control
  - 3 credits
  - The course covers the principles of noise pollution control, sources and various noise effects as well as measurement and control source of noise.

- **ECH4106**: Toxic and Hazardous Waste Engineering
  - 3 credits
  - This course covers the principles of toxic and hazardous wastes, hazardous waste management and monitoring, waste treatments and waste handling from cradle to grave.

- **ECH5103**: Wastewater Treatment Design
  - 3 credits
  - This course covers basic principles, methods and plant design in wastewater and sludge treatment from preliminary to primary stages in fulfilling current requirements.

- **ECH5502**: Hazard Analysis and Risk Assessment
  - 3 credits
  - This course covers the interaction between process design and hazard identification. It examines ways for improving the safety of the plant at the process design stage.

- **ECH5504**: Applied Hazard and Operability Studies
  - 3 credits
  - The course covers the use of HAZOP techniques in identifying any operational hazards in companies as well as formulation analysis on any occurrence and incident.

- **ECH5505**: Process Reliability and Maintainability
  - 3 credits
  - This course covers plant availability and reliability, event probability and failure frequency analysis as well as management of layer protection analysis and maintainability.

- **ECH5506**: Mechanical Failure and Electrical Hazards
  - 3 credits
  - This course covers failures in mechanical design, source of mechanical failure and electrical hazards as well as handling and control of process equipment.

- **ECH5595**: Special Topic
  - 3 credits
  - This course deals with selected chemical and environmental engineering field according to current development. The studies will be based on topics that are determined by the lecturer.

For more information

Please contact:

Deputy Dean
(Research & Postgraduate Studies)
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Universiti Putra Malaysia
43400 UPM, Serdang
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Programme Coordinator:
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ADMISSION REQUIREMENTS

An applicant with a bachelor degree in engineering with CGPA 2.500/55%/Second Class Lower and at least three (3) years working experience experiences in relevant field; or
An applicant with a bachelor degree in engineering with CGPA 2.750/60%/Second Class Lower
An applicant with a bachelor degree in science with CGPA 3.000/65%/Second Class Upper OR CGPA 2.750/60%/Second Class Lower and at least three (3) years working experience experiences in relevant field

* Please refer to programme coordinator for more information on admission requirements

FEES

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<thead>
<tr>
<th></th>
<th>Master without thesis</th>
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<tbody>
<tr>
<td></td>
<td>Malaysian Student</td>
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<tr>
<td>Basic Fees (1st semester)</td>
<td>1,200.00</td>
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<tr>
<td>Basic Fees (2nd and subsequent semester)</td>
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<tr>
<td>Credit Fees</td>
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* subject to change

Language Requirement

• A Malaysian candidate must have obtained at least a credit in English at Sijil Pelajaran Malaysia level or have passed English courses conducted at the Diploma or Bachelor’s Level.

• All international candidates from countries where English is not a medium of instruction must have obtained a minimum score of 550 for TOEFL or Band 6 for IELTS. This requirement is not applicable to candidates applying for admission into the Malay Language Studies.

• A 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.

• A candidate who has failed the English Placement Test will be required in the first semester to pass a prescribed English course. Should the candidate fail to obtain the prescribed minimum grade, the University may allow him to repeat the prescribed English course in the second semester.

• A candidate who fails after the second attempt will have his candidature suspended until he passes the English course before being allowed to continue with his Masters programme.

Application For Admission

Please apply online via http://www.sgs.upm.edu.my and send your application supporting documents to the address below:

Dean
School of Graduate Studies
Universiti Putra Malaysia
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43400 UPM Serdang
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