INTRODUCTION

This programme is designed to deepen the understanding and applications of spatial science and technology. The application of Remote Sensing and GIS have crossed various fields, especially activities involving spatial data base. This programme also involves the identification of land-based geographical data such as forest types and landuse, water-based ones such as identifying the location of fishing grounds and oil spills. Also of importance are land management and legal issues relating to land ownership and use.

PROGRAMME REQUIREMENTS

Credit Requirements for Graduation

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

- Compulsory Courses: 24 credits
- Elective Course: 6 credits
- Dissertation: 10 credits

Compulsory Courses

Students must take all the listed compulsory courses:

- ECV5100 Research Methodology 3 credits
- ECV5501 GIS Principles and Techniques 3 credits
- ECV5502 GIS Management and Implementation 3 credits
- ECV5503 Quantitative Remote Sensing 3 credits
- ECV5504 Image Processing and Analysis 3 credits
- ECV5508 Remote Sensing and GIS Applications 3 credits
- ECV5510 Microwave Remote Sensing 3 credits
- ECV5511 Hyperspectral Remote Sensing 3 credits
- ECV5505 Geostatistical Analysis 3 credits
- ECV5506 Programming for Spatial Data Analysis 3 credits
- ECV5507 Spatial Information Management 3 credits
- ECV5509 Global Navigation Satellite System 3 credits
- ECV5512 Advanced Geospatial Modelling 3 credits
- ECV5513 Object-based Image Analysis (OBIA) 3 credits

Elective Courses

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

- ECV5505 Geostatistical Analysis 3 credits
- ECV5506 Programming for Spatial Data Analysis 3 credits
- ECV5507 Spatial Information Management 3 credits
- ECV5509 Global Navigation Satellite System 3 credits
- ECV5512 Advanced Geospatial Modelling 3 credits
- ECV5513 Object-based Image Analysis (OBIA) 3 credits

Dissertation

Students are required to take the course ECV5990 – Dissertation in two consecutive semesters, with 4 credits registered in the first semester and 6 credits in the second semester. This course requires a student to work individually on a specific topic under a supervision of a lecturer. The student will be assessed based on a written report and oral presentation at the end of each semester.
### Course Synopsis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECV5100</td>
<td>Research Methodology</td>
<td>3</td>
</tr>
<tr>
<td>ECV5501</td>
<td>GIS Principles and Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ECV5502</td>
<td>GIS Management and Implementation</td>
<td>3</td>
</tr>
<tr>
<td>ECV5503</td>
<td>Quantitative Remote Sensing</td>
<td>3</td>
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<tr>
<td>ECV5504</td>
<td>Image Processing and Analysis</td>
<td>3</td>
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<td>ECV5505</td>
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<td>3</td>
</tr>
<tr>
<td>ECV5506</td>
<td>Programming for Spatial Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECV5507</td>
<td>Spatial Information Management</td>
<td>3</td>
</tr>
<tr>
<td>ECV5508</td>
<td>Remote Sensing and GIS Applications</td>
<td>3</td>
</tr>
<tr>
<td>ECV5509</td>
<td>Global Navigation Satellite System</td>
<td>3</td>
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<tr>
<td>ECV5513</td>
<td>Object-based Image Analysis (OBIA)</td>
<td>3</td>
</tr>
</tbody>
</table>

**For further information**

**Please contact:**

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Website : http://www.eng.upm.edu.my

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Website : http://www.eng.upm.edu.my/akademik/siswazah/master_secara_kerja_kursus-2294?L=en
ADMISSION REQUIREMENTS

a) Bachelor in the field of Engineering or Engineering Technology with a CGPA of 2.750/Second Class Lower or;

b) Bachelor in the field of Engineering or Engineering Technology with a CGPA of 2.500/Second Class Lower with at least three (3) years of working experience in the field of study that is being applied for or;

c) Bachelor in any related field of Science or Technology with a CGPA of 3.000/Second Class Upper or;

d) Bachelor in any related field of Science or Technology with a CGPA of 2.750/Second Class Lower with at least three (3) years of working experience in the field of study that is being applied for or;

e) A qualification equivalent to a Bachelor's degree recognized by the professional bodies and MQA

Note: When candidates with Bachelor of Science or Technology degrees or their equivalents are admitted, prerequisite modules in Engineering must be offered to adequately prepare them for their advanced study

FEES

<table>
<thead>
<tr>
<th>Fees</th>
<th>Malaysian Student</th>
<th>International Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Fees (1st semester)</td>
<td>RM 1,250</td>
<td>RM 2,300</td>
</tr>
<tr>
<td>Basic Fees (2nd and subsequent semester)</td>
<td>RM 1,000</td>
<td>RM 2,050</td>
</tr>
<tr>
<td>Credit Fees</td>
<td>RM 250.00 / Credit Hour</td>
<td>RM 350.00 / Credit Hour</td>
</tr>
</tbody>
</table>

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

- 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://sgsportal.upm.edu.my:8080/sgsportal/

Tel.: (603) 9769 4218/4223/4228

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