CLASS DESCRIPTION FORM

CODE     TITLE

Class Registrar: Prof Robert M Kalin  Taught To (Course): MSc, 5th Year

Other Lecturers Involved: Credit Weighting: 10  Semester: 1

Assumed Prerequisites: Compulsory/ optional/ elective class  Academic Level: 5 & MSc

Class Format and Delivery (hours):

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Tutorial</th>
<th>Laboratory</th>
<th>Report</th>
<th>Assignments</th>
<th>Private Study</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td></td>
<td>20</td>
<td>20</td>
<td>40</td>
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</table>

Educational Aim

This class aims to guide the student

- To gain an understanding of Hydrogeology as a discipline,
- To discuss and explore the physical mechanisms of water movement in the subsurface,
- To undertake experiments in the lab that demonstrate key principals of groundwater movement,
- To explore hydrogeological issues based on case studies.

Learning Outcomes

On completion of the class the student is expected to be able to

- Gain an understanding of:
  - The movement of groundwater in the subsurface
  - The role of hydrogeology within water resources management
  - How to conceptualise groundwater as a resource
  - The importance hydrogeology as a discipline
- Have the ability to:
  - Conceptualise groundwater movement in the subsurface,
  - To interpret hydrogeological parameters,
  - To evaluate groundwater within an integrated water resources management framework.

Syllabus

The class will teach the following:

Introduction to Hydrogeology and the Hydrological Cycle
Hydrogeological Terms and Darcy’s Law
Elements of Groundwater Flow and Contaminant Transport
Case Studies of Applied Hydrogeology
Laboratory Study of Water Flow in Porous Media
Groundwater Development Essentials

Assessment of Learning Outcomes

Criteria

For each of the Class Learning Outcomes the following criteria will be used to make judgements on student learning:

- LO1 Students will be assessed through Laboratory Tutorials and Coursework on:
  - Calculation of the movement of groundwater in the subsurface
  - Reporting on The Economics of hydrogeology within water resources management and the importance hydrogeology as a discipline
- LO2 Students will be assessed through a continuous assessed Class Test on their ability to:
  - Conceptualise groundwater movement in the subsurface,
To interpret hydrogeological parameters,
To evaluate groundwater within an integrated water resources management framework.

The standards set for each criterion per Class Learning Outcome to achieve a pass grade are indicated on the assessment sheet for all assessment.

12 Principles of Assessment and Feedback

Laboratory Practicals will be undertaken in Groups. The laboratory submissions will be marked within 2 weeks of submission of all group reports. For each group and peer assessment of performance will be used to moderate the marks.

The Report will be assessed to determine the students ability to succinctly summarise hydrogeological information of relevance to policy and governance.

The Class Test will assess the range of knowledge the student has incorporated during the semester and will generally be 20 questions of equal value with partial credit awarded.

Assessment Method(s) Including Percentage Breakdown and Duration of Exams

<table>
<thead>
<tr>
<th>L/Outcomes</th>
<th>Class Examinations</th>
<th>Courseworks</th>
<th>Laboratory Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Duration</td>
<td>Weighting</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>3hrs</td>
<td>50%</td>
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<tr>
<td>LO2</td>
<td>LO1</td>
<td>LO1</td>
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Indicate which learning outcomes (L01, L02 etc) are to be assessed by exam/coursework/project as required.

Coursework / Submissions deadlines:

Group Laboratory Practical Submissions are due 1 week after completing the Lab Coursework Report is due on 6th December 2013

Resit Assessment Procedures:

Outstanding coursework must be submitted, and a Resit Examination will be set.

PLEASE NOTE:
Students need to gain a summative mark of 40% / 50% (please delete as appropriate) to pass the class. Students who fail the class at the first attempt will be re-examined during the August diet. This re-examination will consist entirely of exam / coursework / viva (please delete as appropriate).

Recommended Reading

All Textbooks required for the module are provided as e-books on MyPlace

Additional Student Feedback

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Room No</th>
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<tbody>
<tr>
<td>1st November</td>
<td>11am</td>
<td>GH6.13</td>
</tr>
<tr>
<td>6th December</td>
<td>9am</td>
<td>GH6.13</td>
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Session: Review Session for Modules

Approved:

Course Director Signature:

Date of Last Modifications:

(Updated November 2010)
CLASS TIMETABLE

Class Code: CL935
Class Title: Hydrogeology

Brief Description of Assessment:
Laboratory Practical 30%
Report 20%
Class Test 50%

Assessment Timing:-
Indicate on the table below the Start/Submission dates for each Assignment/Project and the timing of each Exam/Class Test(s).

<table>
<thead>
<tr>
<th>Semester One</th>
<th>WK1</th>
<th>WK2</th>
<th>WK3</th>
<th>WK4</th>
<th>WK5</th>
<th>WK6</th>
<th>WK7</th>
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