EV939 - ENVIRONMENTAL IMPACT ASSESSMENT

Registrar: Dr Elsa Joao, Senior Lecturer, Department of Civil and Environmental Engineering, level 5, James Weir Building, Tel.: 0141 548 4056; email: elsa.joao@strath.ac.uk.

Taught To (Programme):
- MSc in Sustainability & Environmental Studies
- MSc Environmental Engineering
- MSc in Hydrogeology
- MSc Civil Engineering
- MSc Environmental Entrepreneurship
- MSc Sustainable Engineering (Faculty degree)
- MEng 5th Year
- MRes Geo-Environmental Engineering
- MRes Integrated Pollution Prevention & Control (IPPC)
- MRes Climate Change Adaptation

Other Lecturers Involved:

Assumed Pre-requisites:
None

Credit Weighting: 10
Semester: 2

Compulsory/ optional/elective class
- Compulsory to:
  - MSc in Sustainability & Environmental Studies
- Optional to:
  - MSc Environmental Engineering
  - MSc in Hydrogeology
  - MSc Civil Engineering
  - MSc Environmental Entrepreneurship
  - MSc Sustainable Engineering (Faculty degree)
  - MEng 5th Year
  - MRes Geo-Environmental Engineering
  - MRes Integrated Pollution Prevention & Control (IPPC)
  - MRes Climate Change Adaptation

Academic Level: 5

Class Format and Delivery (hours):

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Tutorial</th>
<th>Laboratory</th>
<th>Coursework</th>
<th>Project</th>
<th>Private Study</th>
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Class Aim(s)

Environmental impact assessment (EIA) relates to the process of identifying, evaluating, and mitigating the biophysical, social, economic, cultural and other relevant effects of development proposals prior to major decisions being taken and commitments made. This class provides an introduction to the methods used to predict environmental impacts, and evaluates how these may be used to integrate environmental factors into decisions. The class draws principally on the UK planning context of environmental impact assessment of individual projects (project EIA), but also takes account of EIA experience in other countries and international organisations. Participants evaluate the quality of Environmental Statements and of the EIA process using the Institute of Environmental Assessment and Management (IEMA) methodology. The class discusses how EIA can be used a pro-active design tool for projects and how it can contribute to the enhancement of environmental, social and health issues. The class has the contribution of key practitioners in the field and includes different case studies such as mining, roads, and on-shore and off-shore windfarms.

Learning Outcomes
On completion of the module the student is expected to be able to

LO1  Be able to be conversant with the regulatory requirements for statutory EIA throughout the world. (assessments 1-3).

LO2  to be familiar with some of the methodologies commonly used in preparing EIA (assessments 1-3).

LO3  Be competent in the evaluation of the quality of an Environmental Impact Statements and understand the requirements of the IEMA EIA Quality Mark (assessment 2).

LO4  Be able to understand the relationship between EIA and development decisions and understand the ways in which EIA can contribute to sustainable development and project design, and its limitations in this regard. (assessments 1-3).

(UK SPEC suggests no more than 4 learning outcomes per module. Statements must be broad and be syllabus free and link in with the intended learning outcomes on the programme specifications.)

Syllabus

The course will be taught using a combination of lectures, group discussions, seminars, case studies and presentations by practitioners.

The module requires the completion of the following parts (although some of the guest speakers may change every year):

- Week 1 - Intro to the course and to Environmental Impact Assessment (EIA). Brief explanation of all assignments. Carrying out an EIA – key stages. Key principles of Strategic Environmental Assessment (SEA) and how it relates to EIA.
- Week 2 - Key implementation problems of the EIA process. The quality of Environmental Impact Statements (EIS). IEMA EIA Quality Mark.
- Week 3 - Data for EIA. Carrying out an EIA – key methods. Use of GIS for EIA. Uncertainty and subjectivity issues. Consultation and public participation in EIA. The importance of scale issues in EIA and the case for scale guidelines.
- Week 4 - Mitigation, enhancement issues and the use of EIA as a design tool. Key principles of ecological impact assessment. What are Environmental Management Plans (EMPs), how EMPs link to EIA and the role of the Environmental Clerk of Works. Adaptive management.
- Week 5 - Consultation and public participation in EIA. Cumulative effects assessment. Follow-up. The value of EIA. Scenario simulation.
- Week 6 - Understanding the relationship between EIAs and development decisions – the case of a controversial development. Chris Ford (Researcher, University of Strathclyde).
- Week 7 - Social Impact Assessment – key principles and links to EIA.
- Week 8 – Neart na Gaoithe Offshore Wind Farm and onshore grid connection (buried cable and substation) - Ewan Walker, Environment Manager, Mainstream Renewable Power.
- Week 9 - EIA of onshore wind farm development (Kenny Taylor, Policy and Advice Officer - Renewable Energy; Scottish Natural Heritage (SNH)).
- Week 10 - Discussion about the material covered in the class, and on enhancement issues and the use of EIA as a design tool. What are Environmental Management Plans (EMPs), how EMPs link to EIA and the role of the Environmental Clerk of Works.

N.B. The class runs over 10 weeks.
Assessment Criteria

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

[Note: Criteria break the LO down into 'teachable' elements but do not become syllabus orientated i.e. no mention of CAD package names, components etc.]

LO1
C1 How students show a critical understanding of the regulatory requirements for statutory EIA throughout the world (assessments 1-3)

LO2
C1 How familiar students are with regards to methodologies commonly used in preparing EIA (assessments 1-3).

LO3
C1 How competent students are in the evaluation of the quality of an Environmental Impact Statements and how they understand the requirements of the IEMA EIA Quality Mark (assessment 2)
C2 How well written and structured the report is (assessment 2)

LO4
C1 How students shows a critical understanding of the relationship between EIA and development decisions and understand the ways in which EIA can contribute to sustainable development and project design, and its limitations in this regard. (assessments 1-3)

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

Principles of Assessment and Feedback ([https://www.strath.ac.uk/staff/policies/academic/](https://www.strath.ac.uk/staff/policies/academic/))

2. Assignments are routine and evenly distributed throughout the class.
4. Students will have ample opportunities (via multiple projects) to incorporate feedback and improve their performance. Including individual meetings with class tutor to provide feedback on drafts of reports produced by group work.
9. Departmental policy: carry out mid-term class assessments and provide feedback to students.
10. Establishment of MSc cohorts tend to foster the development of learning groups. They student interact closely with each other, and tend to be highly supportive.
11. Encourage self-motivation and mutual respect in group projects.

Recommended Reading


[Available online via Strathclyde registration]


**PLEASE NOTE:**
Students need to gain a summative mark of 40% / 50% (*please delete as appropriate*) to pass the module. Students who fail the module 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*).

**Resit Arrangements**

- Assignment

**Approved**

- Programme Director Signature:
- Date of Last Modifications:

(Updated 9th August 2018)
### Assessment and Feedback Schedule

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<th>EV939</th>
<th>Class Title</th>
<th>ENVIRONMENTAL IMPACT ASSESSMENT</th>
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#### Brief Description of Assessment

**a) Individual online work as follows:**

1. **DB most interesting paper** (worth 3% final mark)

**b) Group project:**

2. **Group project on EIA as a design tool (worth 47% of the final mark)** – students to pick their own groups – groups can be 4-5 people each.

**c) online class test - done via Myplace:**

3. **1-hour online test done during exam period** (worth 50% of the final mark)

Indicate in the tables below the Hand-Out (H), Submission (S) and Feedback (F) dates for each lab report/coursework/project and the timing of each Exam/Class Test (E), (T). Include duration of exam in brackets (e.g. E (2)).

#### Semester 1

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