

REM master basic syllabus

Title: <i>EE9X4 Environmental Impact Assessment for Offshore Renewable Energy</i>							
Credit value: <i>5 ECTS</i>							
Mandatory/Optional: <i>Mandatory</i>							
Semester: <i>1</i>							
Lecturer/s: <i>Elsa Joao</i>							
University: <i>University of Strathclyde</i>							
Department: <i>Department of Civil and Environmental Engineering</i>							
Rationale: <i>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.</i>							
Objectives: <i>To provide students with...</i> <ol style="list-style-type: none"> <i>1. Ability to be conversant with the regulatory requirements for statutory EIA throughout the world.</i> <i>2. Knowledge on some of the methodologies commonly used in preparing EIA.</i> <i>3. Competency in the evaluation of the quality of an Environmental Impact Statements and understand the requirements of the IEMA EIA Quality Mark.</i> <i>4. Ability 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.</i> 							
Skills: <i>(according to the list of skills provided)</i>							
Subject skills	REM Master Skills						
	L2.1	L2.2	L2.3	L2.4	L2.5	L2.6	L2.7
L3.1. Be able to be conversant with the regulatory requirements for statutory EIA throughout the world.	X	X				X	X
L3.2. Be familiar with some of the methodologies commonly used in preparing EIA	X	X				X	X
L3.3. Be competent in the evaluation of the quality of an Environmental Impact Statements and understand the requirements of the IEMA EIA Quality Mark	X	X				X	X
L3.4. 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.	X	X				X	X

Teaching and learning methods:

The teaching method is based on a series of lectures where the lecturer explains the main concepts through power point presentations and worked out examples on the board. The students are also presented with a variety of issues of practical nature during the lectures. To support the learning process part of the modules covers tutorial-like sessions where the students are put to the challenge of working together and addressing problems of slight higher technical complexity.

Allocation of student time:

	Attendance (classroom, lab,...)	Non attendance (lecture preparation, self study...)
Lectures and workshops	20 hours	10 hours
Assignments and Exam	1-hour exam	29 hours for assignments
Private study		40 hours

Assessment:

Assessment will be based on a written examination where suitable questions will be integrated in the module paper. The number of questions and weight is flexible and to be agreed with the coordinator of the module. The assessment also considers project and assignment coursework.

Assessment Matrix:

Subject skills	Assessment method					
	Exam	Project	Coursework	Report
L3.1.	40%	45%	15%			
L3.2.	40%	45%	15%			
L3.3.	40%	45%	15%			
L3.4.	40%	45%	15%			

Programme:

Lesson 1	<i>Intro to the course and to Environmental Impact Assessment (EIA). Key implementation problems of the EIA process.</i> <i>Distribution (5 h theory)</i>
Lesson 2	<i>Data for EIA. Carrying out an EIA – key methods. Use of GIS for EIA. Mitigation, enhancement issues and the use of EIA as a design tool. Key principles of ecological impact assessment.</i> <i>Distribution (5 h theory)</i>
Lesson 3	<i>Consultation and public participation in EIA. Cumulative effects assessment. Follow-up. The value of EIA. Scenario simulation.</i> <i>Distribution (5 h theory)</i>
Lesson 4	<i>Neart na Gaoithe Offshore Wind Farm and onshore grid connection (buried cable and substation).</i> <i>Distribution (5 h theory)</i>
Lesson 5	<i>Social Impact Assessment – key principles and links to EIA Enhancement issues and the use of EIA as a design tool.</i> <i>Distribution (2 h theory)</i>
...	

Resources:

A classroom, equipped with a blackboard and audio-visual resources (laptop/computer with Matlab/Simulink installed and Internet connection + projector), for the lectures. A blackboard and a projector may be sufficient if the lecturer uses her/his own laptop.

Computer room for scenario simulation exercise and GIS exercise.

Bibliography:

- 1. Beattie, R. (1995), Everything you already know about EIA (but don't often admit). Environmental Impact Assessment Review, 15: 109-114. [Strathclyde 614.7 Serial]*
- 2. English Nature, RSPB, WWF-UK and BWEA (2001) Wind farm development and nature conservation: A guidance document for nature conservation organisations and developers when consulting over wind farm proposals in England. English Nature, RSPB, WWF-UK and BWEA [http://www.bwea.com/pdf/wfd.pdf]*
- 3. (*) Glasson, J., Thérivel, R. and Chadwick, A. (2005) Introduction to Environmental Impact Assessment, 3rd Edition, London; New York : Routledge. [Strathclyde D 333.7 GLA]*
- 4. IAIA (1999), Principles of EIA best practice. IAIA. [http://www.iaia.org/]*
- 5. IEMA (2011) The state of EIA Practice in the UK. Institute of Environmental Management and Assessment (IEMA) (http://www.iema.net/eiareport)*
- 6. João, E. (2002), How scale affects environmental impact assessment. Environmental Impact Assessment Review, 22 (4): 287-306. [Strathclyde 614.7 Serial]*
- 7. João, E. (2005) Key principles of SEA. In: M. Schmidt, E. João and Albrecht, E. (eds.), Implementing Strategic Environmental Assessment, Springer-Verlag, pp.3-14. [Strathclyde Library D 349.4089 IMP]*
- 8. João, E, F Vanclay and L den Broeder (2011), Emphasising enhancement in all forms of impact assessment: introduction to a special issue. Impact Assessment & Project Appraisal, September, 29(3): 170–180. [Available online via Strathclyde registration]*
- 9. European Commission (2012), Proposal for amending Directive 2011/92/EU on the assessment of*

- the effects of certain public and private projects on the environment. COM(2012) 628 final, Brussels, 26.10.2012 http://ec.europa.eu/environment/eia/pdf/com_628/1_EN_ACT_part1_v7.pdf*
10. *Ortolano, L. and Shepherds, A. (1995), Environmental Impact Assessment. In: Vanclay, F. and Bronstein, D. (eds.), Environmental and Social Impact Assessment, pp. 3-30. John Wiley. [Library D 333.7 BAR]*
 11. *Scottish Government (2011) Planning Circular 3 2011: Guidance on The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011. Scottish Government [<http://www.scotland.gov.uk/Publications/2011/06/01084419/0>]*
 12. *Steinemann, A. (2000) Rethinking human health impact assessment. Environmental Impact Assessment Review, 20 (6): 627-645. [Strathclyde 614.7 Serial]*
 13. *Vanclay, F. (2006), Principles for social impact assessment: A critical comparison between the international and US documents. Environmental Impact Assessment Review, 26 (1): 3-14. [Strathclyde 614.7 Serial]*
 14. *Wilkins, H. (2003), The need for subjectivity in EIA: discourse as a tool for sustainable development. Environmental Impact Assessment Review, 23: 401-414. [Strathclyde 614.7 Serial].*

Further comments: