Module Descriptor Form

Civil and Environmental Engineering

CL941 - Best Practice In Environmental Impact Assessment

Module Code	CL941	**Module Title**	Best Practice In Environmental Impact Assessment				
Module Registrar	Cochrane, Mr Neil A						
Other Staff Involved							
Credit Weighting	10	**Semester**	2	**Elective**	No	**Academic Level**	5
Pre-requisites							
Required for							

Module Format and Delivery (hours):

Lectures	Tutorials	Assignments	Labs	Private Study	Total
10	0	50	0	40	100

Educational Aim

This module aims to:

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 is taught from a best practice perspective making it internationally relevant (although the European and UK planning context of environmental impact assessment of individual projects is mentioned). 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. Students are also introduced to key principles of Strategic Environmental Assessment (SEA) and biodiversity net gain (BNG). Class includes different case studies such as on-shore and off-shore windfarms.

On completion of the module students should:
• understand that there are legal requirements for EIA and SEA
• be familiar with some of the methodologies commonly used in preparing EIA;
• be competent in the evaluation of the quality of an Environmental Impact Statements;
• understand the requirements of the IEMA EIA Quality Mark;
• understand the relationship between EIA and development decisions;
• understand the ways in which EIA can contribute to sustainable development and project design, and its limitations in this regard;
• understand what is Strategic Environmental Assessment (SEA), Social Impact Assessment (SIA) and Health Impact Assessment (HIA), and
• be familiar with issues regarding the links between EIA and SEA.

The class is taught using lectures, case studies, videos, quizzes, assignments designed as learning tools, and students filling databases to use by the whole class.

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Syllabus

This module will teach the following:

Introduction to the class and to the assignments. Intro to EIA and why we do it.
• Introduction to the CL941 class and the two assignments
• CL941 Myplace overview?
• Introduction to EIA and why do we do it

Introduction to EIA, why do we EIA, spread of EIA around the world and EIA as a design tool
• Rationale for doing Impact Assessments ?
• Key Principles of EIA - screening, scoping and significance ?
• History of EIA ?
• Using EIA as a design tool ?
• EIA stages and their challenges ?
• Aiming for the best quality of the EIA process and the environmental ?statements ?
• Mitigation principles and the importance of location ?
• Enhancement and project design ?

Key principles of Strategic Environmental Assessment (SEA) and Relationship between EIA and Development Decisions
• Key principles of Strategic Environmental Assessment (SEA) ?
• SEA workshop ?
• Relationship between EIA and Development Decisions ?

Problems in EIA implementation. EIA methods. Uncertainty and adaptive management. Public participation. Social impact assessment and health impact assessment. Ecosystem services.
• Problems in EIA implementation.?
• Key principles of sustainability.?
• EIA methods.?
• Uncertainty, Rochdale envelope and adaptive management.
• Public consultation and participation in EIA.
• Overview social impact assessment and health impact assessment.
• Ecosystem services and impact assessment.

Key principles of ecological impact assessment. Cumulative Impacts. EIA of offshore wind farms
• Talk by Rebecca Hall on key principles of ecological impact assessment and cumulative impacts.
• Talk by Dr Fiona Manson on "EIA for offshore renewables", Marine Ecology Adviser, Sustainable Coasts and Seas, NatureScot.
• Talk by Ewan Walker on Offshore Wind Farm development and EIA.

EIA and onshore renewables - the NatureScot views and some case studies
• Kenny Taylor's talk on EIA of onshore renewables.

In Myplace there are two case studies for you to work on: a hydro development case study and a visualisation case study.

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Learning Outcomes

On Completion of the module, the student is expected to be able to:

LO: 1	Be able to be conversant with the regulatory requirements for statutory EIA throughout the world .
LO: 2	Be familiar with some of the methodologies commonly used in preparing EIA
LO: 3	Be competent in the evaluation of the quality of an Environmental Impact Statements and understand the requirements of the IEMA EIA Quality Mark
LO: 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

(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.)

Assessment of Learning Outcomes - Criteria

Learning Outcome: **1**

	Criteria
1	How students show a critical understanding of the regulatory requirements for statutory EIA throughout the world

Learning Outcome: **2**

	Criteria
1	How familiar students are with regards to methodologies commonly used in preparing EIA

Learning Outcome: **3**

	Criteria
1	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
2	How well written and structured the report is

Learning Outcome: **4**

	Criteria
1	How students show 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

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

To Pass the module, students need to gain a summative mark of: 40%

Description	**Semester**	**Start Week**	**Duration**	**Weight**	**Submission Week**	**Linked Criteria**
Evaluate international EIA best practice	1	1		50%	7	LO 1: C1 LO 2: C1
Evaluating the quality of an EIA Report	1	1		50%	11	LO 3: C1, C2 LO 4: C1

Principles of Assessment Feedback

Please see the latest version of the University's ASSESSMENT AND FEEDBACK POLICY for more details

Additional Information

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Resit Procedure

Students must gain a summative mark of 50% to pass the module. Students who fail the module at the first attempt will be re-examined during the next applicable examination diet. No marks from any previous attempts will be transferred to a new re-sit attempt.

Recommended Reading

A variety of reading is provided as sometimes it helps to read from more than one source and is important that students read for a class (although it is not expected for students to read all of these suggested readings). Note: Other references might be given during the course by the lecturers.

The three main international journals that publish papers in EIA are (all available as an electronic resource from Library):

- Environmental impact assessment review (EIA Review)
- Impact assessment and project appraisal (IAPA)
- Journal of environmental assessment policy and management (JEAPM)

Baker, J., Hoskin, R. and Butterworth, T. (2019), Biodiversity net gain. Good practice principles for development. Part A: A practical guide. CIRIA 2019
https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf
Beattie, R. (1995), Everything you already know about EIA (but don't often admit). Environmental Impact Assessment Review, 15: 109-114. [Strathclyde electronic resource - available since since 1980 (volume 1)]
Bice, S. and B Fischer, T. (2020) Impact assessment for the 21st century – what future?, Impact Assessment and Project Appraisal, 38 (2): 89-93, DOI: 10.1080/14615517.2020.1731202
Bond, A., Pope, J., Fundingsland, M. Morrison-Saunders, A., Retief, F. and Hauptfleisch, M. (2020), Explaining the political nature of environmental impact assessment (EIA): A neo-Gramscian perspective. Journal of Cleaner Production, 244, https://doi.org/10.1016/j.jclepro.2019.118694
Bond, A., Pope, J., Morrison-Saunders, A. and Retief, F. (2022), Exploring the relationship between context and effectiveness in impact assessment. Environmental Impact Assessment Review, 97, 106901, https://doi.org/10.1016/j.eiar.2022.106901.
Brownlie, S., King, N. & Treweek, J. (2013) Biodiversity tradeoffs and offsets in impact assessment and decision making: can we stop the loss?, Impact Assessment and Project Appraisal, 31:1, 24-33, DOI: 10.1080/14615517.2012.736763
Canadian Environmental Assessment Agency (2014) Technical Guidance for Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012. [http://publications.gc.ca/site/eng/9.629761/publication.html]
Cashmore, M. (2004) The role of science in environmental impact assessment: process and procedure versus purpose in the development of theory. Environmental Impact Assessment Review, 24(4), 403-426.
Department for Communities and Local Government (2015) The Plain English guide to the Planning System.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/391694/Plain_English_guide_to_the_planning_system.pdf
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 [publications.naturalengland.org.uk/file/98044]
Esteves, A.M., Franks, D. & Vanclay, F. 2012 Social impact assessment: The state of the art, Impact Assessment & Project Appraisal 30(1), 35-44. [Strathclyde online resource]
European Commission (2015), Review of the Environmental Impact Assessment (EIA) Directive.
http://ec.europa.eu/environment/eia/review.htm
Fischer, T. (2023) Simplification and potential replacement of EA in the UK – is it fit for purpose?. Impact Assessment and Project Appraisal, DOI: 10.1080/14615517.2023.2166257
Foley, M., Mease, L., Martone, R., Prahler, E., Morrison, T., Murray, C. and Wojcik, D. (2017), The challenges and opportunities in cumulative effects assessment. Environmental Impact Assessment Review, 62: 122-134. https://doi.org/10.1016/j.eiar.2016.06.008
Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C. S., & Walker, B. (2002) Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations. AMBIO: A Journal of the Human Environment, 31(5): 437-440.
Gibson, R. B. (2006) Sustainability assessment: basic components of a practical approach. Impact Assessment and Project Appraisal, 24(3): 170-182.
Gibson, R. B., Hassan, S., Holtz, S., Tansey, J., & Whitelaw, G. (2005). Sustainability Assessment: Criteria and Processes. London: Earthscan.
(*) Glasson, J. and Therivel, R. (2019) Introduction to Environmental Impact Assessment. Fifth ed. New York: Routledge

[Strathclyde internet Resource]
Hacking, T., & Guthrie, P. (2008). A framework for clarifying the meaning of Triple Bottom-Line Integrated, and Sustainability Assessment. Environmental Impact Assessment Review, 28: 73-89.
IAIA (1999), Principles of EIA best practice. IAIA. [http://www.iaia.org/best-practice.php]
IAIA (2006) Public Participation – International Best Practice Principles. [http://www.iaia.org/best-practice.php]
IAIA (2007) EIA Follow-up – International Best Practice Principles. [http://www.iaia.org/best-practice.php]
IAIA (2013) FASTIPS NO. 5: Biodiversity Assessment (June 2013), https://www.iaia.org/uploads/pdf/Fastips_5Biodiversity.pdf
IAIA (2016) FASTIPS NO. 13: Ecosystem Services in SEA for Spatial Planning (August 2016)
https://www.iaia.org/uploads/pdf/Fastips_13%20Ecosystem%20Services%20SEA%20for%20SP.pdf
IAIA (2017) FASTIPS NO. 16: Cumulative Effects Assessment (October 2017)
https://www.iaia.org/uploads/pdf/Fastips_16%20Cumulative%20Effects%20Assessment_1.pdf
IEEM (2006) Guidelines for Ecological Impact Assessment. Institute of Ecology and Environmental Management (IEEM).
https://cieem.net/resource/guidelines-for-ecological-impact-assessment-ecia/
IEMA (2011) The state of EIA Practice in the UK. Institute of Environmental Management and Assessment (IEMA)
https://www.iema.net/assets/uploads/Special%20Reports/iema20special20report20web.pdf
IEMA (2016) Environmental Impact Assessment Guide to: Delivering Quality Development. Lincoln, UK: IEMA.
https://www.iema.net/assets/uploads/iema_guidance_documents_eia_guide_to_shaping_quality_development_v7.pdf
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. [Strathclyde online resource]
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 online resource]
Kørnøv, L., Lyhne, I., and Davila, J. G. (2020). Linking the UN SDGs and environmental assessment: Towards a conceptual framework. Environmental Impact Assessment Review, 85, 106463.
Ministry of Housing, Communities and Local Government (2021) The National Planning Policy Framework,
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf
Morgan, R. (2012) Environmental impact assessment: the state of the art. Impact Assessment and Project Appraisal, 30 (1): 5-14.
Morrison-Saunders, A., & Arts, J. (2004). Assessing impact: handbook of EIA and SEA follow-up. London: Earthscan.
Nisbet, J. and João, E. (2022), A framework for evaluating enhancement quality as part of the EIA process. Environmental Impact Assessment Review, 96, 106806, https://doi.org/10.1016/j.eiar.2022.106806.
O'Faircheallaig, C. (2010) Public participation and environmental impact assessment: Purposes, implications, and lessons for public policy making. Environmental Impact Assessment Review, 30 (1): 19-27.
Owens, S., Rayner, T., & Bina, O. (2004). New Agendas for Appraisal: Reflections on Theory, Practice, and Research. Environment and Planning A: Economy and Space, 36 (11): 1943-1959.
Pope, J., Annandale, D. and Morrison-Saunders, A. (2004), Conceptualising sustainability assessment. Environmental Impact Assessment Review, 24 (6): 595-616. https://doi.org/10.1016/j.eiar.2004.03.001.
Sadler, B. (1996), International Study of the Effectiveness of Environmental Assessment, Final Report, Environmental Assessment in a Changing World: Evaluating Practice to Improve Performance (Minister of Supply and Services, Canada).
https://unece.org/DAM/env/eia/documents/StudyEffectivenessEA.pdf
Scottish Government (2017) Planning Circular 1/2017: Guidance on The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Scottish Government
https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/
Scottish Natural Heritage (2018) Environmental Impact Assessment Handbook Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment process in Scotland. Version 5.
https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf
Steinemann, A. (2000), Rethinking human health impact assessment. Environmental Impact Assessment Review, 20 (6): 627-645. [Strathclyde 614.7 Serial]
Therivel, R. (2004). Strategic Environmental Assessment in Action. London: Earthscan.
Tukker, A (2000), Life cycle assessment as a tool in environmental impact assessment. Environmental Impact Assessment Review, 20 (4): 435-456.

Vanclay, F. (2012), The potential application of Social Impact Assessment in integrated coastal zone management , Ocean & Coastal Management 68, 149-156. [Strathclyde online resource]
Vanclay, F., Esteves, A.M., Aucamp, I. & Franks, D. 2015 Social Impact Assessment: Guidance for assessing and managing the social impacts of projects. Fargo ND: IAIA.
https://www.communityinsights.eu/guidance-for-assessing-and-managing-the-social-impacts-of-projects/
Wilkins, H. (2003), The need for subjectivity in EIA: discourse as a tool for sustainable development. Environmental Impact Assessment Review, 23: 401-414. [Strathclyde online resource]

Key Websites

http://www.iaia.org/ - International Association for Impact Assessment (IAIA)
The leading global network on impact assessment. Organized in 1980 to bring together researchers, practitioners, and users of various types of impact assessment from all parts of the world. IAIA members now number more than 2,500 and represent more than 100 countries. [Check the different IAIA sections here http://www.iaia.org/section-discussion-forums.php]

http://www.iema.net/ - Institute of Environmental Management and Assessment (IEMA)
Leading UK membership organisation dedicated to the promotion of the goal of sustainable development and to the professional development of individuals involved in environmental management and assessment, whether they be in business, government, consultancy or the regulators.

http://www.iap2.org/ - International Association for Public Participation (IAP2)
Founded in 1990 IAP2 is an international association of members who seek to promote and improve the practice of public participation in relation to individuals, governments, institutions, and other entities that affect the public interest in nations throughout the world.

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Module Timetable

Week	Semester 1	Semester 2
0		
1		
2		
3		
4		
5		
6		
7	Submission 50%	
8		
9		
10		
11	Submission 50%	
E		

Date of Last Modification

28-08-2025