

<b>Full Title:</b>	Environmental Risk Assessment
<b>Module Code:</b>	ENVR S8009
<b>Credits:</b>	5
<b>Valid From:</b>	Semester 1 - 2013/14 ( September 2013 )
<b>Module Delivered in</b>	<a href="#">2 programme(s)</a>
<b>Module Description:</b>	This module will give students the ability to assess potential risks to the environment from anthropogenic stressors. Environmental impact assessment, environmental risk assessment, strategic environmental assessment, and environmental management systems will all be reviewed and analysed in close detail.
<b>Learning Outcomes:</b>	
<i>On successful completion of this module the learner should be able to</i>	
<ol style="list-style-type: none"> <li>1. Describe and analyse the role of risk assessment as a tool for environmental planning.</li> <li>2. Evaluate the processes involved in Environmental Impact Assessment and Strategic Environmental Assessment.</li> <li>3. Analyse the linkage between Environmental Risk Assessment and decision-making in business.</li> <li>4. Evaluate the legislation and international standards associated with Environmental Risk Assessment and Environmental Management Systems.</li> <li>5. Assess potential hazards, including xenobiotic compounds and metals, their effects and transformations, and characterise risks to the environment.</li> </ol>	

**Module Content & Assessment**

Indicative Content
<b>Lectures</b> n/a
<b>Environmental Impact Assessment (EIA)</b> What is EIA? Purpose, aims and limitations of EIA; introduction and history; costs and benefits of EIA. EIA procedures: screening, scoping, production of Environmental Impact Statements; stakeholder involvement; post project analysis; EIA in Ireland and across Europe; legislation associated with EIA.
<b>Strategic Environmental Assessment</b> EU Directives and implementation in national legislation; assessment of objectives, targets and indicators in SEA; case studies on SEA.
<b>Environmental Risk Assessment (EnRA)</b> Hazard identification, problem formulation, analysis and risk characterisation.
<b>Human Health Risk Assessment (HHRA)</b> Probable effects on human health and welfare of chemical, biological and physical agents.
<b>Ecological Risk Assessment (EcoRA)</b> Probable effects on environmental conditions and natural resources of chemical, biological, physical agents.
<b>Environmental Management System</b> What is an Environmental Management System and what is its role in business? ISO standards and voluntary schemes.
<b>Integrated Pollution Prevention and Control</b> EU Directives; national standards, and procedures, including BAT (Best Available Technique), ELRA (Environmental Liability Risk Assessment) and CRAMP (closure planning).
<b>Environmental toxicology</b> The nature of the hazards to people, plants, animals and the wider environment - hazardous substances, radiation, chemicals, noise, light, transport. Chemical entry and fate; REACH regulations. Persistent organic pollutants and toxic equivalents; Biotic transportation and toxic metabolites; accumulation of organic contaminants in food chains.
<b>Practicals:</b> To include field assessment methods for EIA; human health risk assessment for drinking water; methods for the measurement of the bioaccumulation potential.

Assessment Breakdown	%
Course Work	50.00%
End of Module Formal Examination	50.00%

**Full Time**

Course Work							
Assessment Type	Assessment Description	Outcome addressed	% of total	Marks Out Of	Pass Marks	Assessment Date	Duration
Project	The student will carry out an EIA scoping exercise for a hypothetical development on the college grounds, and produce a scoping report to meet required professional standard.	1,2,3	20.00	0	0	Sem 2 End	0
Continuous Assessment	Practical assessments	3,5	30.00	0	0	Every Week	0

No Project

No Practical

<b>End of Module Formal Examination</b>							
<i>Assessment Type</i>	<i>Assessment Description</i>	<i>Outcome addressed</i>	<i>% of total</i>	<i>Marks Out Of</i>	<i>Pass Marks</i>	<i>Assessment Date</i>	<i>Duration</i>
Formal Exam	End-of-Semester Final Examination	1,2,3,4,5	50.00	0	0	End-of-Semester	0

**DKIT reserves the right to alter the nature and timings of assessment**

**Module Workload & Resources**

**Workload: Full Time**

Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Practical	No Description	3.00	Every Week	3.00
Lecture	No Description	2.00	Every Week	2.00
Independent Study	No Description	4.00	Every Week	4.00
Total Weekly Learner Workload				9.00
Total Weekly Contact Hours				5.00

This course has no Part Time workload.

**Resources**

*Recommended Book Resources*

- EPA 2003, *ADVICE NOTES ON CURRENT PRACTICE (in the preparation of Environmental Impact Statements)*, EPA Wexford
- EPA 2002, *Guidelines on the information to be contained in Environmental Impact Statements*, EPA Wexford
- EPA 2012, *Review of Effectiveness of SEA in Ireland*, EPA Wexford
- Walker, Sibly, Hopkin, and Peakall 2006, *Principles of Ecotoxicology*, Taylor and Francis New York
- Morris, P., Therivel, R., *Methods of Environmental Impact Assessment*, Routledge, 2003

*Supplementary Book Resources*

- Gilpin, A., *Environmental Impact Assessment: Cutting Edge For The 21st Century*, Cambridge University Press, 2000
- Calow, P., *Handbook of Environmental Risk Assessment and Management*, Blackwell Publishing, 1997
- Council Directive 97/11/EC on the assessment of the effects of certain public and private projects on the environment (EIA Directive)*
- Regulation (EC) No. 1907/2006 concerning the Regulation, Evaluation, Authorisation and Restriction of Chemicals (REACH)*, European Commission, 18th December 2006 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:396:SOM:EN:HTML>
- Directive 2001/42/EC of the European Parliament and Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment 2001, *n/a*

*This module does not have any article/paper resources*

*Other Resources*

Link: *Library Catalogue*  
<http://tinyurl.com/obl8br6>

**Module Delivered in**

<b>Programme Code</b>	<b>Programme</b>	<b>Semester</b>	<b>Delivery</b>
DK_SENBI_8	<a href="#"><u>Bachelor of Science (Honours) in Environmental Biology</u></a>	8	Mandatory
DK_SENVI_8	<a href="#"><u>Bachelor of Science (Honours) in Environmental Bioscience</u></a>	8	Mandatory