

<b>Module Title:</b>	Research Project in Environmental Science
<b>Language of Instruction:</b>	English
<b>Credits:</b>	10
<b>NFQ Level:</b>	8
<b>Module Delivered In</b>	<a href="#">1 programme(s)</a>

<b>Teaching &amp; Learning Strategies:</b>	<p>The literature review and project plan will be completed in term 1. Ten hours lectures will support this element of the module covering literature review, database access, project planning, science writing and referencing. This will be followed by 10 weeks in the lab during term 2, followed by five weeks in which to prepare the final project for submission. The topic of the project will be decided at the beginning of the year by the student in consultation with the supervisory team. Topics will be selected from a suitable area reflecting the expertise and research/industrial interests of the supervisory team and the degree programme. Where possible, student projects will be matched to their interests and liaison will be made with industry or other agencies. Students are initially given explicit guidelines with respect to • Assessing the literature and writing a literature review • Research methodologies, ethics, plagiarism and research code of practice • Collaborating with others and with industrial partners • Project planning, setting objectives, project ,health and safety and GLP, • Presentations and scientific communication • Deadlines and house style Projects will be carried out under supervision usually at IT Carlow. During the planning, practical and write up phase of their project the student will be closely supervised by the supervisor. The student is expected to develop skills in project planning and to recognise and solve problems. A standardised form of referencing will be used throughout the project. The final Project report containing the literature review will be written in the agreed style with the support and advice of the supervisor. During the write up and students will be guided by their supervisor through this process. The student will receive written guidelines concerning the adherence to deadlines and production of project report in the agreed house style. The student is required to submit the required declaration and adhere to the Institute's plagiarism policy.</p>
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<b>Module Aim:</b>	<ul style="list-style-type: none"> <li>• To develop the learner's knowledge, skills and competency in project planning, design and execution and in the analysis and presentation of data.</li> <li>• To enable students to present results in the context of the current stage of knowledge in oral and written form.</li> <li>• To allow the learner to work independently to address a research question with due regard for GLP and Health and Safety and place it the context of the wider scientific literature.</li> </ul>
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Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Access the appropriate literature, critically analyse the material and produce a literature review on a research question.
LO2	Explain the rationale of his/her project in the light of the current literature and demonstrate a clear understanding of the projects aims and objectives
LO3	Demonstrate competence in project design, planning, development and execution with due regard to GLP and health and safety where appropriate.
LO4	Work in a safe and professional manner and keep an accurate record of their work
LO5	Demonstrate the ability to work independently, show initiative and solve problems.
LO6	Critically analyse the data generated during the project , use statistical analysis where appropriate and present the data in an agreed format
LO7	Demonstrate an understanding of the limitations of the project and its methodologies.
LO8	Integrate the knowledge acquired through other modules on the programme in a practical manner
LO9	Present a final project report in an agreed format orally present and defend work to peers and others

Pre-requisite learning
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>
No recommendations listed
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>
No incompatible modules listed
<b>Co-requisite Modules</b>
No Co-requisite modules listed
<b>Requirements</b> <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>
Successful completion of year 3 or equivalent

**Module Content & Assessment**
**Indicative Content**
**Project**

An independent laboratory based research project in environmental science, biosciences, Biopharmaceuticals, Bioforensics or a related topic will be carried out by the student under the supervision and guidance of an academic. The project involves the development of autonomous self directed learning in consultation with supervisors and others. Students are assigned at least one supervisor who will guide them through the process, meeting with them regularly. Students have access to the expertise of the entire supervisory team and are expected to avail of such. Students are expected to engage in group learning by discussing their project with each other and helping with problem solving. They must record the ongoing progress of their project and the analysis of their data in a laboratory notebook, diary or in another format that will be monitored by their supervisor. Students will write up the final project report in an agreed format with includes the literature survey and the project rationale, methodology, project findings, discussion and or recommendations in consultation with their supervisor who will correct preliminary drafts

**Assessment Breakdown**
**%**

Project

100.00%

No Continuous Assessment

**Project**

<i>Assessment Type</i>	<i>Assessment Description</i>	<i>Outcome addressed</i>	<i>% of total</i>	<i>Assessment Date</i>
Project	Scope of literature survey	1,2,5,7,9	15.00	n/a
Project	Final written report and analysis	1,2,5,7,9	35.00	n/a
Project	Referencing	1,2	10.00	n/a
Project	Performance in lab	2,3,4,5,7,8	20.00	n/a
Project	Presentation and defence	1,2,5,6,7,8,9	10.00	n/a
Project	Interview	1,2,5,6,7,8,9	10.00	n/a

No Practical

No End of Module Formal Examination

**SETU Carlow Campus reserves the right to alter the nature and timings of assessment**

**Module Workload**

<b>Workload: Full Time</b>		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	30 Weeks per Stage	0.33
Laboratory	30 Weeks per Stage	5.67
Estimated Learner Hours	30 Weeks per Stage	1.33
Total Hours		220.00

**Module Delivered In**

Programme Code	Programme	Semester	Delivery
CW_SASES_B	<a href="#">Bachelor of Science (Honours) in Environmental Science</a>	4	Mandatory