ZPRO C4101: Research Project in Pharmaceutics

Module Title:	Research Project in Pharmaceutics
Language of Instruction:	English

Credits:	10

NFQ Level:	8

Module Delivered In	1 programme(s)

Teaching & Learning Strategies:	The literature review and project plan will be completed in Semester 1. Ten hours lectures will support this element of the module covering literature review, database access, project planning, risk assessment, scientific writing, and referencing. The programme of laboratory work will take place over over 10 weeks during Semester 2. The learner will complete a comprehensive project report and an oral presentation and defence. The topic of the project will be decided at the beginning of the year by the learner 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, learner projects will be matched to their interests and liaison will be made with industry or other agencies. Learners 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 on campus at IT Carlow. During the planning, practical and write up phase of their project, the learner will be closely supervised by a lecturer. The learner is expected to develop skills in project planning and to recognise and solve problems. The final Project report containing the literature review will be written in the agreed style with the support and advice of the supervisor. The learner will receive written guidelines concerning the adherence to deadlines and production of project report in the agreed house style. A standardised form of referencing will be used throughout the project. The learner is required to submit the required declaration and adhere to the Institute's plagiarism policy.

Module Aim:	• To develop the learner's knowledge, skills and competency in project planning, design, and execution with due regard for Health and Safety and good laboratory practices, and in the analysis and presentation of data. • To enable the learner to present results in the context of the current stage of knowledge in oral and written form. • To allow the learner to work independently to address a research question and place it the context of the wider scientific literature.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Access appropriate literature sources, critically analyse the material and produce a literature review on a selected research question; explain the rationale of the project in the light of the current literature and demonstrate a clear understanding of the projects aims and objectives.
LO2	Design, plan, and execute a research project with due regard to Health and Safety and good laboratory practice; work in a safe and professional manner and keep a detailed and accurate record of their work.
LO3	Demonstrate the ability to work independently, show initiative, and solve problems; to work collaboratively with peers and technical staff to schedule access to instrumentation; to integrate and utilise in a practical manner the knowledge acquired through other modules on the programme.
LO4	Analyse and interpret the data generated during the project, applying software packages for statistical analysis where appropriate; identify and elucidate the limitations of the project and its methodologies and identify opportunities for further development of the work.
LO5	Present a project report in agreed written and oral formats, using appropriate audio-visual and/or online technologies, and defend work to peers and supervisors.

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

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Module Content & Assessment

Indicative Content
Project An independent laboratory based research project in one of the following areas: pharmaceutics, pharmaceutical science, pharmacology, analytical chemistry, drug formulation, cosmetic formulation, food formulation, drug delivery, waste control/treatment, environmental analysis, process control, process modelling, process optimisation, will be carried out by the student under the supervision and guidance of an academic supervisor. 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 will be monitored by their supervisor. Students will write up the final project report in an agreed format including the literature survey and project rationale, methodology, results, discussion and/or recommendations in consultation with their supervisor who will provide feedback on preliminary drafts.

Assessment Breakdown	%
Project	100.00%

No Continuous Assessment

Project

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	Literature survey of suitable scope and relevance, including appropriate references.	1	15.00	Sem 1 End
Project	Project workplan presentation	1,2	5.00	Sem 1 End
Project	Final written report and analysis	1,2,3,4,5	40.00	Sem 2 End
Project	Performance in laboratory, including analytical and general laboratory skills, organisation, working with peers, safe work practices. Assessment by project supervisor and laboratory supervisory team.	2,3	30.00	Sem 2 End
Project	Presentation and defence	4,5	10.00	Sem 2 End

No Practical

No End of Module Formal Examination

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

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	24 Weeks per Stage	0.42
Laboratory	12 Weeks per Stage	13.33
Estimated Learner Hours	30 Weeks per Stage	2.67
	Total Hours	250.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_SAPHA_B	Bachelor of Science (Honours) in Pharmaceutics and Drug Formulation	8	Mandatory