

## Module Specification

### Module Summary Information

<b>1</b>	<b>Module Title</b>	Individual Research Project
<b>2</b>	<b>Module Credits</b>	40
<b>3</b>	<b>Module Level</b>	6
<b>4</b>	<b>Module Code</b>	ENG6081

<b>5</b>	<b>Module Overview</b>
<p><b>Rationale:</b></p> <p>It is intended that by engaging in this module, you will be able to demonstrate creativity in your approach to integrate engineering principles, skills and knowledge to plan, design, execute and communicate a sustained piece of independent work, critically addressing a specific question by bridging the gap identified in the literature of Biomedical Engineering. It is an opportunity to complete your draft research proposal from level 5 'Research Methods' module or any other piece of work around a topic of your choice, in order to demonstrate your competence in independently researching, reviewing, appraising and evaluating evidence, and applying knowledge in the pursuit of excellence, either within the University or an industry setting of your choice. In order to meet the module outcomes, you will be drawing upon the independent learning skills that you have developed in the first two years of your degree.</p> <p><b>Alignment with Programme Philosophy and Aims</b></p> <p>In alignment with the programme philosophy, this module aims to develop graduate skills such as; critical analysis, in-depth technical knowledge and advanced problem solving skills in your favourite subject specific area, consideration of wider issues, the ability to manage activities and resources and to generate, implement and report on solutions to meet your task-specific objectives. This module may also provide you with an opportunity to work alongside a multi-professional or diverse academic team across the faculties in the university to effectively and economically assure the quality of your project or the process that you have adopted to meet the defined need of your service user, whom you may have identified from within the University or Industry. The individual project is therefore an in-depth opportunity to demonstrate and apply the underpinning skills and knowledge, and the technical competencies, thereby establishing a firm foundation for your level 7 or preparing for your employability and career progression in a global market.</p> <p><b>Learning and Teaching Strategy</b></p> <p>The individual project module will have its own Moodle page which you will have to access to. This page will contain resources that are specific to the module such as the; supporting materials; assessment details, important notices and key notes pertaining to any specific element of the project or the process involved, that may be delivered by the module leader or project coordinator. Due to the independent nature of this module, the pre and post-session learning activities and the learning and teaching strategy, adopted here in this module, will be different to the rest of the modules that you have undertaken so far.</p> <p>Projects may be university or industry based. Assistance will be provided with selecting a project through guidance notes, tutorials, meetings and various other on-line resources. A project co-ordinator will, in consultation with supervisors, establish the suitability of proposed projects. Each student will be assigned an academic supervisor who will monitor progress and provide guidance. Completing the</p>	

project involves specifying an aim, formulating objectives, planning, managing activities and resources, considering alternative approaches and techniques, researching literature and information for topic-specific and wider issues, devising solutions and if applicable an artefact, analysing and evaluating results, maintaining records, recording progress and documenting outcomes.

The first deliverable is a registration form, this identifies a provisional project title, supervisor, initial aims and objectives and a brief outline of the project. The registration form is completed before a more comprehensive proposal document. The proposal document outlines the project aim and how it is to be achieved, expressed as a number of objectives, rationale, tasks/activities, resources, expenditure, schedule and safety assessment. The proposal document requires a Literature review to be included with this deliverable, the Literature review should include authoritative and objective information, sourced from a variety of areas. The project proposal document is the foundation for the project activity that will guide you through the rest of the academic year.

Progress reviews are held at appropriate points in the year, typically at the mid-point of the year. Evidence considered at progress reviews can include short written progress/evaluation documents, brief presentations and question/answer sessions as applicable to the course. At about the mid-point of the year students submit a brief interim report which covers research findings, evaluation of methods and plans for the main report. Submission of your final project report and a (physical) artefact (an engineering outcome of your project), towards the end of the scheduled duration, will mark the culmination of the project module.

Please note that; depending upon the nature of your project topic and the research methods that you are expected to undertake, in consultation and under the guidance of your supervisor, you will be expected to seek appropriate ethical and insurance / indemnity approval from the faculty ethics committee for you to successfully undertake and complete your project work. Please be aware that in such a situation, you need to factor appropriate resources into your planning and implementation so as to complete the project and meet your assessment deadline.

### **Assessment Strategy**

Assessment for this module will be via a project report and a project demonstration. You will be required to undertake sufficient planning and manage your resources efficiently to undertake these elements of assessment.

<b>6</b>	<b>Indicative Content</b>
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<b>6</b>	<b>Indicative Content</b>
	Sem 1  Session 1: Module Launch followed by a session on Professional values and transferable skills 1 Workshop 1.  Session 2: Module Launch followed by a session on Professional values and transferable skills 2 Workshop 2.  Session 3: Module Launch followed by a session on Professional values and transferable skills 3 Workshop 3.  Session 4 Workshop 4 Project: scope and approaches Introduction to supervision & the learning contract- Q&A Refining your question and project aims –group work .  Session 5 Workshop 5 Conducting a comprehensive literature review (Library staff –presentation +workshop generating search diagrams/ mind maps). Critically appraising the evidence (module team –mini-lecture +workshop examples).

Session 6 Workshop 6 Managing your project:  
 -applying planning and project management tools -workshop  
 -personal development /career planning and your Honours project (module team /Programme Leader).

Session 7 Workshop 7 Overall feedback from project plans –common areas for development.  
 Dealing constructively with supervisor feedback/feed-forward –tips & discussion – Submission of interim report with similarity index to the supervisory team.

Sem 2

Muddy points /student requests for final workshop.

Session 1 Workshop 8 Continuing your project.

Session 2 Workshop 9 Continuing your project and exchange peer or tutor feedback if needed.

Session 3 Workshop 10 Managing your project.

Sessions 4 to 6: Progress check with the supervisor.

Sessions 7 to 9: Progress check with the supervisor.

Sessions 10: Completing your Project: structure, planning and presentation (with examples).  
 Project and employability: evidencing and linking your project to core competencies & specialisms (student services /programme team).  
 Further content as per student requests (may include Library /PDD input).

All workshops would last for 2 hours.

7	<b>Module Learning Outcomes</b> <b>On successful completion of the module, students will be able to:</b>	
	<b>1</b>	Conduct independent research into literature and other relevant sources to identify gaps in relevant literature and formulate the aim and (SMART) objectives of the study.
	<b>2</b>	Evaluate techniques and justify the activities adapted to device plan to achieve objectives within a specified time.
	<b>3</b>	Critically analyse various ethical, legal, financial and environmental issues to develop a solution to answer the needs identified by the service user(s) thereby demonstrating in-depth knowledge and skills specific to the project undertaken.
	<b>4</b>	Evaluate the outcomes of the project work undertaken, and communicate the findings in a clear, concise, logical / coherent manner, verbally, visually and in writing based on the methodology and results of the project undertaken.

8	<b>Module Assessment</b>		
Learning Outcome			
	Coursework	Exam	In-Person
<b>1,2,3</b>	<b>X</b>		
<b>4</b>			<b>X</b>

<b>9 Breakdown Learning and Teaching Activities</b>	
<b>Learning Activities</b>	<b>Hours</b>
<b>Scheduled Learning (SL)</b> includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	30
<b>Directed Learning (DL)</b> includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	N/A
<b>Private Study (PS)</b> includes preparation for exams	370
<b>Total Study Hours:</b>	400