

Module Specification

Module Summary Information

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| 1 | Module Title | Group Research Project |
| 2 | Module Credits | 40 |
| 3 | Module Level | 7 |
| 4 | Module Code | ENG7162 |

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| 5 | Module Overview |
| <p>Rationale:</p> <p>The group research project will be undertaken by a project team comprising of 3 students (maximum). It is intended that by engaging in this module, you and your team 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 team work, critically addressing a specific question by bridging the gap identified in the literature of Biomedical Engineering. It is an opportunity to complete an extended piece of work around a topic of common interest that your team is very keen about, in order to demonstrate your competence in reviewing the literature, critically appraising and evaluating the given evidences, and applying your knowledge in the pursuit of excellence, either within the University or an industry setting, as part of a project team.. In order to meet the module outcomes, you will be drawing upon the various professional and technical skills that you have developed in the first three years of your degree.</p> <p>Alignment with Programme Philosophy and Aims</p> <p>In alignment with the programme philosophy, this module aims to simulate typical graduate workplace tasks that requires; good team working and negotiation skills alongside 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 an opportunity to reflect or adopt some of the other learning strategies or practices that you will have adopted as part of other modules at level 7 – such as; working in ALS, engaging in professional dialogue, etc. and work alongside a multi-professional or diverse academic team across the faculties in the university to effectively and economically assure the quality of your group research project or the process that you have adopted to meet the defined need of your prospective employer, whom you may have identified from within the Industries previously. This group research project unlike your individual project at level 6, will therefore provide you an invaluable opportunity to demonstrate your negotiation, team working and strategic decision-making skills (both within your project team and within the wider professional team) while allowing you to reflect and further enhance your critical analysis and evidence based practice approach by applying the underpinning research methodologies, technical skills and knowledge, and other essential project management competencies, thereby establishing a firm foundation for your employability and career progression in a global market.</p> <p>Learning and Teaching Strategy</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</p> | |

or the process involved, that may be delivered by the module leader or coordinator. Due to the independent nature of level 7 modules, 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.

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 project team will be assigned an academic supervisor who will monitor progress and provide guidance. Completing the 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 your team are expected to undertake, in consultation and under the guidance of your supervisor, your team will be expected to seek appropriate ethical and insurance / indemnity approval from the faculty ethics committee for your team to successfully undertake and complete your project work. Please be aware that in such a situation, you and your team will 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:

1. An individual project report suitably articulating various technical and non-technical elements of your project. As part of the non-technical elements of the projects, in the project report, the module team expects you to suitably articulate your personal contribution to this project by cross-referencing to your personal learning diary or project log book.
2. A defended project demonstration: where the module team will consider the artefact designed and developed by your team and evaluate both the technical and non-technical integrity of you and your team in alignment with the project outcome. You will be required to undertake sufficient planning and manage your resources efficiently to undertake these elements of assessment.

| 6 | Indicative Content |
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| <p>Weekly support topics to refresh your knowledge on the following topics will be provided as and when needed due to the nature of this project module at level 7.</p> <ul style="list-style-type: none"> • Aims and objectives • Writing proposals • Information resources • Research techniques • Literature reviews and ethical implications • Critical analysis • Methodologies • Academic writing • Reflective writing • Citing and referencing | |

| 7 | Module Learning Outcomes On successful completion of the module, students will be able to: | |
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| | 1 | As a group plan a research informed project using appropriate literature and / or professional outputs. |
| | 2 | Design, develop and evaluate an appropriate artefact using suitable engineering techniques and tools. |
| | 3 | Implement the proposed design to produce an appropriate artefact using suitable engineering techniques. |
| | 4 | Critically review the implementation of the artefact and the overall project and successfully communicate the results of the project giving consideration to appropriate and relevant academic, ethical and professional requirements. |

| 8 | Module Assessment | | |
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| Learning Outcome | | | |
| | Coursework | Exam | In-Person |
| 1 – 3 | X | | |
| 4 | | | X |

| 9 Breakdown Learning and Teaching Activities | |
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| Learning Activities | Hours |
| Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable | 20 |
| Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE | 0 |
| Private Study (PS) includes preparation for exams | 380 |
| Total Study Hours: | 400 |