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## MODULE DESCRIPTOR

### Module Title

Individual Engineering Research Investigation

|           |             |             |         |
|-----------|-------------|-------------|---------|
| Reference | ENM214      | Version     | 7       |
| Created   | August 2017 | SCQF Level  | SCQF 11 |
| Approved  | April 2006  | SCQF Points | 60      |
| Amended   | August 2017 | ECTS Points | 30      |

### Aims of Module

To develop skills in the investigation and analysis of engineering problems and creativity in devising effective solutions, through the detailed research of one selected topic.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Integrate material from the different areas of the course within the project work area.
- 2 Analyse, plan, execute and critically review a major project based on a brief drawn from the context of the course.
- 3 Report in writing and orally on the work undertaken and the approach adopted.

### Indicative Module Content

The project constitutes a major component of the course of study for the MSc. Following a detailed literature review of the chosen research topic and a successful transition through the taught stage of the programme, the students will begin on the detailed project programme. Students are required to identify and source a project, subject to the approval of the University. Once a particular topic has been approved, student encouragement will be given by the project supervisor(s) to produce a project brief and planning programme of events for consideration. The student should also make every effort to establish industrial contacts at an early stage and keep the designated supervisor up to date on progress. Early attention should be devoted to the establishment of the project as a viable concern through a detailed literature review and summary of the importance aspects of the proposed study. On completion of the programme, the student is expected to: produce a detailed written report to specified standards and to present findings; produce a poster, again to specified standards, detailing the important aspects of the work undertaken and; give an oral presentation.

### Module Delivery

The project will be carried out on an individual basis, with the student having access to a supervisor (s) to provide support, as required.

**Indicative Student Workload**

|                                                                              | Full Time | Part Time |
|------------------------------------------------------------------------------|-----------|-----------|
| Contact Hours                                                                | 20        | 20        |
| Non-Contact Hours                                                            | 580       | 580       |
| Placement/Work-Based Learning Experience [Notional] Hours                    | N/A       | N/A       |
| TOTAL                                                                        | 600       | 600       |
| <i>Actual Placement hours for professional, statutory or regulatory body</i> |           |           |

**ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

**Component 1**

|              |                                                                                |            |      |                    |         |
|--------------|--------------------------------------------------------------------------------|------------|------|--------------------|---------|
| Type:        | Coursework                                                                     | Weighting: | 100% | Outcomes Assessed: | 1, 2, 3 |
| Description: | This comprises of a written report (80%), presentation (10%) and poster (10%). |            |      |                    |         |

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

In order to pass this module, students should achieve an overall mark of 50% in the module and at least 50% in the project report, and at least 40% in each of the poster and oral presentation elements.

| Module Grade | Minimum Requirements to achieve Module Grade:                                  |
|--------------|--------------------------------------------------------------------------------|
| <b>A</b>     | Greater than or equal to 70%                                                   |
| <b>B</b>     | In the range 60% to 69%                                                        |
| <b>C</b>     | In the range 55% to 59%                                                        |
| <b>D</b>     | In the range 50% to 54%                                                        |
| <b>E</b>     | In the range 40% to 49%                                                        |
| <b>F</b>     | Less than 40%                                                                  |
| <b>NS</b>    | Non-submission of work by published deadline or non-attendance for examination |

**Module Requirements**

|                          |                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prerequisites for Module | The eight prior modules from the PgDiploma stage must have been satisfactorily completed. In addition, normally, a UK honours degree in Engineering or a related discipline, proficiency in English language for academic purposes (or IELTS score of 6.5 or equivalent), and (for certain MSc courses in the programme) several years of relevant industrial experience. |
| Corequisites for module  | None.                                                                                                                                                                                                                                                                                                                                                                     |
| Precluded Modules        | None.                                                                                                                                                                                                                                                                                                                                                                     |

**ADDITIONAL NOTES**

Extensive specialised reading specific to individual projects is required. Where necessary, arrangements can be made to protect commercial confidence.

**INDICATIVE BIBLIOGRAPHY**

- 1 RGU MSc Energy Programme, "The Energy Programme MSc Project Handbook" and "Frequently Asked Questions" documents. (All MSc project students in Engineering are issued with copies of these documents).
- 2 Tanaka, M. L. 2020. A Thesis Proposal Development Course for Engineering Graduate Students; Journal of biomechanical engineering, 2020, Vol.142 (11); available online.
- 3 Wallwork A. 2014. User Guides, Manuals, and Technical Writing - A Guide to Professional English. Springer, New York NY.