



Module Specification

Dissertation (Masters)

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Part 1: Information

Module title: Dissertation (Masters)

Module code: UFMFTF-60-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 60

ECTS credit rating: 30

Faculty: Faculty of Environment & Technology

Department: FET Dept of Engineering Design & Mathematics

Partner institutions: None

Field: Engineering, Design and Mathematics

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: Yes

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module focusses on supporting students to produce a masters level dissertation that tackles a practice-orientated problem directly relevant to the programme the student is studying towards.

The project itself provides an opportunity for students to demonstrate their independent research, and creative and planning skills. Students learn by active application of their knowledge to the research and evaluation, and by extending their

knowledge to complete their aims and objectives.

The output will be accompanied by a report that details the process of investigation and demonstrates the theoretical basis of its planning, its execution.

Features: Not applicable

Educational aims: There are four learning outcomes to this module

1. Demonstrate the management of a self-directed original engineering research project, cogent to their degree, reflecting a substantial piece of work.

Students will achieve this by undertaking management of a self-directed engineering research project, cogent to their degree, reflecting a substantial piece of work to meet key project milestones in a timely manner. They will be required to take into consideration ethical, risk, security, and resource availability throughout the project.

2. Evaluate and critique methodologies to identify an appropriate methodology, and execute an in-depth systematic study involving technical work.

This is achieved through execution of the project. Students are required to define the context into which the work sits, identify research questions, and based on appropriate sources design a sound methodology linking to clear aims and objectives. They are required to conduct project activities based on recognised practices to gather data and generate results.

3. Synthesise information, critically evaluate it and develop justified conclusions and recommendations.

Students are required to analyse, interpret, and critically appraise collected data. Evaluate the key findings of the work identifying limitations of the study, making clear, well-argued and supported recommendations for further work. There is an expectation that the evaluation will consider the sustainability implications of the project.

4. Effectively communicate to a professional standard technical understanding and recommendations achieved from the research investigation to a technical audience.

Students will demonstrate an ability to convey key information from the project activities and clearly articulate the project's strengths and weaknesses. This is achieved through a variety of mediums where they are required to demonstrate depth of understanding of the subject area and reflect on personal learning development.

Outline syllabus: The student should carry out an investigation that tackles a practice-orientated problem and explores a range of solutions. The nature of the investigation will vary according to the subject which is being addressed. Dissertation topics should focus on some aspect(s) of the degree programme as it is or may be applied in particular contexts, both academic and industrial.

Students will work with academics to guide them in the creation of an outline proposal of the work to be undertaken. They will then be supported by a designated project supervisor in their development of research, subject and technical expertise.

Workshop sessions will be planned strategically in the academic year to support learning of research methods, to include:

1. Introduction to the research process:

A review of the main philosophical perspectives associated with the production of knowledge and the validation of knowledge claims. Overview of tools and practical skills necessary for the design and execution of a research project. Consideration of ethics and risk assessment.

2. Research and evaluation strategies:

Setting aims and objectives, design, conceptualisation, validity, reliability and replication, and quantitative and/or qualitative data analysis.

3. Reviewing the literature:

Role of literature in the formulation and operationalization of the project; use of

library data-bases and the internet; attribution of sources, use of relevant software packages where appropriate.

4. Methods of data derivation:

An overview of a range of research methods that may include, for example, textual sources, content analysis, interviews; focus groups, observational research, laboratory work and field work data collection. Survey design; questionnaires; construction of scientific and natural experiments, evaluation and monitoring, statistical data analysis techniques; presentation of data.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled/Face-to Face) Learning (35 Hours):

Scheduled contact time is divided as appropriate between workshop sessions to develop the skills required to conduct a large project, and one-to-one review meetings with project supervisors where students will be supported in the development of research, subject and technical expertise.

Review meetings will be held on a regular basis between supervisor and student at which project progress will be discussed. The meeting will enable the supervisor to give feedback to the student concerning the work undertaken and the progress achieved. It will be the responsibility of the student to arrange and record such meetings.

3 key milestone meetings at which the following is reviewed,

Meeting 1: Initial project concept including aims, objectives, scope, research questions and ethical considerations.

Meeting 2: Evidence of project management, evaluation of methodology and target setting

Meeting 3. A general review of work undertaken and addressing the targets set in the previous review.

Independant/Self-Guided Study (565 hours):

Students are required to demonstrate self-direction and act autonomously in planning and implementing tasks at a professional or equivalent level. They are

expected to identify and make use of appropriate resources, including other staff, and students, where appropriate.

All the material to support the project process will be provided via Blackboard. It is the students' responsibility to regularly review this material to ensure compliance with the process.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 PROJECT PLANNING AND MANAGEMENT

Demonstrate the management of a self-directed original research project, cogent to their degree, reflecting a substantial piece of work.

MO2 PROJECT EXECUTION

Evaluate and critique research methodologies and identify an appropriate methodology to execute an in-depth, systematic study involving technical work.

MO3 PROJECT EVALUATION

Synthesise information, critically evaluate it and develop justified conclusions and recommendations.

MO4 PROJECT COMMUNICATION

Effectively communicate to a professional standard, technical understanding and recommendations achieved from the research investigation to a technical audience.

Hours to be allocated: 600

Contact hours:

Independent study/self-guided study = 565 hours

Face-to-face learning = 35 hours

Total = 600

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ufmftf-60-m.html) via the following link <https://uwe.rl.talis.com/modules/ufmftf-60-m.html>

Part 4: Assessment

Assessment strategy: Formative feedback will take place from the initial project concept stage during the meetings outlined in 'Scheduled Content' .

There are two tasks to the summative assessment, a report and a presentation.

Report:

A report to accompany their work (normally 8000 – 10000 words) which will set out what they intended to accomplish, how they went about it, why they produced the output they did, and an evaluation of the solutions proposed or results obtained, Evidence of project management must be demonstrated in the final submitted report. This will include reference to initial project proposal, evidence of progress review meetings and a reflection upon what has been achieved.

Presentation (viva voce):

A controlled condition assessment providing students with an opportunity to reflect upon their research, explain the justified approach/methodology and defend their conclusions, as well as explore any constraints experienced .

Resit:

The resit will be the same as the first sit

Assessment tasks:

Report (First Sit)

Description: Report (10,000 words)

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Presentation (First Sit)

Description: Presentation (viva voce) to defend the submitted report/project

Weighting: 40 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Report (Resit)

Description: Report (10,000 words)

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Presentation (Resit)

Description: Presentation (viva voce) to defend the submitted report/project

Weighting: 40 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Professional Engineering [Frenchay] MSc 2023-24

Project Management [Frenchay] MSc 2023-24

Engineering Management [Frenchay] MSc 2023-24

Engineering Management [GCET] MSc 2023-24

Engineering Management [Sep][PT][Frenchay][2yrs] - Not Running MSc 2022-23

Mechanical Engineering [Sep][PT][Frenchay][2yrs] - Not Running MSc 2022-23

Engineering Management [Frenchay] MSc 2022-23

Engineering Management [GCET] MSc 2022-23

Digital Electronic Systems Engineering {Apprenticeship-UWE} [Frenchay] -
Suspended MSc 2022-23