



## **Module Specification**

### **Nuclear Apprenticeship Project**

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## Part 1: Information

**Module title:** Nuclear Apprenticeship Project

**Module code:** UFMFXL-40-3

**Level:** Level 6

**For implementation from:** 2021-22

**UWE credit rating:** 40

**ECTS credit rating:** 20

**Faculty:** Faculty of Environment & Technology

**Department:** FET Dept of Engineering Design & Mathematics

**Partner institutions:** None

**Delivery locations:** Defence Academy (MOD)

**Field:** Engineering, Design and Mathematics

**Module type:** Project

**Pre-requisites:** None

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** No

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** The 40 credit project module forms an essential element of the degree apprenticeship standard for the Nuclear Scientist / Engineer.

**Features:** Not applicable

**Educational aims:** This module provides an opportunity for students to undertake individual, self-directed work, in an area of their choice related to their award, and to further their other engineering-based knowledge and project management skills.

**Outline syllabus:** It is expected that students will develop a range of skills as their project activities develop, from specialist technical skills through to transferable skills. These will include the ability to:

Project manage their activities, from project selection, aims and objectives, through to identifying and discussing its outcomes and their dissemination.

Build awareness of health and safety issues relating to their project and any wider implications, ensuring a suitable risk assessment process is successfully undertaken.

Understand and assess the project's ethical, economic, legal, social and environmental issues.

Review appropriate background material and related academic literature. National codes of practice and policy should also be considered, as relevant.

Develop research methodology to relate their background research to the project application.

Utilise this methodology to analyse and evaluate the project and its process.

Enhance their written and verbal communication skills to ensure all involved in the project are able to perform as expected. These skills will also be required in the dissemination of the project outcomes.

Verify the results achieved and derive explanations for any deviations from expectation.

Discuss the activities undertaken and develop conclusions about the work done and

its implications.

Identify recommendations for further activity.

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** Learning is predominantly through independent, self-directed study, with the support of a project supervisor and the module leader.

The project may encompass any aspect of engineering applied to the nuclear field and will arise from a student's industrial work in consultation with their manager.

The nature of the project will be dependent on the topic being investigated.

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

**MO1** Identify the main issues to be examined and the problems to be solved in the execution of an engineering-discipline-related technical project. On successful completion of this module students will achieve the following learning outcomes.

**MO2** Undertake management of technical projects and select appropriate knowledge sources to guide project execution and fulfil the project aims. On successful completion of this module students will achieve the following learning outcomes.

**MO3** Complete technical work, undertake design and specification of critical components so as to enable experiments to be undertaken with success. On successful completion of this module students will achieve the following learning outcomes.

**MO4** Analyse and evaluate experimental and other data arising, to complete a critical appraisal of the technical work undertaken for the project and the overall management of the investigation. On successful completion of this module students will achieve the following learning outcomes.

**MO5** Make clear, well-argued and supported recommendations for further work and development based on the outcomes of the project On successful completion of this module students will achieve the following learning outcomes.

**MO6** Effectively communicate in written format: technical understanding, implementation of methodology, analytical ability, and identification of recommendations resulting from the research investigation

**Hours to be allocated:** 400

**Contact hours:**

Independent study/self-guided study = 365 hours

Face-to-face learning = 35 hours

Total = 400

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ufmfxl-40-3.html) via the following link <https://uwe.rl.talis.com/modules/ufmfxl-40-3.html>

## **Part 4: Assessment**

**Assessment strategy:** The assessment of the project will consist of two elements; an initial research proposal and a final project report.

A1 Research Proposal

This document will:

Record the formal requirements of the project

Consider the ethical, economic, legal, social and environmental implications of the project

Identify the project management requirements, such as resources and risk considerations

Contain a project schedule, including relevant Literature Review /Background Research plan.

Be a maximum of 10 pages in length.

The aim of this element is to ensure the project is planned properly, has started and is progressing as expected, with the potential to achieve a suitable outcome for the module. Achieving Learning Outcomes 1 and 2.

#### A2 Project Report/dissertation

The report will:

Record the project and the related processes

Contain relevant background supporting evidence

Include a clear methodology, and suitable analysis and evaluation

Provide clear conclusions and recommendations for further work based on the project's outcomes

Be a maximum of 15,000 words.

The aim of this element is to ensure the project is technically competent, properly managed and executed.

Students are expected to use the dissertation to explain their project and its processes, and are marked on the dissertation – not the project itself. Achieving Learning Outcomes 2 - 6.

#### A3 Presentation and oral examination

This module is delivered as part of the level 6 degree apprenticeship standard Nuclear Engineer which requires the 40 credit project to contain a 30 minute presentation and oral examination as part of the assessment.

Guidelines will be provided to aid project assessment, and will cover all aspects of the project investigation and management as described.

Marking Criteria: Marking criteria will be published, focusing on two key aspects, the management of the project and the demonstration of technical competence.

**Assessment components:**

**Written Assignment - Component A (First Sit)**

Description: Research proposal

Weighting: 20 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2

**Report - Component A (First Sit)**

Description: Report (15000 words)

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5, MO6

**Presentation - Component A (First Sit)**

Description: Presentation and individual questioning (30 mins)

Weighting: 20 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO5, MO6

**Report - Component A (Resit)**

Description: Report

Weighting: 80 %

Final assessment: No

Group work: No

Learning outcomes tested:

**Presentation - Component A (Resit)**

Description: Presentation and individual questioning

Weighting: 20 %

Final assessment: Yes

Group work: No

Learning outcomes tested:

## **Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Electronic Engineering (Nuclear) {Apprenticeship-UCW} {Top-Up}

[Sep][FT][MOD][2yrs] BEng (Hons) 2020-21

Mechanical Engineering with Nuclear {Apprenticeship-UCS} [Sep][FT][UCS][4yrs]

BEng (Hons) 2018-19

Electrical, Electronic and Control Engineering with Nuclear {Apprenticeship-UCS}

[Sep][FT][UCS][4yrs] BEng (Hons) 2018-19