PROGRAMME SPECIFICATION

Part 1: Information	
Awarding Institution	UWE Bristol
Teaching Institution	University Centre Weston (UCW) (levels 1 and 2) UWE Bristol (level 3 in part) Defence Academy (MOD) (level 3 in part).
Delivery Location	UCW (as above) UWE Bristol (as above) Defence Academy (as above)
Study abroad / Exchange / Credit recognition	Not applicable
Faculty responsible for programme	Faculty of Environment and Technology
Department responsible for programme	Engineering, Design and Mathematics
Professional Statutory or Regulatory Body Links	IET (CEng accreditation will be applied for)
Highest Award Title	BEng(Hons) Electronic Engineering (Nuclear)
Default Award Title	Not applicable
Interim/Progression Award Titles	BEng Electronic Engineering Certificate of Higher Education Mechanical Engineering Students must successfully complete the FdSc Mechatronics prior to entry to level 3 of BEng Electronic Engineering (Nuclear).
UWE Progression Route	BEng (Hons) Electronic Engineering (Nuclear)
Mode of Delivery	Year 1 full-time (attendance); Years 2 to 5 part-time (attendance)
ISIS code/s	H61G43 H61H13 – (Full-time target)
For implementation as part of an apprenticeship from	September 2017
Apprenticeship Standard and type	Nuclear Scientist and Engineer (integrated)
Main training provider	UCW
UWE's role (if UWE is not the main training provider)	Awarding institution and delivery sub-contractor
End Point Assessment Institution/Organisation	TBC
Additional training provider(s)	Defence Academy (MOD) (delivering 60 credits at level 3)

Part 2: Description

The Nuclear Scientist and Engineer Apprenticeship Standard defines the mandatory qualification requirements which all apprentices must achieve in order to complete an apprenticeship. Alongside the development of foundation and development competencies, apprentices must achieve a BEng(Hons) which will be stipulated by the employer and must be accredited by an Engineering Council licenced Professional Engineering Institution. In this case the employer has stipulated the BEng(Hons) Electronic Engineering (Nuclear). An application will be made to the Institute of Engineering and Technology to accredit this programme. A phased approach is taken to the delivery of this apprenticeship, for the first 3 years apprentices will be studying towards an FdSc in Mechatronics. Successful completion of the Foundation Degree enables direct entry to level 3 of the BEng(Hons) which will take a further two years to complete.

The phased approach to delivering the knowledge qualification for this award requires successful completion of both the FdSc Mechatronics award and level 3 of the BEng (Hons) Electronic Electronic Engineering award. The FdSc Mechatronics is an approved direct entry route into level 3 of the BEng programme. The aims and learning outcomes for FdSc Mechatronics are set out in the programme specification for that award. The aims and learning outcomes for BEng (Hons) Electronic Engineering are set out below

For full details how FdSc Mechatronics and BEng(Hons) Electronic Engineering (Nuclear) align to the Apprenticeship Standard please see **appendix 1**.

The aims of the programme are to produce graduates with a broad understanding of the discipline in conjunction with a detailed understanding of their chosen specialism of electronic engineering within the context of the nuclear sector.

Innovative designs with creative skills are encouraged for real world implementation using both software simulation and the hardware experimental equipment.

The programme covers a broad range of disciplines such as digital and analogue circuit design, power electronics, control, signal processing and project management. A number of developments have occurred in electronic engineering in recent times, although signals are analogue in nature, many electrical or electronic designs involve conversion to digital format as soon as possible and processing by microprocessor or digital integrated circuit. In recognition of this, this programme allows students to develop expertise particularly in system design, microprocessor hardware/software design and simulation and modeling techniques. It also contains topics of software engineering, engineering management and business environment.

The programme has been designed to cater for students with both industrial and/or academic backgrounds, to develop problem solving skills and be able to demonstrate leadership in a number of engineering settings.

The specific aims are that the graduate shall:

- Gain a sound knowledge and understanding of the fundamental principles governing the behaviour of electronic and digital systems and of the related mathematics;
- Be capable of analysis of the behaviour of complex electronic, digital electronic or electrical systems ;
- Demonstrate a capacity for innovative and creative design and be able to draw on knowledge of fundamental principles and proven systems to further develop existing systems and to generate new systems which meet required specifications;
- Have a broad knowledge and understanding of engineering theory, practices and applications and be able to use advanced techniques of analysis, synthesis and simulation, and implementation in the field of electronic engineering or electrical engineering,
- Have developed the ability, interest and motivation to conduct independent study and keep abreast of future changes in technology and engineering practices.

Part 2: Description

- Be able to work in a largely unsupervised way to undertaken an individual research project and present the findings in a professional manner,
- Be able to communicate clearly, concisely and persuasively with individuals and groups, using a professional standard of English, both orally and in writing.
- Demonstrate the leadership and innovative design expertise required of a Master of Engineering.
- Be able to provide solutions to today's industry problems which deepen the students' learning of applying engineering principles in a commercial setting.
- Provide with broad specialist technical choices of the engineering to students where they can concentrate to gain the leadership in the respective specialism.
- Gain the management skills in a wide range of business option including finance, entrepreneurship and innovative management strategies.
- Be able to investigate new emerging technologies where data can be extracted to use in unfamiliar problems solutions so that innovative design could be created.
- apply engineering design, systems and management concepts within the nuclear sector.

Programme requirements for the purposes of the Higher Education Achievement Record (HEAR)

The Electronic Engineering (Nuclear) programme provides graduates with the mix of skills and capabilities required for the specification, design and delivery of electronic and embedded systems and solutions including safety critical systems for graduates working for the MOD within context of the role of a Nuclear Scientist / Engineer.

The programme develops technically competent individuals who think and communicate effectively and who can conduct inquiry, solve problems, undertake critical analysis and deliver effective electronic and embedded software systems solutions.

It provides a solid foundation for the development of knowledge, skills and professional values essential to the practice of systems development.

Regulations

Delete one of the following statements as appropriate

A: Approved to University Regulations and Procedures

Part 3: Learning Outcomes of the Programme

A Knowledge and understanding of	**Teaching/learning methods and strategies:**
1. Scientific principles and methodology necessary to underpin electronic and	Acquisition of 1 to 7 is through a combination of formal lectures, tutorials, laboratory work, guided project work,

Part 3: Learning Outcomes of the Programme	
systems engineering, to enable appreciation of its scientific and engineering context in support of understanding of future developments and technologies. 2. Mathematical principles necessary to underpin electrical and electronic engineering and mathematical methods, tools and notations used in the analysis and solution of electrical and electronic engineering problems, number systems and their applications. 3. The range of applicability of abstract models of electronic components and their fundamental limitations in linear and non-linear circuit applications. 4. The commercial, ethical, economic and legal context of engineering processes, including sustainable development, risk management, health and safety and environmental legislation. 5. Apply engineering design, systems and management concepts within the nuclear sector.	group assignments, independent projects and case studies. The acquisition of 7 with its specific emphasis on the nuclear sector is achieved by the inclusion of 60 credits of nuclear specialist material at level 3 of the programme which includes a 40 credit individual project. The programme of study is designed to introduce basic knowledge and understanding of the technologies underpinning engineering design through a range of level 1 modules. This basic knowledge is developed through a range of taught modules at level 2. There is a focus on laboratory work throughout the programme. Advanced tools and technologies are studied in the final years of the programme. The 40 credit individual project will integrate the knowledge and skills within a nuclear context set by the employer. Throughout the student is encouraged to undertake independent reading both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject. **Assessment:** Testing of the knowledge base is through assessed coursework, laboratory exercises and through tasks undertaken under examination conditions and through oral presentations.
B Intellectual Skills	
Intellectual Skills 1. Demonstrate an understanding of the need for a high level of professional and ethical conduct in engineering. 2. The ability to investigate and define a problem and identify constraints including environmental and sustainability limitations, health and safety and risk assessment issues. 3. Critically review available literature relevant to the subject discipline. 4. Demonstrate independent thinking in the design and development of solutions to real-world problems. 5. The ability to select and apply appropriate computer-based methods for modelling and analysing problems in the fields relating to the design, manufacture and control of electrical and electronic	**Teaching/learning methods and strategies:** At all levels students are required to bring together knowledge and skills acquired in several modules and hence determine new ways of working. As the student progresses, the need to synthesize ever- greater volumes of information and approaches into a coherent approach is developed and consequently so is their critical thinking. At level 1 analysis, evaluation and problem solving are developed on small-scale problems in various programming activities in a number of modules. Here the focus is on understanding the problem and then solving it free from the environmental implications of real- world problems and without the need to examine alternatives and to balance conflicting goals. At level 2 there is a move away from small-scale problems to the design of larger scale systems. With this comes the need to evaluate alternative methods and designs and to balance conflicting objectives. Level 3 sees the move to specific application examples

Part 3: Learning Outcomes of the Programme	
components and systems. 6. The ability to understand issues relating to the marketing of products and the management processes associated with their design and manufacture. 7. The ability to use fundamental knowledge to investigate new and emerging technologies. 8. Wide knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations 9. The ability to make general evaluations of commercial risks through some understanding of the basis of such risks	and with it the need to appreciate problem contexts is developed as well as striking the right balance when facing conflicting objectives. **Assessment:** The development of engineering solutions requires demonstration of all of the intellectual skills. At level 1 the focus is on the skills of Analysis, Evaluation and Problem Solving. At levels 2 and 3 this branches out to include all the remaining skills. Independent reading is used to enable students to focus on their own areas of interest and in the process assess skills in submitted reports, assignments and exam answers. Electronic Engineering work requires demonstration of a very wide range of skills (1 – 9) . These skills are assessed through a combination of coursework assessments, projects and examinations.
C Subject, Professional and Practical Skills	
Subject, Professional and Practical Skills 1. Select and apply appropriate quantitative methods and computer software tools for the evaluation, analysis and solution of electronic and systems engineering problems and situations. 2. Apply experimental methods in the laboratory relating to engineering design, manufacture and test. 3. Use relevant design, test and measurement equipment. 4. Execute and manage multi-disciplinary projects. 5. Undertake practical testing of design ideas through laboratory work or simulation with technical analysis and critical evaluation of results. 6. Apply engineering techniques taking account of environmental, industrial and commercial constraints 7. Work with technical uncertainty 8. Show an understanding of appropriate codes of practice and industry standards including an awareness of quality issues	**Teaching/learning methods and strategies:** Throughout the program, the skills listed are developed through a combination of theoretical discussion, practical laboratory based work, classroom based tutorial exercises and directed self-study. The majority of modules delivered underpin theoretical work with practical sessions. Many of the skills listed are introduced at level 1 and then drawn into sharper focus at levels 2 and 3. A consistent design methodology is delivered throughout the Programme. The general teaching/learning method is to impart these practical/professional skills by a process of moving from an overview of what is required to a specific application of an individual skill at a higher level. Some very specific skills are introduced at level 3. These are underpinned by the more generalized capabilities that are practised throughout the levels in most of the modules that contribute to the award. **Assessment:** The possession of these skills is demonstrated by the development of practical laboratory work, coursework, presentations and examinations. The practical nature of the skills to be acquired means that some are specifically addressed by particular modules, whilst the

Part 3: Learning Outcomes of the Programme	
	more generic skills are assessed across a range of modules.
D Transferable Skills and other attributes	
Transferable Skills and other attributes 1. To communicate using professional standards of English, both orally and in writing, including, for instance, the results of technical investigations, to peers and/or to "problem owners". 2. To manage his or her own time; to meet deadlines; 3. To work with others, being aware of the benefits and problems which teamwork can bring, having gained insights into the problems of team-based systems development. 4. To use software in the context of problem-solving investigations, and to interpret findings 5. To express problems in appropriate notations. 6. to gain experience of, and to develop skills in, learning independently of structured class work, including the use of on-line facilities to further self-study. 7. to read and to use literature sources appropriate to the discipline to support learning activities. 8. Demonstrate team leadership abilities	**Teaching/learning methods and strategies:** 1 is developed through a variety of methods and strategies including the following: • Students maintain laboratory log books • Students participate in electronic conferences, workshops, and group work sessions. • Students participate in discussion tutorials • Students present research topic findings in tutorials • Students participate in individual tutorials 2 is developed through a variety of methods and strategies including the following: • Students conduct self-managed practical work • Students participate in practically-oriented tutorial laboratory sessions • Students work through practical work-sheets in teams • Students practice design and programming 3 is developed widely throughout the programme. 4 is developed through a variety of methods and strategies including the following: • Students develop problem solving programs • Students practice design and programming • Students sketch designs of larger systems 5 is developed through a variety of methods and strategies including the following: • Students are encouraged to practice programming to extend their skills • Students develop problem-solving programs • Students are encouraged to research relevant topics • Students are encouraged to use online facilities to discover information 6 is developed through a variety of methods and strategies including the following: • Students are encouraged to access online material
	Assessment: These skills are demonstrated in a variety of contexts including • examination • poster presentation. • individual and group projects

Part 3: Learning Outcomes of the Programme	
	• practical assignments • portfolio of exercises In addition skill two is assessed by both peers and tutors.

Part 4: Programme Structure

This section describes the knowledge qualification as it will be delivered for the apprenticeship from entry through to graduation including:

- level and credit requirements
- interim award requirements
- module diet, including compulsory and optional modules

			Compulsory Modules	Optional Modules	Awards
ENTRY to FdSc Mechatronics	**Year 1 at UCW**	**Level 1 full-time**	UFMFJ9-30-1 Engineering Mathematics UFMF7C-30-1 Design, Materials and Manufacturing (WBL) UFMFH3-30-1 Stress & Dynamics UFMFP8-15-1 Electrical and Electronic Principles A UFMFVA-15-1 Electrical and Electronic Principles B		**Interim award**: Cert HE Mechanical Engineering (120 credits)
FdSc Mechatronics	**Year 2.1 at UWE (Taught by UCW)**	**Level 2 part-time**	UFMF8C-15-2 Project Management (WBL) UFMFL9-15-2 Mathematics for Signals and Control UFMF88-30-2 Design & Electromechanical Systems		

COMPLETE FdSc Mechatronics	**Year 2.2 at UWE (Taught by UCW)**	**Level 2 part-time**	UFMFMA-15-2 Signal Processing and Circuits UFMFV7-15-2 Control UFMFQ8-30-2 Electrical Technology		**Gateway award**: FdSc Mechanical Engineering (240 credits)
ENTRY to BEng (Hons) Electronic Engineering (Nuclear)	**Year 3.1 at UWE**	**Level 3 part-time**	UFMFW7-15-3 Control Systems and Design UFMFDE-15-3 Power Electronics UFMFE7-15-3 Analogue Electronic Design	**Choose 15 credits from:** UFMFM7-15-3 Business Environment. UFMFCL-15-3 Engineering and Society UFMF89-15-3 Industrial Placement	**Interim Award:** BEng Electronic Engineering (300 credits at appropriate level)
BEng (Hons) Electronic Engineering (Nuclear)	**Year 3.2 at Defence Academy (MOD)**	**Level 3 part-time**	UFMFXL-40-3 Nuclear Apprenticeship Project UFMFYL-20-3 Nuclear Knowledge NB. Credit size dictated by the National Nuclear Framework.		**Award:** BEng (Hons) Electronic Engineering (Nuclear) 360 credits at appropriate level

Full-time variant structure for FdSc Mechatronics students from Bridgwater and Taunton College progressing onto the BEng(Hons) Electronic Engineering (Nuclear) level 3 top-up. These students are MOD employees. This structure is for 2018/19 only.

	Compulsory Modules	Optional Modules	Interim Awards
Level 3 (taught at UWE except for UFMFXL-40-3 and UFMFYL-20-3 which are delivered at Defence Academy MOD)	UFMFW7-15-3 Control Systems and Design UFMFDE-15-3 Power Electronics UFMFE7-15-3 Analogue Electronic Design UFMF89-15-3 Industrial Placement UFMFXL-40-3 Nuclear Apprenticeship Project UFMFYL-20-3 Nuclear Knowledge NB. Credit size dictated by the National Nuclear Framework	None	**Interim Award:** BEng Electronic Engineering (300 credits at appropriate level) **Award:** BEng (Hons) Electronic Engineering (Nuclear) 360 credits at appropriate level

End Point Assessment (EPA)

This is an integrated standard where the EPA involves a substantial work related nuclear project to ensure the broad range of knowledge, skills and behaviours in the standard are achieved contributing 40 credits towards the BEng Degree.

Project to take place in the final year of the Degree, typically up to 6 months in duration, integrating and testing the academic and vocational learning. As part of the overall assessment of the project the EPA includes a comprehensive presentation of the project plan, outcomes, and evidence of knowledge, skills and behaviours demonstrated. It is assessed in partnership by employer and academic provider and quality assurance is underpinned by the use of external examiners

Additionally, a competence Assessment interview is carried out, demonstrating the range of knowledge, skills and behaviours.

- Carried out by an independent chartered person for the discipline being assessed
- Reviews the portfolio of evidence presented by the apprentice

Part 5: Entry Requirements

In addition to the University's Standard Entry Requirements

This is a closed programme only available to MOD employees with the appropriate level of security clearance

- **GCSE:** Mathematics and English Language at grade C or above required.
- **Specific subjects:** A level Mathematics grade C; IB Mathematics (Higher) grade 5; BTEC unit Further Mathematics for Engineering Technicians; or equivalent. Also one of the following: Chemistry, Computing/Computer Science, Design and Technology, Electronics, Engineering, Information and Communications Technology, Music Technology, Physics.
- **Relevant subjects:** Physics, Computing, ICT, Engineering, Science
- **EDEXCEL (BTEC) Diploma:** BTEC Nationals accepted: Aerospace Engineering; Communications Technology; Electrical/Electronic Engineering; Engineering; Manufacturing Engineering; Mechanical Engineering; Operations and Maintenance Engineering; Polymer Processing and Materials Technology; Telecommunications.
- Students with a BTEC National Diploma must have passed Further Mathematics for Engineering Technicians, and those with the 14 – 19 Diploma must also offer the Additional Specialised Learning in Mathematics.
- **Access:** Achievement of the Access to HE Diploma; achievement of Level 3 credits in Mathematics to include algebra and calculus (please contact us for further information and advice); plus at least one other Science or Technology subject; achievement of Level 2 credits in Mathematics, English Language and Science.
- **Baccalaureate IB:** Accepted (see the UCAS website for the UCAS tariff points that you can gain from the IB to put towards our points requirements)
- **An interview may also be required**

For the University's general entry requirements please see
http://www.uwe.ac.uk/study/entryReqs.shtml

Mature applicants with relevant experience who do not have the stated entry requirements are encouraged to apply.

Tariff points as appropriate for the year of entry - up to date requirements are available through the courses database

Part 6: Reference Points and Benchmarks

Set out which reference points and benchmarks have been used in the design of the programme:

QAA UK Quality Code for HE
-Framework for higher education qualifications (FHEQ)
-Subject benchmark statements

Part 6: Reference Points and Benchmarks
-Qualification characteristics for Foundation degrees and Master's degrees Strategy 2020 University policies Staff research projects Any relevant PSRB requirements Any occupational standards Apprenticeship Standard Please see appendix 1 for the programme/Apprenticeship Standard mapping

Appendix 1: Mapping of learning outcomes from BEng (Hons) Mechanical Engineering (Nuclear) to the Nuclear Scientist and Engineer Apprenticeship Standard

The below table demonstrates how the degree satisfies the knowledge, skills and behaviours defined in the apprenticeship standard. Where the defined outcomes cannot be satisfied by the degree alone, the table states the methods through which the apprentice is expected to achieve them.

Knowledge and Skills	**Assessment method(s)**	**Where covered**	**Degree module code(s)**
Work competently in a technical nuclear environment, understand and promote personal responsibility for Health, Safety, Radiation Protection, Environmental Protection, Quality, Security, Safeguards and principles of Risk Management.	Coursework; Exam; Dissertation/ Workplace Logbook-Portfolio	Degree NVQ	UFMFYL-20-3, UFMFXL-40-3
Analyse engineering and scientific problems selecting and using mathematical, engineering and scientific tools to provide suitable solutions to nuclear applications, with considerations of the entire life cycle of a nuclear facility.	Coursework; Exam; Dissertation	Degree	Most technical modules contribute, only UFMFYL-20-3, UFMFXL-40-3 provide the nuclear context.
Develop and critically apply knowledge of the concepts, principles and theories of engineering science relevant to the interdisciplinary fields of nuclear technology.	Coursework; Exam; dissertation	Degree	As above, most technical etc. Interdisciplinary focus in UFMF88-30-2 & UFMFSL-15-3
Demonstrate an understanding of stakeholder requirements, commercial awareness, business improvement, project and business management techniques relevant to the nuclear industry.	Coursework; Presentation; Dissertation Workplace logbook-portfolio	Degree NVQ	UFMF8C-15-2 UFMFM7-15-3 UFMFXL-40-3
Apply their science or engineering discipline knowledge to the development, operation, maintenance and progression of technologies used for Decommissioning (e.g. remote handling and robotics), Waste Management, Reprocessing, and Nuclear Power Generation.	Coursework; Exam; Dissertation	Degree	UFMFXL-40-3 UFMFSL-15-3 UFMF88-30-2
Specify, plan, manage, conduct and report on nuclear projects	Dissertation / Workplace Logbook-Portfolio	Degree NVQ	UFMFXL-40-3
Synthesise information from a variety of sources and apply to the solution of a particular nuclear technology application.	Coursework; Exam; Dissertation / Workplace Logbook-Portfolio	Degree	UFMFYL-20-3, UFMFXL-40-3
Accurately observe, record and draw conclusions from data and experimental evidence, recognising inherent uncertainties and limitations.	Coursework; Exam / Workplace Logbook-Portfolio	Degree	UFMFL8-15-2 ; UFMF88-30-2;

Appendix 1: Mapping of learning outcomes from BEng (Hons) Mechanical Engineering (Nuclear) to the Nuclear Scientist and Engineer Apprenticeship Standard			
Apply design processes including materials selection that meet nuclear industry standards.	Coursework; Exam; Dissertation / Workplace Logbook-Portfolio	Degree NVQ	UFMF88-30-2; UFMF7K-15-3; UFMFP9-15-3; UFMFYL-20-3; UFMFXL-40-3
Demonstrate an understanding of Regulatory requirements both national and international.	Coursework; Exam; Dissertation / Workplace Logbook-Portfolio	Degree NVQ	UFMFYL-20-3; UFMF8C-15-2
Develop technical reports that meet requirements of the prevailing verification process.	Coursework; Exam; Dissertation / Workplace Logbook-Portfolio	Degree NVQ	UFMFYL-20-3, UFMFXL-40-3
Demonstrate knowledge of the nuclear industry (past, present and future) and the business, political and community environment in which the company operates including personal role within the organisation, ethical practice and codes of conduct.	Workplace Logbook-Portfolio	NVQ	
Demonstrate an understanding of root cause analysis and learning from experience (LFE) processes.	Workplace Logbook-Portfolio	NVQ	
Demonstrate knowledge of the technology, safety, environmental and economics of nuclear fuels and the nuclear fuel cycle.	Coursework; Exam / Workplace Logbook-Portfolio	Degree NVQ	UFMFYL-20-3
Apply the standards for nuclear professional practice as required by the industry and professional body institutions.	Dissertation / Workplace Logbook-Portfolio	Degree NVQ	UFMFXL-40-3

Behaviours	**What is required**	**Assessment method**	**Where covered**	**Degree module code(s)**
Communication	Communicate effectively and appropriately using a full range of skills; technical speaking to a scientific / engineering audience, active listening, professional writing, professional body language, technical presentation.	Coursework; Exam; Presentations; Dissertation / Workplace Logbook-Portfolio	Degree NVQ	Modules throughout programme develop technical writing skills. The following provide greater business/professional focus UFMF8C-15-2,

Appendix 1: Mapping of learning outcomes from BEng (Hons) Mechanical Engineering (Nuclear) to the Nuclear Scientist and Engineer Apprenticeship Standard				
				UFMFM7-15-3, UFMFYL-20-3, UFMFXL-40-3.
Professional Conduct	Demonstrate reliability, integrity and respect for confidentiality on work related and personal matters.	Log Book	NVQ/workplace review	
Responsibility	Work autonomously and interact effectively within a wide, multi-disciplinary project team.	Workplace Logbook-Portfolio	NVQ/workplace review	
Interaction with colleagues	Understand the impact of work on others, especially where related to diversity and equality.	Workplace Logbook-Portfolio	NVQ/workplace review	
Professional commitment	Demonstrating a personal and professional commitment to society, their profession and the environment, adopting a set of values and behaviours that will maintain and enhance the reputation of the profession.	Workplace Logbook-Portfolio	NVQ/workplace review	
Time management	Manage time effectively, being able to plan and complete work to schedule.	Coursework; Exam; Presentations; Dissertation /Workplace Logbook-Portfolio	Degree NVQ/workplace review	Various modules where individual and group task need to be completed. Particularly so on UFMFM7-15-3 UFMF8C-15-2 and UFMFXL-40-3

Appendix 1: Mapping of learning outcomes from BEng (Hons) Mechanical Engineering (Nuclear) to the Nuclear Scientist and Engineer Apprenticeship Standard				
Continuous improvement	Demonstrate a supportive attitude to change and respond positively to change management processes.	Workplace Logbook-Portfolio	NVQ/workplace review	
Continuous improvement	Take responsibility for personal development, demonstrating commitment to learning and self-improvement and be open to feedback.	Workplace Logbook-Portfolio	NVQ/workplace review	
Safety culture	Demonstrate a strong commitment to personal safety behaviours and understanding of the consequences as set out in the nuclear industry requirements.	Workplace Logbook-Portfolio	NVQ/workplace review	
Safety culture	Take responsibility to actively challenge unsafe behaviours and conditions in the workplace to help reinforce nuclear, radiological and conventional safety over competing goals to ensure the protection of people and the environment.	Workplace Logbook-Portfolio	NVQ/workplace review	
Technical Standards/Verification	Demonstrate compliance by following rules, procedures and principles to ensure work completed is fit for purpose and pay attention to detail and carry out error checks throughout work activities.	Workplace Logbook-Portfolio	NVQ/workplace review	
Sustainability	Demonstrable commitment to sustainability in work design and application.	Workplace Logbook-Portfolio	NVQ/workplace review	

Appendix 1: Mapping of learning outcomes from BEng (Hons) Mechanical Engineering (Nuclear) to the Nuclear Scientist and Engineer Apprenticeship Standard				
Leadership	Be an enthusiastic advocate for the nuclear industry with the ability to represent this industry to a variety of audiences.	Workplace Logbook-Portfolio	NVQ/workplace review	

STUDENT AND ACADEMIC SERVICES

FOR OFFICE USE ONLY

Approval Date	**Special CAP 10 August 2017**			
Revision CAP Approval Date		Version	**1**	Link to APT (ID 4382)
Next Periodic Curriculum Review due date				
Date of last Periodic Curriculum Review				