Higher/Degree Level Apprenticeship Programme Specification

University of Cumbria

This programme specification is designed for prospective employers and their apprentices/students, academic staff, enrolled students and their employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided.

Programme Title and Name of Award	Foundation Degree Science – Decommissioning & Waste Management		
Academic Level	5	**Total Credits**	240
Apprenticeship Standard and Assessment Plan	https://www.gov.uk/government/publications/apprenticeship-standard-nuclear-technician-approved-for-delivery		
LARS Code of the Apprenticeship Standard	163	**LARS Code of the University Award**	tbc
Professional Body Accreditation / Qualification	Accreditation at Engineering and Science Technician Level (EngTech) and partial Incorporated Engineer (IEng) will be sought from the Institute of Measurement and Control and the Society of Operations Engineers		
Date of Professional Body Accreditation	Na	**Accreditation Period**	na
Employer Organisation			
End Point Assessment	Non-integrated		
End Point Assessor	External assessor organisation agreed with the Employer		
JACS Code	H821		
HECoS Code	100184		
Criteria for Admission to the Programme	Government funding rules require that an apprentice must have the right to live and work in the UK, must be in employment, paid at least the legal minimum wage and have a written and signed agreement for the apprenticeship with their employer. The minimum duration periods for an apprenticeship set in each Apprenticeship Standard, is based on an apprentice working a minimum of 30 hours per week. Where the apprentice works fewer than 30 hours, the minimum		

duration of the apprenticeship must be increased on a pro-rata basis.

Funding for the apprenticeship is provided through the Employment and Skills Funding Agency (ESFA) and is paid in the following way:

- Levy paying employers with sufficient funds in their digital account – 100% funding

- Non Levy payers -90% ESFA funding, 10% Employer co-funding. Non-levy paying companies will be asked to pay their 10% of the full cost of the apprenticeship at the start of the programme.

All Degree Apprentices must be interviewed, assessed and offered a position by an employer before being admitted to the degree. Although the College may receive direct applications and filter these applications before passing them to prospective employers, some apprentices may apply directly to an employer. Either way, after acceptance by an employer, the College will require a formal application, which it will assess according to the programme entry criteria:

Selection criteria

The entry requirements are aligned to the University of Cumbria's admissions criteria. For APL, please refer to the University website. Each candidate for APL will be advised how that may affect ESFA funding (for further information, see the University website).

The University's standard criteria for admissions apply. Please refer to the Applicant Information pages of the University website for more information. For APL, please refer to the University website.

All students will be interviewed to assess their suitability for the course. Achievement following 2 years post-16 study will demonstrate the capacity to benefit from the course. Thus the equivalent of 2 'A2' Levels at Grade 'D' (48 UCAS points) in a science and/or maths related subject is expected or the successful completion of the ECITB Level 3 Nuclear Engineering & Science Certificate, Diploma or Integrated Diploma at Pass grade or similar qualification. There is also a requirement for 5 GCSE's (including both mathematics and English at Grade 'C' or above) or equivalent experience for mature entry.

Accreditation of prior learning and direct entrants into later years of the programme will be considered as appropriate, taking into account pre-requisite requirements for individual modules. Accreditation of prior learning and direct entrants into later years of the programme will be considered as appropriate, taking into account pre-requisite requirements for individual modules.

Exit from employment

If an apprentice is made redundant during their apprenticeship through no fault of their own, then the employer and College have a legal duty to help the apprentice try to find alternative employment.

If the redundancy is within six months of the planned completion date of the apprenticeship, then ESFA will fund 100% of the remaining agreed cost, even if the apprentice cannot find another employer.

	If the redundancy is over six months from the planned end date, the ESFA will fund the remaining agreed cost for 12 weeks to allow the apprentice to find alternative employment. Where a new employer cannot be found the apprentice will be recorded as having left the programme
Teaching Institution	Lakes College West Cumbria
Owning Department	Lakes College – Nuclear University of Cumbria – Department of Science, Natural Resources and Outdoor Studies
Programme delivered in conjunction with	na
Principal Mode of Delivery	Blended Learning
Pattern of Delivery	Part Time – Full Time
Delivery Site(s)	Lakes College West Cumbria – National College for Nuclear Building
Programme Length	Standard FT – 2 years Standard PT – 3 years Maximum – 6 years
Higher Education Achievement Report (HEAR)	Upon successful completion of this programme, you may receive a Diploma Supplement/Higher Education Achievement Report (HEAR).
Exit Awards	You may be awarded the following Exit Award if you fail to achieve the requirements of the full programme: Certificate of Higher Education – Decommissioning & Waste Management
Period of Approval	January 2018 – December 20124

Cumbria Graduate Attributes

Throughout your studies, you will be provided with the skills and knowledge relevant to the global workplace. All successful graduates of the University of Cumbria will be:

- Enquiring and open to change. This is a competence requirement for registration to the Engineering and Science councils. This degree encourages this competence through project work, practical investigations and learning from experience.

- Self-reliant, adaptable and flexible. To achieve success within this programmes there is a requirement for the student to manage their own learning. These particular attributes are embedded within the work based and project modules. These characteristics are also assessed competences for registration within the Engineering Council UK SPEC.

- Confident in your discipline as it develops and changes over time. The degree has been

structured to develop the student's technical ability and confidence through progression.

- Capable of working across disciplines and working well with others. This is developed through project work and group exercises and is also explored within the work based modules and projects. The ability to working as a team is part of an assessed competence within the Nuclear Apprenticeship standards at both level 5 and level 6.

- Confident in your digital capabilities

- Able to manage your own professional and personal development. The apprenticeship standards at levels 5 and 6 support professional development. The two work based modules also provides an opportunity to create a portfolio of evidence for EngTech registration applications.

- A global citizen, socially responsible and aware of the potential contribution of your work to the cultural and economic wellbeing of the community and its impact on the environment

- A leader of people and of places

Programme Features

Degree Apprenticeships combine academic study and workplace learning to enable apprentices to gain a full bachelor's degree. This provision of an academic undergraduate degree is integrated with experience, practice and further learning in the workplace. The minimum duration of an apprenticeship is set in each Apprenticeship Standard and is based on a minimum 30 hour week. Where an apprentice works fewer than 30 hours, the apprenticeship minimum duration must be increased on a pro-rata basis. It is a legal requirement that the apprentice does not pay any training costs or student fees. Degree Apprenticeships are co-designed by employers ensuring that apprentices are equipped with the skills employers need and for their own future career (Source: The Future Growth of Degree Apprenticeships, Universities UK, March 2016)

The Standard and Assessment Plan for the Degree Apprenticeship in Nuclear Technician have been designed by employers in the sector.

A Degree Apprenticeship programme integrates the provision of undergraduate degree level academic knowledge, understanding and skills with the opportunity to contextualise this provision in the workplace and thus to develop occupation competency at a professional level in specific job roles.

The programme has been designed to meet the employer-led national Standard and to follow the associated Assessment Plan, as well as being referenced to the QAA Subject Benchmarking Statement for Engineering (2015) and other academic standards. Apprentices, who are in permanent full-time professional employment, are also learning in the workplace in a structured delivery pattern, supported by both the College and the employer. In addition, the programme has been developed with the assistance of a range of local employers to ensure it meets the needs of the region.

This programme is part of a suite of degrees which have been developed to meet the need for Nuclear Technicians, Engineers and Scientists within the area of nuclear clean up as identified within the Governments Nuclear Sector Skills Strategy document and sanctioned by the National Curriculum & Qualification Advisory Group for Nuclear (CQAG). The need for nuclear clean-up specialists is now an urgent requirement particular with the advent of major decommissioning projects and the ever increasing demand for medium and long term nuclear waste storage options and facilities. Such projects currently exist in the new industry across the UK and internationally.

The programme has been designed to provide a unique learning experience and delivery will occur within the National College for Nuclear – Northern Hub building. The course delivery model will make

significant use of experiential learning and delivery methods which can be defined as 'learning from doing'. Considerable use will be made of the project/technology centre supported by a virtual reality suite which will provide the students with a real time immersed experience of a nuclear environments, particularly associated with high risk from prolonged exposure.

The course will be delivered on a block basis which will provide an opportunity to undertake enhanced practical activities supporting technical theoretical delivery methods and embedding theoretical knowledge through experience, observation and reflection.

The course also consists of a work based modules and an industrial project. These modules provide an opportunity to further embed experiential learning within an industrial environment. For PT students this work will take place within the normal place of work and for PT students' project work will be selected to provide opportunities to experience a number of industrial case studies.

The first work based module A will occur across year 1, providing an early introduction to a real work scenario, work based module B in the second semester of year 2 (embedding further learning in business and management processes) and the industrial project will be undertaken throughout year 3.

The Foundation Degree in Decommissioning & Waste Management has been designed to provide opportunities to enter work as e.g. Decommissioning Technician, Process Operator (remote handling & control etc) and Operational Management. In addition the programme covers the knowledge based requirement of the level 5 Nuclear Technician Standard. The course also acts as a direct entry qualification to the BSc Honours Decommissioning & Waste Management.

Aims of the Programme

The overall aims of the Programme are:

1. To provide students with an opportunity to assimilate a coherent body of knowledge appropriate to decommissioning & waste management using a range of learning strategies

2. To provide students with an experience of higher education that reflects the requirements for innovation and the range of activities that will occur within the nuclear clean-up industry.

3. To encourage and develop observation, reasoning, reflection and analytical thinking powers to enable the embedding of work ready behaviours which are essential to working within a nuclear environment

4. To inculcate work-related and transferable skills through experiencing real work scenarios

5. To provide opportunity for the development and expression of creative and innovative thought when creating innovative solutions for decommissioning & waste storage problems

6. To provide graduates with technical knowledge and skills that will prepare them to be work ready for a nuclear facility and be able to practice a range of technology and science skills relevant to decommissioning & waste management activities

7. To enable graduates to work and communicate efficiently within a team and a varied audience when applying a range of skills and knowledge within decommissioning & waste management activities

Level Descriptors

Level Descriptors describe in general terms the expected outcomes you will achieve at each level of

study as you progress through your programmes. They describe the relative demand, complexity, depth of learning and learner autonomy associated with a particular level of learning and achievement. The University's Level Descriptors are aligned to the national [Framework for Higher Education Qualifications](#) (FHEQ) and are a key mechanism for ensuring the academic standards of the University's provision.

At Level 4: (Usually Year 1 undergraduate), you will be able to demonstrate that you have the ability:

- To apply a systematic approach to the acquisition of knowledge, underpinning concepts and principles and deploy a range of subject specific, cognitive and transferable skills.

- Evaluate the appropriateness of different approaches to solving well defined problems and communicate outcomes in a structured and clear manner.

- Identify and discuss the relationship between personal and work place experience and findings from books and journals and other data drawn from the field of study.

At Level 5: (Usually Year 2 undergraduate), you will be able to demonstrate that you have the ability:

- To apply and evaluate key concepts and theories within and outside the context in which they were first studied.

- Select appropriately from and deploy a range of subject-specific, cognitive and transferable skills and problem solving strategies to problems in the field of study and in the generation of ideas effectively communicate information and arguments in a variety of forms.

- Accept responsibility for determining and achieving personal outcomes.

- Reflect on personal and work place experience in the light of recent scholarship and current statutory regulations.

Programme Outcomes – Knowledge and Understanding

The programme provides opportunities for you to develop and demonstrate the following:

After 120 credits of study (CertHE) you will be able to demonstrate:

K1. Knowledge of the scientific principles underpinning relevant technologies, and their evolution within the context of decommissioning & waste management

K2. Knowledge of the importance of the implementation of the 'Nuclear Delta' when undertaking decommissioning & waste management roles

K3. Ability to apply a range of mathematical techniques necessary to support application of key principles within decommissioning & waste management tasks

K4. Awareness of the nuclear industry (past, present and future) and the business, political and community environment in which a nuclear employer operates

After 240 credits of study (Foundation Degree) you will be able to demonstrate:

K5. Knowledge to enable the application of theoretical engineering and science concepts related to decommissioning & waste management to a real work scenario

K6. Ability to monitor, interpret and apply the results of analyses and modelling in order to bring about continuous improvement within tasks and functions within decommissioning & waste management

K7. Ability to apply quantitative methods and computer software relevant to the multidisciplinary context of decommissioning & waste management

K8. Ability to apply a systems approach to scientific and engineering problems related to

decommissioning & waste management through the know-how of the application of relevant technologies

K8. Analytical thinking skills to undertake a design process when determining solutions according to customer and user needs

K9. Ability to adapt systems, technology and designs to meet new purposes or applications for decommissioning & waste management

K10. Ability to analyse and apply the results of research and information gathering to evaluate and to propose solutions to particular decommissioning & waste management applications

K11. Awareness of relevant stakeholders, commercial and business acumen, business improvement, project management techniques relevant to decommissioning & waste management

Programme Outcomes – Skills and other Attributes (including Employability Skills and Behaviours)

The programme provides opportunities for you to develop and demonstrate the following:

After 120 credits of study (CertHE) you will be able to demonstrate:

S1. Ability to use relevant equipment, tools, processes, or products within decommissioning & waste management activities

S2. Practical skills within a workshop and laboratory relevant to decommissioning & waste management activities

S3. Ability to use and apply information from technical literature and other sources to support project and work based activities

S4. Ability to apply appropriate codes of practice, legislation and industry standards relevant to decommissioning & waste management

S5. Ability to observe, record and draw conclusions from data and experimental evidence and presentation of findings under supervision.

After 240 credits of study (Foundation Degree) you will be able to demonstrate:

S6. An ability to apply theoretical science and engineering concepts to real work scenarios

S7. Creativity and innovation in a practical context relating to decommissioning & waste management

S8. Ability to engage and support the successful outcome of industrial projects.

S9. A logical approach to implementing methods of determining the root cause of problems and demonstrating knowledge of learning from experience (LFE) processes.

S10. Awareness of quality issues and their application to continuous improvement

S11. A professional approach to developing and writing technical reports that meet business requirements including the optimisation and continuous improvement of processes and services.

S12. Ability to analyse and apply the results of research and information gathering to evaluate and to propose solutions to decommissioning & waste management problems.

External and Internal Reference Points

The following Subject Benchmark Statements and other external and internal reference points

have been used to inform the Programme Outcomes:

- The programme outcomes are referenced to the Degree Apprenticeship Standard for Nuclear Technician (and also the related Assessment Plan)
- QAA Benchmark statements for Engineering (2015)
- Engineering Council's Accreditation of Higher Education Programmes (AHEP) in engineering, in line with the UK Standard for Professional Engineering Competence (UK-SPEC) – Competence Matrix for EngTech and IEng
- Nuclear Technician Apprenticeship Standard – Knowledge and Skills Competences
- Nuclear Institute – Nuclear Delta
- National College for Nuclear – Course Structure Guidance

Graduate Prospects

The programmes meet the immediate demand for Technicians and Engineers in key skill shortage areas as identified within the Government Nuclear Skills Strategy paper. Technical skills at levels 4 to 6 are in short supply with a particular emphasis within the paper identifying requirements for:

Electrical Power Technicians and Engineers

Control & Automation Technicians/Engineers

Mechanical & Electrical Design Technicians/Engineers

Nuclear Clean-up Specialists

The programmes also address some of the technical skill requirements for current nuclear projects within the commissioning of new plants and technology to enable new and advanced decommissioning and infrastructure activities to take place whilst also dealing with legacy & future waste considerations. All of these projects require infrastructure development and general mechanical and electrical design work. Sellafield Sites Limited operates a very large facility within West Cumbria which includes a number of legacy buildings which require asset managed to ensure compliance to the NNI.

Decommissioning and waste management and Infrastructure development is key within the current strategy of the NDA and underpinning these areas are innovative scientific solutions at all levels. An additional theme is the need for safe working environments and sustainability through the continuous monitoring and evaluation of radioactive environments and safety cases. These programmes will support the sustainability of recruitment within the nuclear industry, particularly managing the requirement for staff who will have relevant Level 5-6 qualifications.

Therefore there are upskilling opportunities for employers and the scope for graduates to register with the Engineering Council and enhance their career opportunities both within their existing employment or for full time students to gain sustainable and well paid employment.

These unique courses of academic and work based elements have been designed to provide individuals who require higher education qualifications with an opportunity to study locally and also gain credit for real work activities.

Delivery Arrangements and Attendance

The course will be delivered on a block basis which will provide an opportunity to undertake enhanced practical activities supporting technical theoretical delivery methods and embedding theoretical knowledge through experience, observation and reflection.

The programme will require PT students to attend 4 x 1 week blocks per semester in addition to attendance for relevant exams during the designated exam week.

It is not intended for a module to be delivered in a single week block but for all modules in the specific semester to be delivered in parallel through the 4 weeks. Each block will have a total delivery period of 32 hours. An indicative delivery schedule is provided below relating to Semester 1 of the programme.

Block 1 - 22nd January
Block 2 - 19th February
Block 3 - 19th March
Block 4 - 23rd April

Each block in semester 1 will have the following delivery hours

Mathematics A (10 credits)		8 hours
Principles of Electrical Science (10 credits)		8 hours
Principles of Mechanical Science (10 credits)		8 hours
Work Based Learning A (20 credits – 2 semesters)		8 hours

The ethos of this programme is to prepare and enhance the students' ability to work within the industry in terms of knowledge, skills and behaviours. The course has therefore been designed to fit with this strategy and has been structured to provide a natural means of embedding 'Experiential Learning' where appropriate into the curriculum in terms of content, delivery and assessment.

Refer to **Appendix 1** for further information on apprenticeship delivery models

Learning, Teaching and Assessment Strategies employed to enable the Programme Outcomes to be Achieved and Demonstrated

The ethos of this programme is to prepare and enhance the students' ability to work within the industry in terms of knowledge, skills and behaviours. The course has therefore been designed to fit with this strategy and has been structured to provide a natural means of embedding 'Experiential Learning' where appropriate into the curriculum in terms of content, delivery and assessment.

The programme of teaching and learning is designed to enable the student to demonstrate the attainment of the stated learning outcomes of the programme and assessment strategies are as such matched to these outcomes. The student will be supported in a progressive acquisition of subject knowledge and skills, gradually advancing towards more independent learning whilst developing a reflective approach to personal progress.

Elements of experiential learning will support students in applying their knowledge and conceptual understanding to real-world problems or situations where the lecturer directs and facilitates learning. Classroom, laboratory and virtual reality facilities will serve as a setting for embedding activities such as case and problem-based studies, guided inquiry, simulations, experiments and projects.

The students will be given opportunities to learn in authentic situations which will make learning

becomes more powerful.

By engaging in formal, guided, authentic, real-world experiences the programme will enable the students to:

- deepen their knowledge through acting and then reflecting on this action

- develop skills through practical application and reflection

- support the construction of new understandings when placed in novel situations

- extend their learning as they bring their learning back to the academic classroom environment

Students will be provided with opportunities for practice and feedback, this process of practice and feedback provides a link to 'learn from experience' which is an important behavioural requirement of the nuclear industry. The programme will provide an integration of:

- Knowledge — the concepts, facts, and information acquired through formal learning and past experience

- Activities — the application of knowledge to "real work" scenarios where appropriate and the synergetic integration of work based activities with academic studies

- Reflection—the analysis and synthesis of knowledge and activity to create new knowledge Content and assessment will provide students with experiences that are carefully chosen for their learning potential (i.e. whether they provide opportunities for students to practice and deepen emergent skills, encounter novel and unpredictable situations that support new learning, or learn from natural consequences, mistakes, and successes).

- Throughout the programme, the learner will be actively engaged in posing questions, investigating, experimenting, being curious, solving problems, assuming responsibility, being creative, and constructing meaning, and is challenged to take initiative, make decisions and be accountable for results.

- The programme will provide the opportunities for reflection on learning during and after experiences and this will be an integral component of the learning outcomes. This approach will lead the student to be able to analyse, apply critical thinking, and synthesise.

- The programme will engage the learners intellectually, emotionally and/or physically, which produces a perception that the learning taking place is authentic.

- The programme will promote real work type relationships and will promote communications between the students and peers, management and other stakeholders.

- The programme will have an embedded culture of safety

The Lakes Colleges West Cumbria Teaching, Learning and Assessment Strategy has been developed in line with the University's Learning, Teaching and Assessment Strategy 2017-22.

College based learning is the predominant experience with attendance at all scheduled sessions seen as imperative to student progression. This is further enhanced by the use of 'virtual learning environments' (VLE) for example Moodle where each module studied has a designated Moodle site providing not only standard lecture and practical material but supplementary reading, virtual exercises and the capacity for online forums. The utilisation of VLE allows for flexibility in learning whereby materials may be accessed at an individual's convenience on site or via remote access.

In addition to the experiential experience previously discussed, a variety of other learning and teaching methods will be used to both reflect the variety of learning styles that inevitably exist within a group

and ensure the acquisition and development of appropriate concepts, knowledge and skills. This will enable students to experience teaching methods best suited to their own preferred learning style. As previously identified, work readiness is key to this programme and enhancing employability is a core theme throughout the programme. Therefore the learning and teaching methods are designed to support the move to autonomy and independent learning. Learners are expected and encouraged to be reflective in their learning and as such the strategies adopted focus on deep and experiential learning and typically include:

- Lectures

- laboratory classes and virtual reality experiences

- individual and group tutorials

- the utilisation of case studies

- seminars and workshops

- directed and independent study involving electronic resources (VLE), textbooks and other self-study materials

- problem-based learning

- training and practice in the use of IT and software packages

- project work, both individually and in teams

- reading and interpreting research publications

Assessment Strategy

The assessment strategy has been developed to be in line with the University's Learning, Teaching and Assessment Strategy 2017-22.

The main drivers of this strategy are to:

- provide innovative, challenging and stimulating assessment which will enable you to develop the knowledge and professional skills required for employment.

- be student-centred, flexible and modern in both content and approach.

- be fully supported by, and integrated with technological approaches such as the Moodle virtual learning environment (VLE).

- impart academic rigour to the teaching and learning processes.

- support the development of independence, autonomy and self-reflection.

- support learners' needs at different stages of development.

Within a balanced scheme, assessment methods may include:

- unseen examinations

- laboratory reports

- computer-based assessments

- problem solving exercises (both of a practical and written format)

- analyse case studies to demonstrate knowledge and understanding

- oral, audio-visual and poster presentations

- peer and self-assessment

- group work

Formative assessment is also used extensively throughout the programme for and as learning. Whilst elements of assessment will test knowledge and ability, the emphasis is on a more developmental approach to building the knowledge and skills utilised within employment. Formative assessment will involve the student being actively engaged in the assessment to encourage them to think about the learning process, to develop an ability to learn independently and to develop employability skills. It will also be used to evaluate teaching.

Personal development and reflective practice will take place throughout the programme and will be implemented through the wide range of activities (both formative and summative) as well as via the personal tutorial process.

An important aspect of this higher education programme is the development of the student's independence and ability to learn from experience (LFE), which is a key behavioural requirement of the nuclear industry. These skills will be developed through project work, investigative practical work and portfolio building with reflective analysis. This reflective analysis and associated experiences will also develop critical thinking thought processes with some assessment requiring students to summarise their work with a critical review of their experience.

End Point Assessment

End Point Assessment will be arranged by the Employer in collaboration with the College.

Student Support

Learning Mentor System

You will be allocated a Learning Mentor to provide pastoral guidance both directly or and in liaison with subject tutors, the course leader or through study support.

The Learning Mentor will arrange interviews/tutorials at certain times through the year to discuss your progress on the course or concerns about the course in general. The aim of a tutorial session is to identify any underlying reasons for the concerns, discuss possible solutions and agree how progress can be facilitated. It is intended to be a positive and structured forum for any concerns to be discussed and resolutions identified. You are encouraged to initiate a tutorial if you feel that you require assistance in some way. The process provides a collaborative approach between the tutor, yourself and other Services.

During the tutorial, you and the tutor may also explore the range of support mechanisms in place both internally and externally, such as academic skills assistance, counselling and medical support for example.

Learning Resource Centre (LRC) and Student Services

Library and Student Services (LRC) offer a wide range of support, including; access to library learning

resources, academic skills, careers and employability, financial help, counselling, health and wellbeing and support for disabled students and those with specific learning requirements. We know that you want to get the most out of your programme, make the best use of your time and find or continue in the career you always dreamed of.

Module leaders will collaborate with LRC advisers to ensure that your reading lists are current and items are available via the library collections. In order to maximise access, availability and usefulness, ebooks and electronic journal titles will, in most cases, be prioritised. Where appropriate, module reading lists will be made available to you electronically using the College's Moodle pages.

Course Representatives

Course representatives are invited to attend Course Team Meetings and other similar meetings to discuss any issues of concern in order to improve the quality of the teaching and to enhance your learning experience. One course representative from all the HE courses can be elected as a learner governor on the governing body of the College.

Employability

Lakes College aims to deliver accessible, flexible and quality assured programmes that provide academic inspiration and challenge, and support excellence. The courses are designed with a strong vocational focus and emphasis is given to the development of core professional and transferable skills to enhance employability.

As such, a wide range of transferable skills are covered. These include:

- Communication

- Group work

- Problem solving

Use of information technology

Support in your Workplace & Apprenticeship Liaison Tutor

At your workplace, you will be supported by your employer. Exact arrangements and terminology are the responsibility of the employer, but typically, you will be supported as follows, where the roles may be combined in one person;

- A Mentor designated by the employer to provide vocational and pastoral support for individual students, who may or may not be your line manager. In particular support will be provided for work-based learning assignments, portfolio and the final year project.

- An Employer Apprenticeship Liaison Manager who manages the relationship between the programme (via the College Liaison Tutor) and the employer

The College and the employer are bound by contract to work together to support you as an apprentice. This will include quarterly meetings between the College, the student, and the employer.

The Level 5 standard has been broken down into three main components; Knowledge, Skills and Behaviours. There are 28 competencies in total with 10 being Knowledge based, 7 being Skills based and 11 being Behavioural. The Apprentices are required to build a portfolio of evidence against the 28 competencies over the 3 years of the Apprenticeship, which falls in line with the 3 years taken to complete the Foundation Degree. The portfolio will be made up of a number of task reports, of a set format, in which the Apprentices will describe the work that they have been completing in the workplace and a Project Report. There are a number of competences that will only be assessed within Stage 2 of the EPA i.e. the Interview. The Competencies that will be linked to the Learning Outcomes of the 3 modules (discussed below), will be the only Competencies that will be assessed as part of

Stage 1 of the EPA i.e. the Technical Report. The 28 competencies are identified below as well as how they will be assessed within the EPA process.

The Level 5 Apprenticeship is not an integrated Degree Apprenticeship (unlike the Level 6, which is integrated). However, within the Foundation Degrees there has been 3 modules that have been included to aid the Apprentices in generating evidence towards meeting the Competency requirements of the Apprenticeship. This enhances the experience of the Apprentices during the course of their Apprenticeship, but also eliminates the Apprentices from unnecessarily doubling up on work. The reports that will form the Apprentices Portfolio will be linked to that modules Learning Outcomes. These Learning Outcomes have been linked to a number of the Degree Apprenticeship Competencies, which have been specifically identified.

These modules also serve a secondary purpose. Work Based Learning A is a Level 4 module, Work Based Learning & Business Improvement and the Industrial Based Project are both Level 5 modules. This is important, as the funding rules state that the Apprentices must show progress across the full length of their Apprenticeship. If progress was only measured at Level 5, then there would be little progress shown during the first year. By integrating Work Based Module A across the whole of the first year, we can show that the Apprentices are progressing against the competencies by completing the assessments within the module.

The module tutor for each of the work based/project modules will also be the apprenticeship lead and apprenticeship liaison tutor.

The three modules are identified below.

Work Based Learning A (Year 1, Semester 1 and 2)

This module will run for the whole of the first year across both semesters. The Learning Outcomes for this module have been linked to a number of the competencies (as listed below), which have been specifically selected for this module. This allows the work to be assessed as part of the Degree as well as count towards the Apprentice Portfolio, which is required for the End Point Assessment. There will be a number of assessments throughout the year (twice a semester, dates to follow), in which the Apprentice will have to submit 2 task reports per assessment. This will mean that the Apprentices will submit 8 task reports in the first year, which will be a sufficient number to allow the delivery staff to be able to prove that the Apprentices are making progress towards meeting the competencies in year 1.

Learning Outcome No.	Associated Competency	Learning Outcome No.	Associated Competency
1	K2 & K4	4	S6 & B10
2	S4 & B1	5	B4 & B5
3	K9 & S1	6	B9 & B11

Work Based Learning & Business Improvement (Year 2, Semester 2)

This module will run for the 2nd semester of the second year. The Learning Outcomes for this module have been linked to a number of the competencies (as listed below), which have been specifically selected for this module. This allows the work to be assessed as part of the Degree as well as count towards the Apprentice Portfolio, which is required for the End Point Assessment. This module is a Level 5 module and will thus produce evidence for the Apprentices' portfolio at Level 5. There will be 2 assessments in the semester (dates to follow), in which the Apprentice will have to submit 2 task reports per assessment. This will mean that the Apprentices will submit 4 task reports in the second year towards this module. Although this module officially runs in the 2nd semester, the Apprentices will be advised at the start of semester 1, that they can still produce task reports for the whole year. This will allow the Apprentices to be able to choose which reports they want to submit as part of Work Based Learning 2. This methodology serves a second purpose, in that the greater the number of work

reports that the assessing team have sight of, the better the feedback the Apprentices will receive for their End Point Assessment portfolio.

Learning Outcome No.	Associated Competency	Learning Outcome No.	Associated Competency
1	K1 & K3	4	K8 & B6
2	K6 & K7	5	S1 & B9
3	B2 & B10	6	S2 & S5

Industrial Based Project (Year 3, Semesters 1 and 2)

This module will run through the whole of the 3rd year (semesters 1 and 2). The Learning Outcomes for this module have been linked to a number of the competences. The aim on this module is for the Apprentice to engage with and manage a Work Based project from concept to conclusion. During this module, the Apprentice will need to reflect on the work that they have previously completed in the workplace. Using the knowledge and skills they have gained and the behaviours they have exhibited, the Apprentices must be able to demonstrate that they can manage and run with a project. They will do this by producing a project report, in which they will describe how they went about managing the project, the work that they had to produce, what the outcome of the project was and if there are any recommendations that can be made. It is envisaged that the project will allow the Apprentice to meet the majority of the Competencies that will be assessed by the Project Report.

Prior to starting the project, the Apprentices will produce a project proposal, in which they will explain their project idea. This will allow the delivery team to assess whether or not the project has sufficient depth to cover the Learning Outcomes. If a project is assessed as not having enough depth to cover all of the Learning Objectives, the delivery team will work with the Apprentice to assess any necessary additions to the project.

Learning Outcome No.	Associated Competency	Learning Outcome No.	Associated Competency
1	K4, S7, B3 & B5	4	K7 & K8
2	K2, K3, S2 & B10	5	S4 & B1
3	K10, S6, B2 & B7	6	K5 & S3

<u>Additional Support for Students Transferring from an Academic only Programme to the Level 5 Apprenticeship Standard</u>

A gap analysis will be undertaken for students transferring directly from an academic programme in to the apprenticeship level 5 standard. This analysis will determine the contents of a development plan to ensure that the learner is given the work based or work simulated opportunities to generate evidence mapped to the identified competence gaps. The Academic Lead for Level 5 and 6 Apprenticeships will meet with the learner and new employer on a monthly basis (as an addition to the normal review process) to update the development plan and make adjustments as and if required.

<u>Student Support Between Block Release</u>

Between block delivery students will have access to a range of additional support mechanisms which will include:

- Access to a virtual learning environment with supporting learning materials for each module which will include; case study materials, practice examples, interactive tests, discussion board

and direct access to the module tutor via an online share point.

- Access to the lakes College Learning Resource Centre which is open till 9.30 pm (Monday to Thursday) and the specialist HE Section for quiet study within the LRC.

- Drop in seminar sessions within the National College for Nuclear facility

- Timetabled drop in Maths support sessions once per week

- An employer mentoring system will be supported where appropriate

- Each student will have direct access on a daily basis to the Academic Lead for level 5 and 6 apprenticeships

Programme Curriculum Map

Academic Level	Module Code	Module Title	Credits	Module Status*	Programme Outcomes achieved	Apprenticeship Standards achieved (see Appendix 2)
4	NUCL4000	Mathematics A	10	Compulsory	K2, K5, K6	K3, K5, B5
4	NUCL4001	Mathematics B	10	Compulsory	K2, K5, K6	K3, K5, B5
4	NUCL4002	Introduction to Radiological & Environmental Protection	10	Compulsory	K1, K2, K4, K6, S1, S2	K1, K3, K5, S4, B5
4	NUCL4005	Work Based Learning A	20	Core	K3, K4, S3, S4, S5, S6	K2, K4, K9, S1, S4, S6, B1, B4, B5, B8, B9, B11
4	NUCL4006	Principles of Electrical Science	10	Compulsory	K1, K2, K4, K6, S1, S2	K1, K3, K5, S4, B5
4	NUCL4007	Principles of Mechanical Science	10	Compulsory	K1, K2, K4, K6, S1, S2	K1, K3, K5, S4, B5
4	NUCL4008	Control Systems & Instrumentation	20	Compulsory	K1, K2, K4, K5, K6, S1, S2	K1, K3, K5, S4, B5
4	NUCL4009	Introduction to Nuclear Science & the Nuclear Industry	20	Compulsory	K1, K3, S2, S4	K1, K3, K5, K6, K7 S4, B5
4	NUCL4010	Decommissioning & Decontamination Case Studies	10	Compulsory	K1, K2, K4, K6, S1, S2	K3, K5, K6, S4, B5
5	NUCL5000	Mathematical Methods for Engineering & Science A	10	Compulsory	K2, K5, K6	K3, K5, S5, B5
5	NUCL5002	Work Based Learning & Business Improvement	10	Compulsory	K11, S4, S8, S9, S10, S11	K1, K3, K6, K7, K8, S1, S2, S5, B2, B5, B6, B9, B10
5	NUCL5003	Industrial Based Project	20	Core	K1, K2, K3, K4, K6, K7, K8, K9, K10, K11, S1, S3, S4,	K2, K3, K4, K5, K6, K7, K8, K10, S1, S2, S3, S4, S6, S7,

5					S5, S7, S8, S9, S11, S12	B1, B2, B3, B5, B7, B10
5	NUCL5009	Decommissioning & Waste Management Planning & Design	20	Compulsory	K1, K2, K4, K6, K7, K9, S1, S2, S5, S6	K3, K5, S4, B5
5	NUCL5010	Robotics, Remote Handling & Size Reduction Techniques	20	Compulsory	K1, K2, K4, K6, K7, K9, S1, S2, S5, S6	K1, K3, S4, S5, B5
5	NUCL5011	Radioactive Waste Management, Characterisation & Handling	20	Compulsory	K1, K2, K4, K6, K7, K9, S1, S2, S5, S6	K1, K3, K5, S4, B5
5	NUCL5013	Radioactive Waste Legislation	10	Compulsory	K1, K2, K4, K6, K7, K9, S1, S2, S5, S6	K2, K6, K10, S3, S6, B5
5	NUCL5012	Nuclear Safety Case Design	10	Compulsory	K8, K9	

Notes

This programme operates in accordance with the University's Academic Regulations and Academic Procedures and Processes

* Key to Module Statuses

Core Modules	Must be taken and must be successfully passed
Compulsory Modules	Must be taken although it may possible to carry as a marginal fail (if the award permits)

Programme Delivery Structure: Part Time				
Module Code	**Module Title**	**Delivery Pattern** **Spring Semester 1 / Autumn Semester 2/ Extended / Year-Long**	**Method(s) of Assessment**	**Approximate Assessment Deadline**
NUCL4000	Mathematics A	Year 1 - Spring	Course Work, Exam	March, May
NUCL4001	Mathematics B	Year 1 - Autumn	Course Work, Exam	November, December
NUCL4006	Principles of Electrical Science	Year 1 - Spring	2 x Course Works	March, May
NUCL4007	Principles of Mechanical Science	Year 1 - Spring	2 x Course Works	March, May
NUCL4009	Introduction to Nuclear Science & the Nuclear Industry	Year 1 - Autumn	Course Work, Exam	October, December
NUCL4002	Introduction to Radiological & Environmental Protection	Year 2 - Spring	2 x Course Works	March, April
NUCL4005	Work Based Learning A	Year-Long	Portfolio, Presentation	November, December
NUCL4008	Control Systems & Instrumentation	Year 2 - Spring	Course Work, Exam	April, May
NUCL4010	Decommissioning & Decontamination Case Studies	Year 2 - Spring	2 x Course works	February, May

	Students exiting at this point with 120 credits would receive a CertHE in Decommissioning & Waste Management			
NUCL5009	Decommissioning & Waste Management Planning & Design	Year 2 - Autumn	Project Work	December
NUCL5012	Nuclear Safety Case Design	Year 2 - Autumn	2 x Course Works	October, December
NUCL5002	Work Based Learning & Business Improvement	Year 2 - Autumn	Portfolio, Presentation	November, December
NUCL5000	Mathematical Methods for Engineering & Science A	Year 2 - Spring	2 x Course Works	March, May
NUCL5010	Robotics, Remote Handling & Size Reduction Techniques	Year 3, Spring	2 x Course Works	March, May
NUCL5013	Radioactive Waste Legislation	Year 3 - Autumn	Course Work, Exam	October, December
NUCL5011	Radioactive Waste Management, Characterisation & Handling	Year 3 - Autumn	Course Work, Exam	November, December
NUCL5003	Industrial Based Project	Year 3 – Year Long	Report, Presentation	November, December
Students exiting at this point with 240 credits would receive a Foundation Degree (FdSc) Decommissioning & Waste Management				

		Delivery Pattern		
Programme Delivery Structure: Full Time				
Module Code	**Module Title**	**Spring Semester 1 / Autumn Semester 2/ Extended / Year-Long**	**Method(s) of Assessment**	**Approximate Assessment Deadline**
NUCL4000	Mathematics A	Year 1 - Spring	Course Work, Exam	March, May
NUCL4001	Mathematics B	Year 1 - Autumn	Course Work, Exam	November, December
NUCL4006	Principles of Electrical Science	Year 1 - Spring	2 x Course Works	March, May
NUCL4007	Principles of Mechanical Science	Year 1 - Spring	2 x Course Works	March, May
NUCL4009	Introduction to Nuclear Science & the Nuclear Industry	Year 1 - Autumn	Course Work, Exam	October, December
NUCL4002	Introduction to Radiological & Environmental Protection	Year 1 - Spring	2 x Course Works	March, April
NUCL4005	Work Based Learning A	Year-Long	Portfolio, Presentation	November, December
NUCL4008	Control Systems & Instrumentation	Year 1 - Autumn	Course Work, Exam	November, December
NUCL4010	Decommissioning & Decontamination Case Studies	Year 1 - Spring	2 x Course works	February, May

Students exiting at this point with 120 credits would receive a CertHE in Decommissioning & Waste Management				
NUCL5009	Decommissioning & Waste Management Planning & Design	Year 2 - Spring	Project Work	May
NUCL5012	Nuclear Safety Case Design	Year 2 - Spring	2 x Course Works	March, May
NUCL5002	Work Based Learning & Business Improvement	Year 2 - Spring	Portfolio, Presentation	April, May
NUCL5000	Mathematical Methods for Engineering & Science A	Year 2 - Spring	2 x Course Works	March, May
NUCL5010	Robotics, Remote Handling & Size Reduction Techniques	Year 2, Autumn	2 x Course Works	November, December
NUCL5013	Radioactive Waste Legislation	Year 2 - Autumn	Course Work, Exam	October, December
NUCL5011	Radioactive Waste Management, Characterisation & Handling	Year 2 - Autumn	Course Work, Exam	November, December
NUCL5003	Industrial Based Project	Year 2 – Year Long	Report, Presentation	November, December

Methods for Evaluating and Improving the Quality and Standards of Learning	
Mechanisms used for the Review and Evaluation of the Curriculum and Learning, Teaching and Assessment Methods	• Module Evaluation • Programme Validation and Periodic Review • Annual Monitoring • Peer Review of Teaching • External Examiner Reports • Student Success and Quality Assurance Committee • Internal Lakes College review meetings
Mechanisms used for gaining and responding to feedback on the quality of teaching and the learning experience – gained from: Students, graduates, employers, placement and work-based learning providers, other stakeholders, etc.	• Staff Student Forum • Module Evaluation Forms • Programme Evaluation: National Student Survey, UK Engagement Survey • Module/Programme/Personal tutorials • Meetings with External Examiners • Meetings with Employers

Date of Programme Specification Production:	June 2017
Date Programme Specification was last updated:	
For further information about this programme, refer to the programme page on the College website	

Appendix 1

Apprenticeship delivery structure

Apprenticeship programmes are designed to be offered for part-time study with delivery at the College. However, as a Degree Apprenticeship, other types of flexible delivery may be required. Hence this specification distinguishes between:

1) The <u>Curriculum Map</u>, which consists of:

- the modules including the level, delivery mode (e.g. face to face or blended learning), and delivery activities (e.g. lectures, guided independent study);

- the designation of modules as core, compulsory, or optional

2) The <u>Programme Delivery Structure</u>, which consists of:

- the semester(s) in which each module is delivered

- the delivery method for each module (e.g. block release or day release)

- the method of assessment and indicative assessment deadline(s)

This programme can be made available in two modes of study:

a) <u>Standard Mode of Study:</u>

- the initial offer by the College: with the defined curriculum map and programme delivery structure

- flexible duration of 3, 4 or 5 years

- delivered part-time through a mix of day release and block release across all three semesters

- with a cohort open to all employers.

b) <u>Custom Mode of Study:</u>

- determined by negotiation with a particular employer or delivery partner: following the defined curriculum map, but with a bespoke programme delivery structure, not defined in this specification.

Appendix 2

Apprenticeship Standards to which the Curriculum Map refers

Link to Apprenticeship Standard and Assessment Plan for Nuclear Technician -
https://www.gov.uk/government/publications/apprenticeship-standard-nuclear-technician-approved-for-delivery