DIPLOMA GUIDE

Access to Higher Education

gateway qualifications

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Access to HE

Apprenticeships

Digital

Employability & Enterprise

English & Maths

ESOL

Personal & Social Development

Professional Development

Vocational

Access to HE Diploma (Medicine and Medical Services)

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About this Access to HE Diploma guide

This Access to Diploma specification is intended for Tutors, Assessors, Internal Quality Assurers, Quality Managers and other staff within Gateway Qualifications Access to HE approved providers/or prospective providers.

It sets out what is required of the student in order to achieve the Access to HE Diploma. It also contains information specific to managing and delivering the Access to HE Diploma (s) including specific quality assurance requirements.

The guide should be read in conjunction with the Gateway Qualifications Access to HE Provider Handbook and other publications available on the website which contain more detailed guidance on assessment and verification practice.

In order to offer this Access to HE Diploma you must be a Gateway Qualifications recognised centre and approved to offer Access to HE Diplomas.

If your centre is not yet recognised, or diploma approved, please contact our Development Team to discuss

Telephone: 01206 911211
Email: enquiries@gatewayqualifications.org.uk
Website: https://www.gatewayqualifications.org.uk/advice-guidance/delivering-our-qualifications/become-recognised-centre/

Contents

1. Diploma Information

1.1 Overview of the Access to Higher Education Diploma

The Access to Higher Education (HE) Diploma is a nationally recognised qualification with common requirements relating to the description of student achievement. The Diploma is:

- a level 3 qualification, regulated by the Quality Assurance Agency (QAA) for Higher Education
- a unitised qualification, based on units of assessment which are structured in accordance with the Access to HE unit specification
- a credit-based qualification, operated in accordance with the terms of the Access to HE credit specification
- a graded qualification, as determined by the Access to HE Grading Scheme.

Details of the credit framework and requirements relating to the award of credit are provided within the Quality Assurance Agency Recognition Scheme for Access to Higher Education: The Access to Higher Education Diploma specification 2013.

Individual named Diplomas are identified by separate titles and are validated at by Gateway Qualifications as an Access Validating Agency (AVA) recognised by the Quality Assurance Agency for Higher Education (QAA). Each Diploma has its own approved set of units of assessment, governed by rules of combination, which are appropriate to the subject of the particular Diploma. The common grading requirements apply to all individual Diplomas.

1.2 About this Diploma

The Diploma has a strong emphasis on both biology and chemistry and learners will have the opportunity to study both equally to give a balanced view of skills to enable progression to medicine based degree programmes. The mandatory group ensures that learners have a good understanding of fundamental principles of biology and chemistry and then learners can select from a range of optional units. All learners must complete a minimum of 15 credits overall in both biology and chemistry/physics which will ensure a strong science base to the diploma. Learners will also have to complete a mandatory statistical maths unit.

Learners must choose from a selection of mandatory and optional ungraded units to support underpinning skills.

1.3 Purpose

The primary purpose of Access to HE Diplomas is to provide higher education progression opportunities for adults who, because of social, education or individual circumstances, may have achieved few, if any, prior qualifications.

1.4 Aims

The qualification aims to:

- reintroduce students to education recognising prior skills and experience and the particular needs of those returning to learn
- offer students a responsive, supportive return to learn experience at a level appropriate for entry to HE
- develop the appropriate skills such as study skills that are necessary to enable students to succeed in their HE career
- address issues of widening participation and social inclusion
- raise student awareness of the opportunities that a return to study and lifelong learning can bring.

1.5 Objectives

The objective of the Diploma is to enable students to:

- satisfy the general academic requirements for entry to Higher Education
- prepare students for HE level study generally and in subject areas appropriate to an intended HE course destination
- demonstrate appropriate levels of competence in subject specific skills and knowledge
- demonstrate practical, transferable and academic skills
- develop their confidence and ability to cope with a return to education at an advanced level
- enhance personal and career opportunities
- develop as independent and lifelong learners.

1.6 Sector Subject Area

1.1 Medicine and Dentistry

1.7 Target groups

- Adults who, because of social, educational or individual circumstances may have achieved few, if any, prior qualifications and wish to progress to HE
- Adults who have gone straight into industry (perhaps following apprenticeship routes) who wish to progress to HE.

Learners who have followed these routes may need to refresh/develop skills in specific areas as well as learning more about subjects in which they have an interest. If the learner has gone straight into employment, they may not have studied at Level 3 and so this Access Diploma will help them to build on existing scientific skills and provide a good grounding for further academic study.

1.8 Delivery methods

Delivery methods for the Access to HE Diploma (Medicine and Medical Sciences) can include:

- Face to face
- Blended learning
- Work placements would also be beneficial and access to laboratories will be required to produce the evidence for some of the more practical based units.

It is advised that the Preparation for Higher Education unit is delivered early in the course to support the learner with their UCAS application as this will ensure there is sufficient time for their application to be completed in a timely manner.

Assessment Methods should include:

Written questions and answer, scientific reports, investigations, exam, risk assessment, projects, worksheets, case studies, annotated diagram, presentation, poster, self-reflection.

1.9 Achievement methodology

The Diploma will be awarded to learners who successfully achieve an approved combination of units through a Portfolio of Evidence that has been successfully verified and monitored through Gateway Qualifications' Quality Assurance process.

The qualification is therefore determined by successful achievement of all required unit assessments with no further requirement for additional/terminal assessment.

1.10 Geographical coverage

This qualification has been approved by for delivery in England.

1.11 Progression opportunities

Following successful completion of the Access to HE Diploma (Medicine and Medical Sciences) learners may progress to the following:

- BSc Medical Sciences
- BSc Applied Medical Sciences
- BSc Medical Biochemistry
- Biological Sciences BSc (Hons)
- Healthcare Science (Life Sciences) BSc (Hons)
- Healthcare Science (Cardiac Physiology) BSc Honours
- Biology BSc (Hons)
- Bioscience BSc (Hons)
- Chemistry BSc (Hons)
- Natural Sciences BSc (Hons)
- Bachelor of Medical Sciences with Hons Medicine
- MBChB Medicine
- BSc Biomedicine
- BSc Biomedical Science
- Healthcare Science (Cardiac Physiology) BSc Honours

The qualification does not provide guaranteed entry to UK higher education.

Learners will probably require a pass in a science subject alongside maths and English at GCSE level to progress onto a degree course.

Entry requirements to any medicine and medical science degree programme are very high – most universities would not even consider anyone who does not have a predominantly distinction grade profile; at some universities it is a requirement to have all 45 credits graded at distinction. This is a crucial point for any provider wishing to offer this diploma.

1.12 Equality, Diversity and Inclusion

It is Gateway Qualifications' aim that there shall be equal opportunities and so meet the organisation's legal responsibilities to prevent discrimination.

In accordance it is the organisation's intention that there should be no discrimination on the grounds of a protected characteristic including age, disability, gender assignment, marriage and civil partnership, pregnancy and maternity, race, religion and belief, sex, sexual orientation. It is acknowledged that this is not an exhaustive list.

2. Student Entry Requirements

2.1 Age

The course is designed to meet the needs of adults who have been out of full time education for a significant period of time and who have not achieved some or any formal qualifications. This generally would apply to learners over the age of 19.

2.2 Prior qualifications

There is no requirement for learners to have achieved prior qualifications or units prior to undertaking this qualification.

Learners will probably require a pass in a science subject alongside maths and English at GCSE level to progress onto a degree course.

2.3 Prior skills/knowledge/understanding

There is no requirement for learners to have prior skills, knowledge or understanding. However, students would be expected to be able to demonstrate the skills and ability to study at Level 3.

2.4 Access to qualifications for learners with disabilities or specific needs

Gateway Qualifications and recognised providers have a responsibility to ensure that the process of assessment is robust and fair and allows the learner to show what they know and can do without compromising the rigour of the assessment used to evidence the criteria.

Gateway Qualification has a duty to permit a reasonable adjustment where an assessment arrangement would disadvantage a student with a disability, medical condition or learning need.

The following adaptations are examples of what may be considered for the purposes of facilitating access, as long as they do not impact on any competence standards being tested:

- adapting assessment materials
- adaptation of the physical environment for access purposes
- adaptation to equipment
- assessment material in an enlarged format or Braille
- permitting readers, signers, scribe, prompter, practical assistant
- changing or adapting the assessment method
- extra time, e.g. assignment extensions
- transcript
- use of assistive software where the software does not influence the students' ability to demonstrate the skills, knowledge or understanding e.g. use of spellchecker in an English assessment

- using assistive technology
- use of CCTV, coloured overlays, low vision aids
- use of a different assessment location
- use of ICT/responses using electronic devices.

It is important to note that not all of the adjustments (as above) will be reasonable, permissible or practical in particular situations. The learner may not need, nor be allowed the same adjustment for all assessments.

Learners should be fully involved in any decisions about adjustments/adaptations. This will ensure that individual needs can be met, whilst still bearing in mind the specified assessment criteria for a particular qualification.

A reasonable adjustment for a particular learner may be unique to that individual and may not be included in the list of available access arrangements specified above.

Details on how to make adjustments for learners is set out in the Reasonable Adjustment and Special Considerations Policy and Procedures.

2.5 Additional requirements/guidance

Students must have a UK address (including BFO) to be registered on an Access to HE Diploma.

2.6 Recruiting learners with integrity

It is vital that providers recruit with integrity. Providers must ensure that learners have the correct information and advice on their selected qualification(s) and that the qualification(s) will meet their needs.

The recruitment process must include the provider undertaking the assessment of each potential student and making justifiable and professional judgements about the student's potential to successfully complete the assessment and achieve the qualification. Such an assessment must identify, where appropriate, the support that will be made available to the learner to facilitate access to the qualification.

3. Achieving the Access to HE Diploma

3.1 Qualification specification

The generic requirements for the Access to HE Diploma are that students must achieve a total of 60 credits of which 45 credits must be achieved at level 3 from graded units that are concerned with academic subject and the remaining 15 credits can be achieved at level 2 or level 3 from units which are ungraded. It is recommended you include no more than 6 ungraded 'academic subject content' credits. The ungraded credits can be mandatory or optional within the Diploma. The approved Rules of Combination for this qualification are detailed below.

Where there is a selection of optional units within the permitted rules of combination, the selection of units to be used to form the Diploma course must be made before the students are registered. Students must be registered with Gateway Qualifications within 12 weeks of the start of the course or before application to UCAS, whichever is soonest.

3.2 Rules of Combination

The structure sets out the units required to be achieved the Access to Diploma, comprising of:

- Graded Academic mandatory units – Level 3
- Graded Academic optional units - Level 3
- Graded Research units - Level 3
- Ungraded units – Level 2/3.

Learners must achieve a total of 60 credits and meet unit group requirements.

Learners must complete at total of 60 credits of which 45 credits must be achieved at level 3 from graded units which are concerned with academic subject content and the remaining 15 credits must be achieved at level 3 from units which are ungraded.

Learners must complete 27 Credits from the Mandatory Graded Units group, a maximum of 6 Credits must be taken from the Optional Graded Units: Research group, a minimum of 6 credits from the Optional Graded Units: Biology group, and a minimum of 6 credits must be taken from the Optional Graded units: Chemistry and Physics group.

The remaining 15 credits must be taken from the Ungraded group of which 9 credits from the Mandatory Ungraded group and 6 credits from the Optional Ungraded group.

Mandatory Units: Graded Academic Subject Content

Learners must achieve 27 credits from this group.

Unit Code	Unit Title	Level	Credits	Content	Grade Descriptors	Suggested Assessment Methods	Assessment Volume
QU025703	Chemical Principles: Particles and Forces	3	6	Academic	2, 3, 7	Exam Practical investigation Report Annotated diagram	1 hour closed book Investigation 1000 words 500 words
QU006301	Fundamental Chemistry	3	6	Academic	2,3,4,7	Investigation with report Exam	1500 words 1.5 hours open book
QU006307	Fundamental Concepts and Scientific Method in Biology	3	6	Academic	1, 2, 3, 4, 7	Practical investigations, scientific report including at least one graph, chart and table, worksheets	1250 word scientific report based on investigations, including at least one graph, chart and table, 750 words
QU006413	Human Anatomy and Physiology	3	6	Academic	2, 3, 7	Exam 3 x academic posters	1.5 hours open book 3 x 500 words
QU007442	Quantitative Methods - Statistics	3	3	Academic	3, 4, 5, 7	Exam (calculator) Exam (non-calculator)	2 x 60 minutes (one non-calculator)

Graded Units: Research

Learners must achieve 6 credits from this group.

Unit Code	Unit Title	Level	Credits	Content	Grade Descriptors	Suggested Assessment Methods	Assessment Volume
QU026073	Research: Extended Writing Project for Medicine and Medical Sciences	3	6	Academic	1, 2, 3, 4, 7	Practical investigations, scientific report including at least one graph, chart and table, worksheets	1250 word scientific report based on investigations, including at least one graph, chart and table, 750 words
QU026070	Research: Practical Investigation Project for Medicine and Medical Sciences	3	6	Academic	2, 3, 4, 6, 7	Risk assessment Project diary Project proposal Research review Report Evaluation	250 words 500 words 250 words 500 words 1250 words 250 words

Optional Graded Units: Biology

Learners must complete a minimum of 6 credits from this group.

Unit Code	Unit Title	Level	Credits	Content	Grade Descriptors	Suggested Assessment Methods	Assessment Volume
QU018205	An Introduction to Health and Disease	3	3	Academic	2,7	Case study Short answer questions Individual presentation	750 words 250 words 10 minutes
QU025366	Cells and Tissues	3	3	Academic	1,3,7	Practical Investigation Report to provide	1500 words

Unit Code	Unit Title	Level	Credits	Content	Grade Descriptors	Suggested Assessment Methods	Assessment Volume
						evidence of the microscope work	
QU006178	Circulation, Immunity and Homeostasis	3	3	Academic	2, 7	Exam	1.5 hours open book
QU006415	Human Body Systems: Circulation and Gaseous Exchange	3	3	Academic	2, 7	Worksheets Practical investigation Scientific report	500 words Investigation 750 words
QU017109	The Endocrine System	3	3	Academic	1, 2, 7	Worksheets Individual presentation Self evaluation	750 words 10 minutes 250 words
QU018996	Understanding Genetics	3	6	Academic	1, 2, 4, 5, 7	Exam Practical investigation Report	1.5 hours open book Practical investigation 500 word report

Optional Graded Units: Chemistry and Physics

Learners must complete a minimum of 6 credits from this group.

Unit Code	Unit Title	Level	Credits	Content	Grade Descriptors	Suggested Assessment Methods	Assessment Volume
QU006297	Experimental Techniques in Chemistry	3	3	Academic	3, 4, 7	Experiment and Scientific Report	1500 words
QU006383	Health Physics	3	6	Academic	2, 3, 7	Experiments Scientific report Case study	1500 words 750 words
QU006603	Introduction to Organic Chemistry	3	3	Academic	2, 3, 7	Investigation with scientific report Worksheets	1000 words 250 words

QU025706	Physical Science: Environmental Health and Medical Physics	3	3	Academic	1, 2, 7	Individual presentation Supporting materials Short answer questions	10 minutes 500 words 500 words
QU026260	Physics: Medical Applications for Radiography	3	6	G	1,2,7	A	Exam 2 x academic posters Individual presentation

Mandatory Units: Ungraded

Learners must achieve 9 credits from this group.

Unit Code	Unit Title	Level	Credits	Content	Suggested Assessment Methods	Assessment Volume
QU025276	Academic Writing Skills	3	3	Other	Notes from a range of sources Essay plan Essay	300 words 200 words 1000 words
QU013859	Mathematics for Science	3	3	Academic	Exam	1.5 hours open book
QU025532	Preparation for Higher Education	3	3	Other	Research, Application form and Personal Statement Prepared Q&A	Review of research, course and decision 500 words, application form, Personal Statement 750 words Prepared Q&A 250 words

Optional Units: Ungraded

Learners must achieve 6 credits from this group.

Unit Code	Unit Title	Level	Credits	Content	Suggested Assessment Methods	Assessment Volume
QU018346	Academic Reading Skills	3	3	Other	Exam	1.5 hours closed book
QU025278	Developing Professional Attributes	3	3	Other	SWOT analysis Professional development plan Essay	200 words 300 words 1000 words
QU025280	Optimising Examination Performance	3	3	Other	Examination Preparation, Examination, Reflective Journal	500 words 1-2 hour examination 800 words
QU010772	Practical Science Skills	3	3	Other	Investigation Report and reflection	Practical investigation with 750 word report and 250 word reflection
QU028487	Promoting Wellbeing and Building Resilience	3	3	Other	Report	1500 words
QU033854	Sustainability Project	3	3	Academic	Report, including project plan and reflection	1000 words
QU033880	The Fundamentals of Environmental Sustainability	3	3	Academic	Report	1500 words
QU017821	Work Placement	3	3	Other	Evaluation of Work Placement, Evaluation of Structure, Evaluation of Work Experience	1500 words in total

3.3 Additional completion requirements

Learners will probably require a pass in biology/science subject alongside maths and English at GCSE level to progress onto a degree course.

Delivery providers should make learners aware of HEI course entry requirements.

3.4 Recognition of Prior Learning

Recognition of prior learning is a process that considers if a learner can meet the specified assessment requirements through knowledge, understanding or skills that they already possess and that can contribute towards the attainment of a qualification for which they are undertaking.

For further information please refer Annex C, Access to HE Diploma Specification, https://www.accesstohe.ac.uk/AboutUs/Publications/Documents/Access-Diploma-Specification.pdf

4. Access to HE Units of Assessment

4.1 Unit specification

A common unit specification applies to all units with Access to HE Diplomas the unit specification follows a standard template covering the following elements:

- title
- level
- credit value
- unit code
- learning outcomes
- assessment criteria
- grade descriptors
- type of unit (academic subject content or not).

The units of assessment for the Access to HE Diploma (Medicine and Medical Sciences) are contained within this Access to HE Diploma Guide.

4.2 Academic subject content

A unit is classified as having academic subject content, if the unit's knowledge and skills are directly related to the subject of the name of the Access to HE Diploma. Units will not meet the academic subject content requirement if they are principally concerned with personal development, generic English or mathematics, or study skills.

4.3 Graded and ungraded units

Graded units – grading operates at unit level and only applies to units which have been approved by Gateway Qualifications within a named Access to HE Diploma. Student achievement for graded units is recorded as Pass, Merit or Distinction for each unit, as set out in the QAA Access to HE Grading Scheme, 2012. Graded units will also satisfy the criteria of academic subject content.

There is a common set of broad generic grade descriptors which are used as the basis for all grading judgements on all courses:

1 Understanding the subject
2 Application of knowledge
3 Application of skills
4 Use of knowledge
5 Communication and presentation
6 Autonomy / Independence
7 Quality.

The seven grade descriptors are not subject specific. They can, however, through careful selection and in appropriate combinations, be used on all courses, with all units and for all

assignments. The descriptors to be used with a particular unit are selected with reference to the main aspects of student performance that need to be taken into account when grading decisions are made for that unit. They are formally assigned to the unit when it is validated.

Each of the seven grade descriptors comprises two sets of components, one which describes characteristics or qualities typical of performance at merit, and a parallel set of components which describes typical performance in the same areas at distinction. (There are no components for pass, because a pass grade is gained when a student meets the learning outcomes but does not achieve the standard required for merit.) Some of these components are more relevant to certain subjects than others and some particular terms are also more relevant for use with particular types of assessment than others. In order to ensure the grade descriptors are relevant for specific assignments, tutors identify the components of the descriptors being used that are most relevant for the particular assignment. The selected components of the descriptors (at merit and distinction) are then included in the assignment brief(s).

The grading scheme is not based on an assumed one-to-one relationship between the grade descriptors and learning outcomes (although it is possible that in some units, because of the way the learning outcomes have been structured, something close to a one-to-one relationship may emerge). In general, however, judgements about student work in relation to grading apply across the work for a unit, whether that unit is assessed through one, or more than one, assignment.

The full Grade Descriptors can be accessed by the following link, which also provides detailed information on grading:

http://www.accesstohe.ac.uk/AboutUs/Publications/Documents/Access-Grading-Scheme-Section-B.pdf

4.4 Revisions to Access to HE Units of Assessment

Gateway Qualifications reserves the right to review and amend units of assessment and will issue providers notification of the changes to the units of assessment. Gateway Qualifications undertakes regular unit reviews to ensure currency of units, providers are required to use updated versions where units are replaced.

5. Assessment and Quality Assurance

5.1 Provider requirements

Providers must be approved by Qualifications as centre and are required to ensure that:

- the main base is in the UK
- systems are in place to ensure that only students with a UK address (including BFO) are registered for an Access to HE Diploma
- there are clear arrangements for the day-to-day operational management and coordination of Access to HE delivery.
- there are appropriate facilities and resources at each site, and for each mode of delivery
- staff have the professional competence and skills to teach and assess necessary to teach and assess the units available on the Diploma
- arrangements are in place to provide pre-course guidance to applicants and criteria for selection and admission to Access to HE Diplomas and are consistent with QAA requirements with respect to admissions. https://www.accesstohe.ac.uk/AboutUs/Publications/Documents/Guidance-admission-of-students-AHE-07.pdf.
- expertise and resources to provide information, advice and guidance on HE applications and progression opportunities.
- Systems for maintaining secure records of individual students' registration and achievement
- internal moderation arrangements that meet Gateway Qualification requirements.
- arrangements for internal course monitoring and self-evaluation and feedback
- procedures and criteria for the recognition of prior learning that meet Gateway Qualifications requirements.
- quality assurance procedures relating to the delivery of provision, including transparent processes for handling appeals and complaints.

Providers should refer to the Gateway Qualifications' Access to HE Provider Handbook for further information on centre requirements.

5.2 Staffing requirements

Providers are required to ensure that:

- staff have the professional competence and skills to teach and assess necessary to teach and assess the units available on the Diploma
- staff have expertise to provide information, advice and guidance on HE applications and progression opportunities.

5.3 Facilities and resources

The use of laboratory facilities is required for the delivery and provider approval of the Access to HE Diploma

5.4 Quality Assurance Requirements

Gateway Qualifications applies a quality assurance model to the Access to HE Diploma of:

- internal assessment and internal verification by the provider
- moderation by Gateway Qualifications comprising of centre moderation and subject moderation.

These processes are set out within Quality Assurance section of the Gateway Qualifications' Access to HE Provider Handbook.

5.5 Additional requirements/guidance

There are no additional requirements that Learners must satisfy in order for assessment to be undertaken and the unit/qualification to be awarded.

6. Unit Details

Mandatory Units: Graded Academic Subject Content

Access to HE Diploma Unit

Unit Code:	QU025703		
Title:	Chemical Principles: Particles and Forces		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD3-Application of skills • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Exam - 1 hour closed book Practical investigation - Investigation Report - 1000 words Annotated diagram - 500 words		

This unit has 6 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
1 Understand the structure of atoms, molecules and ions.	1.1 Explain the structure of the atom in terms of position, mass and charge of the particles using appropriate symbols to represent them. 1.2 Explain atomic and mass number, using them to determine the structure of the atom. 1.3 Describe the formation of ions. 1.4 Explain the existence of isotopes.
2 Understand the arrangement of electron in an atom and the distribution of elements in the Periodic Table.	2.1 Describe the electronic configuration of atoms in terms of s, p and d orbitals. 2.2 Describe the structure of the periodic table in terms of the properties of the elements and their electronic arrangements.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
3 Understand the nature of elements, compounds and mixtures.	3.1 Explain the nature of elements, compounds and mixtures.
4 Understand mass spectrometry.	4.1 Describe the structure and functions of main parts of a mass spectrometer. 4.2 Explain why atomic mass values may not be whole numbers. 4.3 Calculate relative atomic mass from mass spectra.
5 Understand bonding and intermolecular forces.	5.1 Explain ionic, covalent and metallic bonding. 5.2 Deduce shapes of simple molecules. 5.3 Describe van der Waals forces and hydrogen bonding. 5.4 Describe the effects of hydrogen bonding. 5.5 Explain physical properties in terms of structure and bonding.
6 Understand the mole concept and its application.	6.1 Convert masses in grams to moles using R.M.M. 6.2 Calculate reacting masses and volumes using the mole concept. 6.3 Use the mole concept to calculate empirical and molecular formulae. 6.4 Determine the formula of a compound by experiment.

Access to HE Diploma Unit

Unit Code:	QU006301		
Title:	Fundamental Chemistry		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD3-Application of skills • GD4-Use of information • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 6 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand chemical nomenclature both inorganic and organic.	1.1 Identify and explain chemicals from chemical formulae and structures.
2 Understand the techniques of chemical analysis.	2.1 Explain spectroscopy and chromatography in simple terms. 2.2 Explain different types of spectroscopy.
3 Understand how to balance chemical equations.	3.1 Explain chemical equations.
4 Understand basics of bonding.	4.1 Explain four main types of bonding and relate them to the position of the elements in the periodic table.
5 Understand how to use chemical equipment.	5.1 Explain a variety of equipment found in a chemistry lab. 5.2 Critically analyse the faults in an experiment and suggest ways of improvement.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
6 Understand how to relate chemistry to own life.	6.1 Explain chemistry in everyday situations such as the home or body. 6.2 Explain examples of applications of chemistry in everyday life.

Access to HE Diploma Unit

Unit Code:	QU006307		
Title:	Fundamental Concepts and Scientific Method in Biology		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD1-Understanding the subject • GD2-Application of knowledge • GD3-Application of skills • GD4-Use of information • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 6 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand scientific terminology.	1.1 Explain appropriate scientific terminology accurately.
2 Understand a range of biological processes.	2.1 Explain diffusion and osmosis with reference to a range of examples. 2.2 Analyse the importance of surface area to volume ratio in biology using appropriate examples. 2.3 Explain the concept of negative feedback in biology using two examples.
3 Understand the concept of units and scales in biology.	3.1 Differentiate the scale of measurement in various biological structures. 3.2 Measure, reform and calculate magnifications and sizes from diagrams and micrographs. 3.3 Diagnose various units of measurement and express them in different ways.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
4 Know how to tabulate plot and interpret data.	4.1 Apply data in fully labelled tables manually and using basic excel functions. 4.2 Develop graphs from tabulated data both manually and using excel. 4.3 Calculate and explain the importance of rates of change.
5 Understand scientific reporting.	5.1 Demonstrate how to record methods and results clearly. 5.2 Interpret and explain results. 5.3 Evaluate work (discuss limitations of method, suggest improvements and further experiments).
6 Be able to use a range of apparatus in biological investigations.	6.1 Prepare specimens for and use a light microscope on high power to produce accurate scaled drawings. 6.2 Demonstrate use of specialised apparatus competently to gain comprehensive data in an experiment. 6.3 Demonstrate use of common lab apparatus safely and competently in a range of situations.

Access to HE Diploma Unit

Unit Code:	QU006413		
Title:	Human Anatomy and Physiology		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD3-Application of skills • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 6 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand the structure of the heart and circulatory system.	1.1 Compare the main components of the blood. 1.2 Analyse and determine the basic anatomy of the heart. 1.3 Explain the anatomy of arteries, veins and capillaries. 1.4 Explain the circulatory system with reference to the main blood vessels.
2 Understand the functioning of the digestive system	2.1 Analyse the gross anatomy of the digestive system. 2.2 Define, explain and differentiate the overall function of each region. 2.3 Analyse the different types of enzymes found in the digestive system. 2.4 Investigate and analyse one example of enzyme action experimentally.
3 Understand the structure and functioning of the skeleton.	3.1 Identify and analyse the main regions of the skeleton - axial appendicular ribcage, girdles and limbs (only a few common bone names should be introduced)

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
	3.2 Describe, differentiate and analyse the nature of position of the various joints. 3.3 Discuss and evaluate the movement brought about at joints e.g. forearm.
4 Understand the gross structure of the male and female reproductive system.	4.1 Contrast and explain the main regions of the male and female reproductive system. 4.2 Analyse the function of each region identified.
5 Understand the structure and function of the respiratory system.	5.1 Describe the gross and microscopic structure of the respiratory system. 5.2 Describe breathing in terms of changes in volume and pressure. 5.3 Identify the adaptations of the gas exchange surface.
6 Understand the role of the kidney in excretion.	6.1 Describe the process involved in the formation of urine in the kidney. 6.2 Explain the role of ADH in the process of osmoregulation.

Access to HE Diploma Unit

Unit Code:	QU007442		
Title:	Quantitative Methods - Statistics		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD3-Application of skills • GD4-Use of information • GD5-Communication and presentation • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 5 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Be able to organise and present data.	1.1 Identify data as qualitative, quantitative, discrete or continuous. 1.2 Select the dominant features of data and suggest plausible interpretations. 1.3 Construct suitable charts and diagrams including histograms and line graphs with suitable scales, state the advantages and disadvantages of a wide range of diagrams.
2 Know how to calculate and use averages.	2.1 Calculate the mean, median and mode of grouped data. 2.2 Choose an appropriate average and justify the choice (e.g. Exam marks - mean; Exam grades - median; qualitative data - mode.
3 Know how to calculate and use measures of spread.	3.1 Calculate standard deviation of raw data and grouped data. 3.2 Use mean and standard deviation to compare different data sets.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
4 Be able to use bivariate data.	4.1 Calculate a coefficient of correlation (e.g. Spearman or Product moment). 4.2 Make statements about the possible causal relationship between variables with strong correlation.
5 Be able to calculate probability.	5.1 Calculate the probability of combined events. 5.2 Construct tree diagrams and use them to solve problems involving combined events. 5.3 Identify events which are independent or mutually exclusive.

Optional Graded Units: Research

Access to HE Diploma Unit

Unit Code:	QU026070		
Title:	Research: Practical Investigation Project for Medicine and Medical Sciences		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD3-Application of skills • GD4-Use of information • GD6-Autonomy/Independence • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Risk assessment ~ 250 words Project diary ~ 500 words Project proposal ~ 250 words Research review ~ 500 words Report ~ 1250 words Evaluation ~ 250 words		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
1 Be able to plan a practical investigation project.	1.1 Identify and agree a practical investigation project, located within a knowledge domain relevant to the named Diploma. 1.2 Produce a hypothesis and clear aims for the investigation project. 1.3 Identify any ethical, practical or safety issues and how these will be managed/overcome. 1.4 Produce a risk assessment. 1.5 Maintain a record of project progress through all stages of research, development and completion.
2 Be able to undertake a practical investigation.	2.1 Carry out research from a wide range of sources.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
	2.2 Develop an appropriate investigation. 2.3 Identify the variables and explain how they can be controlled, where necessary. 2.4 Carry out the investigation safely, using appropriate practical skills and techniques. 2.5 Analyse the results of the investigation with reference to relevant theory.
3 Know how to present the project.	3.1 Present the body of work in a style appropriate to the knowledge domain with clear conclusions. 3.2 Use appropriate technical terminology fluently. 3.3 Reference all findings using a recommended style of referencing.
4 Be able to evaluate own research project.	4.1 Reflect on the design and methodology of the project. 4.2 Evaluate the body of work in relation to aims and hypothesis. 4.3 Identify recommendations for the future.

Access to HE Diploma Unit

Unit Code:	QU026073		
Title:	Research: Extended Writing Project for Medicine and Medical Sciences		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD1-Understanding the subject • GD2-Application of knowledge • GD3-Application of skills • GD4-Use of information • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Practical investigations ~ 1250 word scientific report based on investigations, including at least one graph, chart and table Worksheets ~ 750 words		

This unit has 5 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Be able to plan an extended writing project.	1.1 Identify and agree an extended writing project located within a knowledge domain relevant to the named Diploma. 1.2 Develop a project brief. 1.3 Identify any ethical, practical or safety issues, explaining how these will be managed/overcome. 1.4 Maintain a record of project progress through all stages of research, development and completion.
2 Be able to conduct research.	2.1 Identify and conduct in-depth research from a wide range of sources.
3 Be able to develop ideas.	3.1 Select appropriate information and/or evidence. 3.2 Analyse findings and develop ideas.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
	3.3 Produce a body of work which meets the brief and includes complex ideas.
4 Be able to present the project.	4.1 Write coherently in a conventional style, appropriate to the knowledge domain. 4.2 Reference all sources using a recommended style of referencing.
5 Be able to evaluate own writing project.	5.1 Evaluate own writing in relation to project brief. 5.2 Identify recommendations for the future.

Optional Graded Units: Biology

Access to HE Diploma Unit

Unit Code:	QU018205		
Title:	An Introduction to Health and Disease		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand different concepts of health.	1.1 Explain different definitions of health.
2 Understand the causes of disease	2.1 Summarise the difference between communicable and non-communicable diseases. 2.2 Explain some biological causes of non-communicable diseases.
3 Understand the causes of health care associated infections.	3.1 Explain how and why healthcare associated infections such as MRSA and Clostridium Difficile occur.
4. Understand how healthcare associated infections are prevented and controlled.	4.1 Analyse the infection control measures which should be followed in cases of healthcare associated infections.

Access to HE Diploma Unit

Unit Code:	QU025366		
Title:	Cells and Tissues		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD1-Understanding the subject • GD3-Application of skills • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Practical Investigation Report to provide evidence of the microscope work, 1500 words		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Be able to use and care for a light microscope.	1.1 Use a light microscope to produce a non-permanent microscope slide, explaining how this is done in accordance with good practice. 1.2 Identify cell components and structures in a named tissue as seen under a light microscope. 1.3 Show on a scale drawing the sizes of three organelles (in micrometres).
2 Understand the structure and function of cell components as seen in electron micrographs.	2.1 Describe the main cell organelles. 2.2 Explain the function of each of the main organelles.
3 Understand the methods of exchange between the cell and its environment.	3.1 Explain the function of the plasma membranes. 3.2 Explain the main methods of transport across a plasma membrane.
4 Understand the structure and function of human epithelial, muscle, connective and nerve tissue.	4.1 Explain what is meant by a tissue. 4.2 Describe the structural characteristics of the main tissue types. 4.3 Explain the general functions of the main tissue types.

Access to HE Diploma Unit

Unit Code:	QU006178		
Title:	Circulation, Immunity and Homeostasis		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand the different types of tissues within the human body.	1.1 Differentiate between epithelial, connective, muscle and nervous tissue and relate their structure to function.
2 Understand how the human circulatory system functions and how it may be affected by degenerative conditions.	2.1 Explain how the structure of blood, the heart and blood vessels relates to their function in transport and metabolic exchange. 2.2 Explain risk factors associated with coronary heart disease.
3 Understand how the human immune system functions.	3.1 Explain how the major components of the immune system function and their significance in the immune response. 3.2 Explain the differences between passive, active and acquired immunity.
4 Understand the concept of homeostasis within the human body.	4.1 Explain what homeostasis entails and explain how it is achieved with reference to suitable homeostatic mechanisms of the body.

Access to HE Diploma Unit

Unit Code:	QU006415		
Title:	Human Body Systems - Circulation and Gaseous Exchange		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 3 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand the structure and function of the circulatory system.	1.1 Describe the structure of the heart and circulatory system in mammals. 1.2 Describe and explain a cardiac cycle. 1.3 Explain the control of the heartbeat. 1.4 Explain the transport of oxygen and carbon dioxide in the blood.
2 Understand the structure and function of the respiratory system.	2.1 Describe and explain the structures of the respiratory system. 2.2 Describe and explain diffusion and the mechanism of gaseous exchange. 2.3 Describe and explain the properties of the respiratory surface including an analysis of the importance of surface area to volume ratio.
3 Understand how to complete a scientific investigation on heart and breathing rate.	3.1 Describe in detail a safe method and present reliable results from an investigation on heart and breathing rate. 3.2 Analyse findings by producing a scientific report which utilises the results of the scientific investigation.

Access to HE Diploma Unit

Unit Code:	QU017109		
Title:	The Endocrine System		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD1-Understanding the subject • GD2-Application of knowledge • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 5 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Know the structure of the endocrine system.	1.1 Describe the positions of the main endocrine organs of the body.
2 Know the main features of hormone action.	2.1 Explain the difference in action between two main classes of hormones. 2.2 Compare and contrast the action of hormones with neurones.
3 Understand the action of the pituitary gland.	3.1 Explain how the pituitary gland regulates other glands. 3.2 Describe the link between the pituitary and the nervous system.
4 Understand the action of the adrenal gland.	4.1 Explain the circumstances under which adrenaline is produced. 4.2 Describe some of the hormones of the adrenal gland and their effects. 4.3 Describe the role the adrenal gland plays in maintaining homeostasis.
5 Understand the role of hormones in the control of blood sugar levels.	5.1 Explain the role of insulin and glucagon in the control of blood glucose.

Access to HE Diploma Unit

Unit Code:	QU018996		
Title:	Understanding Genetics		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD1-Understanding the subject • GD2-Application of knowledge • GD4-Use of information • GD5-Communication and presentation • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Exam ~ 1.5 hours open book Practical investigation and 500 word report		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand the processes and importance of mitosis and meiosis.	1.1 Explain the stages of mitosis and meiosis. 1.2 Explain the significance of the differences between mitosis and meiosis.
2 Understand the composition, structure and role of nucleic acids in the replication of DNA and the process of protein synthesis.	2.1 Explain the structure and method of replication of DNA. 2.2 Explain protein synthesis.
3 Understand the genetic basis of inheritance.	3.1 Analyse how genetic problems involving monohybrid, co-dominant and sex linked inheritance may be solved. 3.2 Discuss specific examples of chromosome mutations, explaining their significance.
4 Know the process of DNA extraction.	4.1 Explain the stages involved in extracting DNA from cells. 4.2 Analyse why it might be necessary to extract DNA.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
	4.3 Perform DNA extraction from cells safely and competently.

Optional Graded Units: Chemistry and Physics

Access to HE Diploma Unit

Unit Code:	QU006297		
Title:	Experimental Techniques in Chemistry		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD3-Application of skills • GD4-Use of information • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 3 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand how to plan experiments.	1.1 Analyse the requirements of an experiment to test a hypothesis. 1.2 Develop and plan an experiment keeping in mind the need for safe working practices to be followed.
2 Understand how to obtain reliable evidence.	2.1 Demonstrate how to take accurate readings with appropriate techniques. 2.2 Evaluate associated experimental errors. 2.3 Explain all measurements and relevant observations.
3 Understand how to process and present data.	3.1 Analyse results, constructing appropriate charts or graphs. 3.2 Evaluate results to draw appropriate conclusions. 3.3 Summarise investigations in an appropriate scientific format.

Access to HE Diploma Unit

Unit Code:	QU006383		
Title:	Health Physics		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD3-Application of skills • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 5 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand methods used to image the human body for medical diagnosis.	1.1 Explain the principles of imaging using a range of imaging techniques. 1.2 Summarise and evaluate the advantages and disadvantages of the imaging methods. 1.3 Carry out a simple experiment modelling the behaviour of X-rays using light. 1.4 Write a scientific report of the experiment.
2 Understand methods of medical treatment using ionising radiation, ultrasound and lasers.	2.1 Explain the use of ionising radiation, ultrasound and lasers in medical treatments.
3 Understand the hazards to staff and patients associated with medical imaging technologies.	3.1 Describe and quantify the effects of ionising radiation on tissues and organs. 3.2 Explain the effect of laser light on living tissues. 3.3 Explain the hazards of the strong magnetic fields in the vicinity of an MRI scanner.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
4 Understand safety procedures and equipment used to monitor and reduce the hazards from ionising radiation and laser light.	4.1 Describe and evaluate methods of measuring the radiation dose received by medical staff and patients. 4.2 Describe and evaluate equipment and procedures used to minimise the hazards from radiation and lasers in hospitals.
5 Recognise the benefits of modern imaging techniques in treating injuries and diseases.	5.1 Describe and evaluate the use of a given modern imaging technique in a given treatment.

Access to HE Diploma Unit

Unit Code:	QU006603		
Title:	Introduction to Organic Chemistry		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD2-Application of knowledge • GD3-Application of skills • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 3 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand the importance of carbon chemistry	1.1 Explain the tetravalent bonding of carbon and its ability to bond with itself and other elements.
2 Understand how to use the accepted conventions of representing organic compounds.	2.1 Draw structural formulae. 2.2 Identify and explain simple molecules using the IUPAC system. 2.3 Explain the types of isomerism (skeletal, positional geometric and optical).
3 Understand how to classify organic compounds in homologous series.	3.1 Define and explain homologous series and conduct associated experiments. 3.2 Recognise and explain general formulae of alkanes. 3.3 Identify and explain functional groups and investigate two examples experimentally.

Access to HE Diploma Unit

Unit Code:	QU025706		
Title:	Physical Science - Environmental Health and Medical Physics		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Graded		
Grade descriptors:	• GD1-Understanding the subject • GD2-Application of knowledge • GD7-Quality		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 3 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand infection and infection control in the human.	1.1 Discuss the main categories of micro-organisms. 1.2 Discuss the routes of entry of micro-organisms and their effects in the body. 1.3 Explain the differences between pathogenic organisms and commensal organisms. 1.4 Discuss the principles of infection control.
2 Understand environmental health and environmental pollution.	2.1 Explain the main principles of environmental health. 2.2 Discuss the main causes and effects of environmental pollution. 2.3 Discuss the main aspects of the HASAW and COSHH acts.
3 Understand the electromagnetic spectrum and radiation.	3.1 Explain the electromagnetic spectrum and its parts. 3.2 Explain x-rays and alpha, beta and gamma radiation. 3.3 Discuss the commercial and medical uses of radiation.

Access to HE Diploma Unit

Unit Code:	QU026260		
Title:	Physics: Medical Applications for Radiography		
Unit Level:	Level 3	**Unit Credit:**	6
Grading type:	Graded		
Grade descriptors:	• GD1-Understanding the subject • GD2-Application of knowledge • GD7-Quality		
Academic subject content/other:	Academic subject content		
Suggested assessment details:	Exam 1.5 hours closed book, 2 x academic posters (500 words each), 10 minute individual presentation		

This unit has 6 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand heat transfers.	1.1 Distinguish between conduction, convection and radiation.
2 Understand waves used in radiography.	2.1 Define amplitude, wavelength and frequency. 2.2 Evaluate the use of ultrasound in medicine.
3 Understand the electromagnetic spectrum and radiation.	3.1 Explain the properties of the seven basic types of electromagnetic waves.
4 Understand the difference between ionising and non-ionising radiation.	4.1 Distinguish between the properties of alpha, beta and gamma radiation. 4.2 Analyse activity-time graphs. 4.3 Discuss the use of radiation in medicine.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
5 Understand the difference between diagnostic and therapeutic approaches to radiography.	5.1 Analyse the differences between diagnostic and therapeutic approaches to radiography.
6 Understand how x-rays work.	6.1 Explain how x-rays are produced. 6.2 Explain the effects of radiation on living tissue.

Mandatory Units: Ungraded

Access to HE Diploma Unit

Unit Code:	QU025276		
Title:	Academic Writing Skills		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Other		
Suggested assessment details:	Notes from a range of sources ~ 300 words Essay plan ~ 200 words Essay ~ 1,000 words		

This unit has 5 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Be able to record information from a range of sources.	1.1 Use note-taking skills to prioritise key points from a range of sources.
2 Be able to plan and develop a structured framework for extended writing, including an introduction, main body and conclusion.	2.1 Develop a detailed essay plan for an extended piece of writing, which organises meaning and ideas coherently and effectively. 2.2 Include detailed planning for an introduction, main body and conclusion to the essay.
3 Be able to proofread and edit own writing effectively.	3.1 Produce an essay draft which shows evidence of proofreading and editing.
4 Be able to present information and opinion in a written format, using language, style and conventions appropriate to academic writing.	4.1 Communicate with clarity and detail to convey meaning and ideas effectively. 4.2 Write following conventions of sentence structure, punctuation, paragraphing, spelling and grammar.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
	4.3 Use appropriate style and register which shows an awareness of audience.
5 Be able to understand and use a standard form of referencing.	5.1 Use accurately a standard form of referencing that reflects a range of sources.

Access to HE Diploma Unit

Unit Code:	QU013859		
Title:	Mathematics for Science		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Academic		
Suggested assessment details:	Exam - 1.5 hours open book		

This unit has 5 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1. Understand how to perform calculations with integers, decimals and fractions.	1.1 Make calculations involving integers, decimals and fractions with or without a calculator. 1.2 Give answers to calculations correct to a specified number of decimal places or significant figures. Using accuracy appropriate to the nature of the data.
2. Understand how to perform calculations with percentages.	2.1 With and without a calculator, convert between percentages, decimals and fractions. 2.2 Express one quantity as a percentage of another. 2.3 Find a percentage of a quantity. 2.4 Calculate percentage increase and decrease; direct and inverse problems.
3. Understand how to use standard form, indices and roots.	3.1 Make conversions between ordinary numbers and standard form. 3.2 Use the exponential key and interpret calculator displays. 3.3 Make calculations involving indices and roots. 3.4 Apply index laws to simplify expressions involving powers and roots.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
4. Understand how to evaluate formulae.	4.1 Evaluate formulae by substitution using the full range of functions on a scientific calculator.
5. Understand how to calculate area and volume.	5.1 Calculate the surface area of plane geometric figures and the volume of complex geometric figures.

Access to HE Diploma Unit

Unit Code:	QU025532		
Title:	Preparation for Higher Education		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Other		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand how to identify opportunities for Higher Education.	1.1 Use information sources to research Higher Education courses. 1.2 Analyse processes and procedures necessary to gain entry to Higher Education. 1.3 Analyse information on Higher Education courses and make appropriate realistic choices.
2 Understand the process of completing a Higher Education application form.	2.1 Complete an application form with excellent attention to detail, meeting a given deadline. 2.2 Summarise and evaluate personal experiences, achievement and goals, communicating these clearly in a personal statement.
3 Understand preparation required for the interview process.	3.1 Conduct further personal research into courses at relevant institutions in preparation for an interview. 3.2 Prepare provisional answers to anticipated questions, making excellent use of previous experience and recent study.
4 Understand the need to prepare for the transition to Higher Education.	4.1 Analyse the personal and academic qualities needed for successful study in Higher Education.

LEARNING OUTCOMES	ASSESSMENT CRITERIA
The learner will:	**The learner can:**
	4.2 Explain likely practical problems and barriers in moving to higher education and seek strategies for overcoming these. 4.3 Analyse the nature of study in Higher Education.

Optional Units: Ungraded

Access to HE Diploma Unit

Unit Code:	QU018346		
Title:	Academic Reading Skills		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Other		
Suggested assessment details:	Exam ~ 1.5 hour closed book		

This unit has 3 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Be able to demonstrate the use of different reading techniques.	1.1 Annotate text after using skimming, scanning and active reading techniques. 1.2 Summarise text after using skimming, scanning and active reading techniques.
2 Explain, with examples, how language used in texts can reveal assumptions and prejudice.	2.1 Identify and explain instances of opinion and bias in text. 2.2 Analyse the use of objective and emotive language in a text.
3 Demonstrate how to apply critical reading techniques to texts.	3.1 Analyse the strengths and weaknesses of an argument from at least two texts. 3.2 Critically evaluate an argument.

Access to HE Diploma Unit

Unit Code:	QU025278		
Title:	Developing Professional Attributes		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Other		
Suggested assessment details:	SWOT analysis ~ 200 words Professional development plan ~ 300 words Essay ~ 1,000 words		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Understand the difference between positive and negative professional attributes.	1.1 Evaluate both positive and negative professional attributes. 1.2 Link positive attributes to the role of a professional.
2 Be able to reflect on own professional attributes and areas for development.	2.1 Produce SWOT analysis of own professional attributes. 2.2 Evaluate SWOT analysis. 2.3 Produce an individual professional development plan linked to the SWOT analysis.
3 Understand which attributes are considered important by employers in a specific sector and are valued in the workplace.	3.1 Analyse which professional attributes are valued highly by employers within a specific sector. 3.2 Analyse why these professional attributes are important in a sector specific workplace.
4 Understand the link between professional attributes and emotional intelligence.	4.1 Analyse the links between professional attributes and emotional intelligence.

Access to HE Diploma Unit

Unit Code:	QU025280		
Title:	Optimising Examination Performance		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Be able to effectively prepare for an examination.	1.1 Produce an effective and realistic preparation plan. 1.2 Identify priorities in the preparation plan. 1.3 Reflect on the plan's effectiveness to identify future improvements.
2 Be able to complete competent answers, which demonstrate subject knowledge.	2.1 Follow all instructions accurately to complete the correct number and combination of questions. 2.2 Include the salient aspects in answers, with the accuracy and detail required by the subject. 2.3 Show in answers an in-depth understanding of the issues / arguments/problems, as required by the subject. 2.4 Apply knowledge or learning coherently in support of arguments and/or to resolve problems.
3 Understand how to minimise common examination pitfalls.	3.1 Identify common pitfalls in examination performance. 3.2 Evaluate potential strategies to avoid examination pitfalls.
4 Know how to minimise stress to enhance examination performance.	4.1 Recognise own stressors. 4.2 Develop strategies to minimise own stressors.

Access to HE Diploma Unit

Unit Code:	QU010772		
Title:	Practical Science Skills		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Academic Subject Content		
Suggested assessment details:	Refer to Assessment Grid		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Be able to use a range of general laboratory equipment.	1.1 Demonstrate how to use equipment safely and effectively within a laboratory.
2 Be able to use specialised equipment in a laboratory.	2.1 Demonstrate how to carry out a scientific procedure with accuracy.
3 Know how to work with appropriate regard for safety.	3.1 Demonstrate how to carry out practical science work in a safe manner. 3.2 Assess the possible safety issues relating to a practical scientific procedure.
3 Know how to work with appropriate regard for safety.	3.1 Demonstrate how to carry out practical science work in a safe manner. 3.2 Assess the possible safety issues relating to a practical scientific procedure.

Access to HE Diploma Unit

Unit Code:	QU028487		
Title:	Promoting Wellbeing and Building Resilience		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Other		
Suggested assessment details:	Report ~ 1500 words		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1. Understand the physical and psychological impact of pressure and stress on mental wellbeing.	1.1 Explain the physical and psychological impact of pressure and stress on mental wellbeing.
2. Understand the connection between mental wellbeing and resilience.	2.1 Analyse the connection between mental wellbeing and resilience.
3. Understand the factors that can improve wellbeing and build resilience.	3.1 Explain factors that can improve wellbeing. 3.2 Explain factors that can negatively affect wellbeing and how to avoid them. 3.3 Explain the behaviours associated with resilience. 3.4 Explain ways to build resilience.
4. Understand how to manage an individual's mental wellbeing and the support available to them.	4.1 Evaluate the methods for managing and maintaining mental wellbeing and building resilience. To include practical and theoretical methods such as breathing exercises to reduce stress, mindfulness techniques. 4.2 Analyse the types of support available from different sources.

Access to HE Diploma Unit

Title:	Sustainability Project		
Unit Code:	QU033854		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Academic subject content		
Suggested Assessment details:	Report, including project plan and reflection – 1,000 words		

This unit has 3 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1. Be able to plan a project to promote sustainability within a specific sector.	1.1 Identify a project to promote sustainability within a chosen sector, justifying your choice. 1.2 Produce a project plan for own project including: • Aims and objectives • Time scales • Methods • Resources required • Any health and safety considerations.
2. Be able to carry out a sustainability project.	2.1 Carry out a sustainability project. 2.2 Produce a report on the findings of the sustainability project.
3. Be able to review the success of a sustainability project.	3.1 Evaluate the extent to which the project has met the aim and objectives. 3.2 Evaluate the extent to which the project has met the aim and objectives.

Access to HE Diploma Unit

Title:	The Fundamentals of Environmental Sustainability		
Unit Code:	QU033880		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Academic subject content		
Suggested Assessment details:	Report – 1500 words		

This unit has 4 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1. Know the importance of sustainability within a specific sector.	1.1 Explain what is meant by sustainability. 1.2 Explain the importance of supporting environmental sustainability within a chosen sector.
2. Know how environmental sustainability can be supported within the chosen sector.	2.1 Describe environmental issues relevant to a chosen sector. 2.2 Describe the impact of the chosen sector on the environment. 2.3 Explain how these environmental issues could be minimised within a chosen sector. 2.4 Analyse factors to consider when working towards environmental sustainability in a chosen sector.
3. Know how the 3 Rs of sustainability can be applied within the chosen sector.	3.1 Explain the 3 Rs of sustainability. 3.2 Analyse ways that a chosen sector can implement the 3 Rs of sustainability.
4. Understand the importance of waste management within the chosen sector.	4.1 Explain the importance of having a waste management strategy within a chosen sector. 4.2 Explain environmental hazards or risks that could be caused by poor waste management within a chosen sector.

Access to HE Diploma Unit

Unit Code:	QU025609		
Title:	Work Placement		
Unit Level:	Level 3	**Unit Credit:**	3
Grading type:	Ungraded		
Academic subject content/other:	Other		
Suggested assessment details:	Evaluation of Work Placement, Evaluation of Structure, Evaluation of Work Experience ~ 1500 words in total		

This unit has 3 learning outcomes.

LEARNING OUTCOMES	**ASSESSMENT CRITERIA**
The learner will:	**The learner can:**
1 Be able to analyse own work placement role within a work setting.	1.1 Evaluate own work placement role within the work setting.
2 Understand the structure of the wider organisation.	2.1 Analyse the structure of the wider organisation.
3 Be able to demonstrate how work experience relates to own course of study.	3.1 Evaluate how work experience relates to own course of study. 3.2 Reflect on self-development over the period of the placement.

7. What to do next

For existing centres please contact your named Development Manager or Development Officer.

For organisations, not yet registered as a Gateway Qualifications centre please contact:

Tel: 01206 911211

Email: enquiries@gatewayqualifications.org.uk

8. Gateway Qualifications

Gateway Qualifications, a not for profit registered charity, is an Awarding Organisation and authorised Access Validating Agency based in Colchester.
We work with learning providers and industry experts to design and develop qualifications that benefit the learner and the employer.

We support flexible, responsive and quality assured learning opportunities whether it's in the classroom, at work, in the community or through distance learning.

We are recognised by Ofqual, to design, develop and submit qualifications to the Regulated Qualifications Framework (RQF) and by the Quality Assurance Agency for the development and approval of Access to Higher Education Diplomas.

gateway qualifications

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