

Access to Higher Education Diploma

Subject Descriptor for Medicine

September 2021

Preface

This document defines the minimum requirement of content for a Diploma that is designed and publicly claims to provide the preparation needed for progression to undergraduate study in Medicine.

It is one of a set of documents that collectively make up the QAA Recognition Scheme for Access to Higher Education (the Recognition Scheme). The other documents include the Access to HE Grading Scheme and the AVA licensing criteria.¹ Together they specify the key regulatory and quality assurance mechanisms through which standards are established and maintained in the Access to HE Diploma.

Access to HE Diplomas are developed and awarded by Access Validating Agencies (AVAs) in accordance with the requirements of the Recognition Scheme.

All Diplomas with the title Access to HE Diploma (Medicine) must be developed, delivered, assessed and awarded in accordance with the subject descriptor for Medicine.

This Diploma may be subject to additional monitoring activities, which can include a spot check on the content of the Diploma and its marketing by the provider.

Section 1: Introduction

1 The Access to HE Diploma

The Access to HE Diploma is a qualification regulated by the Quality Assurance Agency for Higher Education (QAA). It is an academic, credit-based qualification, comprising units of assessment expressed as learning outcomes and assessment criteria. The credit requirement for the achievement of any Access to HE Diploma is 60 credits, with 45 of these credits coming from units which are concerned with academic subject content at Level 3 and graded; the remaining 15 credits come from ungraded Level 2 or Level 3 units.²

The awarding bodies for the Access to HE Diploma are known as Access Validating Agencies (AVAs).³ While all Diplomas must comply with the structural requirements of the Diploma specification, there is flexibility within these requirements for AVAs to approve Diplomas which are structured in different ways and with a different range of content.

The purpose of the Diploma is to provide academic preparation for higher education study for adults who, because of social, educational or individual circumstances may have achieved few, if any, prior qualifications. Access to HE courses are particularly targeted at socially disadvantaged groups that are underrepresented in higher education. This academic preparation takes the form of academic knowledge and understanding in one or more subjects and the academic skills needed to undertake and succeed in study at higher education level.

¹ These documents are published on the QAA website: www.qaa.ac.uk/access-to-he/access-to-he-resources

² For full details of Diploma structures and how Diplomas are graded, see the Access to HE Diploma Specification 2013 and Grading Scheme Handbook: www.qaa.ac.uk/access-to-he/access-to-he-resources

³ The way in which AVAs operate is regulated by QAA through the Access to HE Recognition Scheme: www.qaa.ac.uk/access-to-he/regulation-and-licensing

For a full list of current AVAs: www.qaa.ac.uk/access-to-he/regulation-and-licensing/avas/ava-profiles

2 Aim

The aim of the subject descriptor is to bring greater standardisation to Diplomas titled Access to HE Diploma (Medicine). This will allow the medical schools currently accepting Access to HE students for direct entry to have greater confidence that an unfamiliar Diploma will be very similar in selection, content and assessment to those that they currently accept. It may also encourage those medical schools not currently accepting Access to HE students to review their admissions policies based on a clear definition of an Access to HE Diploma (Medicine) student.

3 Purpose of the subject descriptor for Medicine

The purpose of the subject descriptor for Medicine is to define the minimum requirement of content for a Diploma titled Access to HE (Medicine). The subject descriptor provides information regarding the expected and recommended areas of study for progression into Medicine but also allows AVAs and providers a degree of flexibility.

The subject descriptor for Medicine should also provide higher education admissions staff with confidence that a student achieving such a Diploma has covered the specified content, although it does not guarantee that a student who achieves such a Diploma will gain entry to a higher education course; other requirements for entry to undergraduate courses may be required by higher education providers.

The subject descriptor also includes recommendations for:

- the delivery and assessment of this Diploma
- the potential selection requirements (beyond qualifications) and the desired attributes of applicants.

4 How to use this descriptor

The subject descriptor for Medicine must also meet all the requirements of the [Access to HE Diploma Specification](#) and the [Access to HE Grading Scheme Handbook](#).

Section 2: Framework for the subject descriptor for Medicine

5 Content of subject descriptor

The content of the descriptor was determined with reference to the following principles:

- It should specify the minimum content requirements for the adequate preparation of Access to HE students for progression to, and success in, an undergraduate course in Medicine.
- These requirements should establish consistency, while allowing sufficient flexibility for AVAs and providers to determine how the content should be structured and delivered, and what additional content is included.
- The preparation needed for this progression route resides in a sound understanding and knowledge in key subjects, the development of skills in academic study, and an introduction to higher education learning and assessment context. It should not, at this stage, seek to directly address the skills and competences of the practitioner.

6 Summary of requirements for this subject descriptor

Mandatory subjects	Minimum credit requirement at graded Level 3	Minimum credit requirement at ungraded Level 3	
Chemistry	15		
Biology/human biology	15		
Other science/mathematics	9		
Use and comprehension of numerical data		3	
Study skills		3	
Professional behaviours		3	
Total credit values	39	9	
Credits remaining	6⁴	6⁵	
Diploma credit total	45	15	60 credits

7 Content and credit requirements by subject - GRADED UNITS

Mandatory 1	Chemistry	Level	3, graded	Minimum credit value	15

About this subject

Much of the scientific content of Medicine is built upon a foundation of principles of chemistry. Medicine degree programmes will not usually include any chemistry teaching, so this understanding needs to be acquired before commencing a medical course. Chemistry is also considered by medical schools to demonstrate the ability to understand and apply scientific concepts that are sometimes quite abstract. Students without this ability are likely to struggle at medical school. Most medical schools include A level chemistry among their entry requirements, so Access to HE students will be in a stronger position as they can demonstrate that they have studied chemistry to a standard equivalent to A level.

Required content to be covered in the 15 credits

Fundamental **chemical** concepts and applications to organic molecules, to include:

- atoms, ions and molecules
- chemical bonds
- chemical formulae
- the periodic table
- quantitative chemistry, including molar calculations
- acids and bases
- rates of reaction and equilibria, influence of changing conditions
- reaction energies/enthalpy

⁴ The remaining credits may be used within any of the **graded** mandatory subjects identified in the framework.

⁵ The remaining credits may be used within any of the mandatory subjects identified in the framework as graded or ungraded.

- interpretation and production of graphs
- characteristics and reactions of organic compounds.

Chemistry content within the 15 credits may also include appropriate examples of chemical analysis (for example, spectroscopy) and synthesis.

Evidence of design, performance and interpretation of laboratory experiments must be included in the criteria for award of chemistry credits.

Additional chemistry

Further chemistry content may be included from the remaining credits. These credits should ideally focus on medical and other real-world applications of chemistry (for example, drugs, diagnostic tests) and sustainable chemistry (for example, petroleum alternatives, recyclable/degradable polymers).

Mandatory 2	Biology/ human biology	Level	3, graded	Minimum credit value	15
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About this subject

Medicine demands a thorough understanding of how the human body works, how it goes wrong in disease and how it can be put right again through medical or surgical interventions. A large proportion of the early stages of the medicine degree curriculum will involve study of human structure (anatomy) and function (physiology), as well as mechanisms of disease (pathology). Medicine degree programmes require a sound grasp of basic principles of biology.

Required content to be covered in the 15 credits

Fundamental **biological** concepts and applications to human health and disease, to include:

- levels of organisation: organism, organ system, organ, tissue, cell, organelle, molecule, atom
- cell structure, including subcellular organisation and the maintenance of the intracellular environment
- biological molecules and macromolecules, including utilisation of fuel molecules
- processes of cell division, gene expression and protein synthesis
- principles of heredity
- structures and functions of major body systems, including cardiovascular, respiratory, gastrointestinal, and at least two of the following: musculoskeletal, nervous, urinary, reproductive, integumentary, endocrine, immune.

Evidence of design, performance and interpretation of laboratory experiments must be included in the criteria for award of biology credits.

Additional biology/human biology

Further biology/human biology content may be included from the remaining credits. These credits should ideally focus on applications to human health and disease, particularly emphasising current/future developments, for example, biotechnology.

Mandatory 3	Other science/ mathematics	Level	3, graded	Minimum credit value	9
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About this subject

Learning about the structure and function of the human body requires understanding of some basic principles of physics, particularly the nature of forces and energy. An understanding of pressures is vital to comprehension of the functions of the respiratory, cardiovascular and urinary systems; conversion of electrical to chemical energy (and vice versa) is the basis of the working of the nervous system, while conversion of chemical/electrical to mechanical energy is key to the workings of the musculoskeletal system.

Doctors also need to be confident in handling and manipulating numbers, both in the context of everyday calculations and in the application of numeracy to medical problems at the individual, community and population level.

Indicative content within the 9 credits

Fundamental **physical** concepts, may include:

- the nature of forces and energy
- understanding of pressures
- radiation, waves and particles (including environmental radiation)
- physics of the eye, lenses and refraction, focusing
- physics of the ear, principles relating to sound propagation and conduction
- fundamentals of electricity: charge, potential and current
- conversion between mechanical/chemical and electrical energy.

Fundamental **mathematical** concepts, may include:

- applications to scientific, statistical and epidemiological/public health problems
- use of powers and logarithms, standard form
- data types, distributions, measures of central tendency and dispersion, definition and testing of hypotheses
- presentation of data using graphs and tables (the ability to show data in an appropriate form of a table or graph).

8 Content and credit requirements by subject - UNGRADED UNITS

Mandatory 4	Use and comprehension of numerical data	Level	3, ungraded	Credit value	3
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About this subject

Doctors must be comfortable using numbers in routine and high-pressure situations, for example, in the form of test results, drug dosages and fluid resuscitation volumes. They also need to be able to rapidly and accurately interpret graphical and tabular representations of data.

Required content to be covered in the 3 credits

Fundamental numerical data concepts and applications, to include:

- perform routine calculations using basic arithmetic and algebra, and apply these to a variety of scenarios, ideally including some which are medically related. This should include:
 - proportions and percentages
 - rearrangement/simplification of equations
- interpretation of graphs and tables (the ability to explain what a graph or table shows).

Mandatory 5	Study skills	Level	3, ungraded	Credit value	3
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About this subject

Medical students need to be able to study effectively and efficiently in order to meet the demands of the programme. Many of these skills are also transferable to their future medical careers.

Indicative content, which may be covered in the 3 credits

Fundamental study skills may include:

- note-taking and distilling information to produce a concise and accurate record from, for example, lectures
- identifying learning styles
- research - identifying relevant and reliable sources; critical analysis
- exam/revision strategies
- academic writing (proofing and editing)
- effective communication - reading/writing/presentation (academic speaking)
- referencing
- record keeping and information management.

Mandatory 6	Professional behaviours	Level	3, ungraded	Credit value	3
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About this subject

This is a national unit validated by QAA. See [Annex 1](#) for the unit specification.

Medical students and doctors need to be able to:

- understand the characteristics required to be a medical practitioner
- communicate effectively and work well in a team
- know how to manage risk and deal effectively with problems
- reflect on their own personal and professional practice and be able to develop a personal and professional development plan.

This unit offers the opportunity to reflect and develop these skills and knowledge.

Students registered on an Access to HE Diploma (Medicine) will have a variety of experience and knowledge of the professional practice skills of a medical practitioner. Therefore, course providers should make available every opportunity for students to:

- reflect, based on their individual experiences
- participate in team working activities.

The course provider may wish to consider the opportunity for students to practice and reflect upon interview skills.

9 Assessment

QAA has sought guidance from the Medical Schools Council (MSC) regarding assessment of this Diploma. Feedback from medical schools suggested a preference for:

- formal examinations that are comparable in format to first/second year undergraduate and A level in style, to include multiple choice [single best answer and possibly extended matching] questions
- Access to HE students to be subject to end of unit exams as well as end of year exams, the latter to demonstrate retention of information.

This subject descriptor does not require Access to HE Diploma (Medicine) students to sit end of year examinations. However, Access to HE students should have the opportunity to experience and demonstrate achievement in assessments to fully support their transition into higher education which is varied and inclusive. This should include the following forms of assessment:

- a substantial number of time constrained, unseen assessments or examinations, ideally to include at least one instance of single, best answer, multiple choice questions
- at least one each of the following:
 - essay prepared using relevant academic conventions
 - report using practical, research, mathematical, statistical and writing skills, as appropriate
 - oral presentation to include visual aids and appropriate resources
 - reflective accounts.

Access to HE providers should identify the units or clusters of units within the course that present the most appropriate opportunities to use these forms as a vehicle for assessment and decide how best to sequence them to create an effective assessment strategy for the Diploma.

10 Entry requirements

A Entry requirements onto an Access to HE Diploma

QAA guidance⁶ recommends to providers that entry onto Access to HE Diplomas should be made according to transparent and justifiable criteria, and should include reference to:

- 1 The match between the **applicant's aims and goals** and the primary aim of the programme as a preparation for study in higher education
- 2 the **applicant's ability to benefit** from the programme.
- 3 The **applicant's potential** to meet the demands of the programme and complete the programme requirements successfully.
- 4 The **applicant's life experience** - successful applicants will normally have substantial experience of life outside of formal education, gained since completing compulsory schooling or higher education. This experience may support their application into higher education.
- 5 The **applicant's educational experience** - where an applicant has recently undertaken the whole, or part of, another Level 3 course, the application should be considered with particularly careful reference to points 1-3 above.

Please note that the above list applies to entry on all Access to HE Diplomas, including Access to HE Diploma (Medicine). Providers must be mindful of the academic and other requirements of medical schools when making admissions decisions for Access to HE Diploma (Medicine) students.

It is the responsibility of the provider to ensure that accepted applicants to Access to HE Diplomas meet the eligibility requirements of medical schools.

B Entry requirements for Medicine degree programmes

The following information is for guidance purposes only and should be confirmed with medical schools directly.

- Medical schools set their own entry requirements for medicine degree programmes. This will include specific grade requirements for students studying an Access to HE Diploma (Medicine). These requirements may be converted into [UCAS Tariff Points](#).⁷ These entry requirements are set to ensure that students have the right skills and knowledge to successfully complete the course. The Medical Schools Council publishes the [entry requirements](#) for all UK medical schools.⁸
- Medical schools are likely to require all applicants to take an additional aptitude test:
 - either the University Clinical Aptitude Test (UCAT) or the Biomedical Admissions Test (BMAT), and the latest dates for taking these will be

⁶ www.qaa.ac.uk/access-to-he/access-to-he-resources

⁷ www.ucas.com/undergraduate/what-and-where-study/entry-requirements/ucas-tariff-points

⁸ www.medschools.ac.uk/studying-medicine/making-an-application/entry-requirements

early in the academic year; scores for these tests might be a significant factor in selection for interview.

- Grades at GCSE or equivalent are usually considered as part of the application for medicine, but medical schools place varying emphasis on them.
- Applicants to medical school will be required to show an understanding of what a career in medicine involves. To assess this, many medical schools include work experience among their criteria for application.
- Medical schools will look for certain skills and attributes which they believe make an ideal candidate.⁹
- Admissions criteria for medical schools can change every year. Providers should check the websites of the medical schools on a regular basis.
- All medical schools will interview as part of their selection process. Access to HE students should receive advice on interview preparation early in the programme.
- There may be health, financial, or Disclosure and Barring Service (DBS) or Protecting Vulnerable Groups (PVG) checks, which check if you have a criminal record. This information will be set out in the course details.

It is the responsibility of the applicant to check for any other requirements, beyond qualifications that may be required by a medical school.

Section 3: Professional body information

The General Medical Council (GMC) works to protect patient safety and improve medical education and practice across the UK. It sets the standards and outcomes for medical education and training in the UK. The GMC also regulates all stages of doctors' training and professional development, and assures the quality of medical education and training.

⁹ www.medschools.ac.uk/studying-medicine

Section 4: Useful links

General Medical Council (GMC)	www.gmc-uk.org/education Professional behaviour and fitness to practice Welcomed and valued	Information about the standards for education and training set by the GMC
Medical Schools Council (MSC)	www.medschools.ac.uk/studying-medicine	Information for students wishing to study medicine
	www.medschools.ac.uk/studying-medicine/making-an-application/entry-requirements	Entry requirements for medicine for individual medical schools
UCAS	www.ucas.com	List of all medical degrees available in the UK
British Medical Association (BMA)	www.bma.org.uk/advice/career/studying-medicine/becoming-a-doctor	BMA guide on how to become a doctor
Medical school entry tests	www.ucat.ac.uk	UCAT - admissions test used in the selection process by a consortium of universities in the UK, Australia and New Zealand for their medical and dental degree programmes
	www.admissionstesting.org/for-test-takers/bmat	BMAT - aptitude test used as part of the admissions process for Medicine, Biomedical Sciences and Dentistry in some universities in the UK
	https://gamsat.acer.org	GAMSAT - an exam to assist in the selection criteria primarily for students who are applying to study medicine
	www.ucat.ac.uk	SJTace - admissions test used for entry to the Scottish Graduate Entry Medical Programme (ScotGEM)
QAA admissions guidance	www.qaa.ac.uk/access-to-he/access-to-he-resources	Guidance for the admission of students to QAA-recognised Access to HE programmes

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We would also like to thank the course providers and AVAs who participated in the pilot of the subject descriptor for Medicine during 2020-21:

- DistanceLearningCentre.com
- Dudley College of Technology
- Harlow College
- The College of West Anglia
- Truro and Penwith College
- Ascentis
- Open College Network West Midlands
- The Cambridge Access Validating Agency (CAVA)

An evaluation report on the pilot will be published on our website shortly.

Annex 1: Professional Behaviours Unit

Unit title	Professional Behaviours for Medical Practitioners
Level	3
Credit value	3
Unit code	Please refer to AVA
Graded/Ungraded	Ungraded
Grade descriptors	Not applicable
Type	Academic subject content
Learning outcomes	Assessment criteria
The student should be able to:	The student can:
1. Understand the characteristics required to be a medical practitioner with reference to the GMC, patient-centred care and concepts of professionalism as they apply to medicine	1.1 Analyse the characteristics required to be a medical practitioner with reference to: (a) the General Medical Council's outcomes for graduates (b) patient-centred care (c) concepts of professionalism as they apply to medicine
2. Understand effective communication and teamworking skills	2.1 Distinguish between effective and ineffective skills with reference to a relevant model for each of the following: (a) communication (b) teamwork 2.2 Evaluate the effectiveness of own communication skills, with reference to: (a) verbal (b) non-verbal skills 2.3 Evaluate own team working skills
3. Know how to manage risk and deal effectively with problems	3.1 Summarise the principles of risk management and problem-solving 3.2 Explain how to solve a problem and manage any associated risk, using an actual or hypothetical problem relevant to professional practice
4. Reflect on own personal and professional practice and develop a personal and professional development plan.	4.1 Evaluate their own personal and professional practice skills against those expected of a medical practitioner, using a chosen model of reflective practice 4.2 Identify own continuing personal and professional development (CPD) needs based on evaluations in 4.1. 4.3 Produce a plan to meet personal and professional development objectives based on an evaluation of different options. 4.4 Reflect on own performance against the plan, identifying learning needs for the future throughout the duration of the Access to HE Diploma
Assessment type	
Reflective learning journal (All AC)	

Indicative reading

- 1 www.gmc-uk.org/about/how-we-work/governance/council/code-of-conduct
www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/good-medical-practice
- provides links to GMC Codes
- 2 www.skillsyouneed.com/ips/team-working.html
- provides a link to teamworking models and skills
- 3 <https://tinyurl.com/vem5cv3>
- provides a link to problem-solving models in healthcare
- 4 <https://oro.open.ac.uk/68945/1/Finlay-%282008%29-Reflecting-on-reflective-practice-PBPL-paper-52.pdf>
- an excellent scholarly paper on reflective practice
- 5 <http://skillsforlearning.leedsbeckett.ac.uk/preview/content/models/03.shtml>
- shows the stages of Gibbs' model of reflective practice
- 6 www.jobs.ac.uk/careers-advice/managing-your-career/1318/what-is-continuing-professional-development-cpd
- explains the meaning and components of CPD
- 7 www.skillsforcare.org.uk/Documents/Learning-and-development/Care-Certificate/The-Care-Certificate-Self-Assessment-Tool.pdf
- provides an excellent framework for self-assessment which can be adapted for personal use
- 8 www.cipd.co.uk/cpd/examples-templates.aspx
- provides a link to the CIPD's tools for continuing professional development
- 9 www.sheffield.ac.uk/polopoly_fs/1.79367!/file/Guide-to-setting-objectives.pdf
- provides a useful guide with hints and tips for writing SMART objectives

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QAA manages the national framework for the recognition and regulation of Access to HE Diplomas. www.qaa.ac.uk