

# Access to HE Diploma Specification & Assessment Framework

## Diploma Title: Engineering

<b>Learning Aim:</b>	40010193
<b>Approved:</b>	04 June 2019
<b>Validation dates:</b>	01 August 2019 - 31 July 2024
<b>Date of next review:</b>	September 2023

### *Purpose and aim of the Access to HE Diploma*

The Access to HE Diploma is intended to prepare people without traditional entry qualifications for degree level study at university. It may also be used by people wishing to make a career change or who have been out of formal education for a significant time in order to gain the skills and confidence required for direct progression to employment or further study. The Access to HE Diploma is regulated by QAA and widely recognised as a progression route by universities across the UK.

### *Target Group*

The Access Diploma is open to all learners but is designed to be accessible for individuals who, as a result of their socio-economic or personal circumstances, may not have been able to consider progression to degree level study. The Access Diploma therefore provides a second chance for individuals who, for whatever reason, were not able to take full advantage of their formal secondary education.

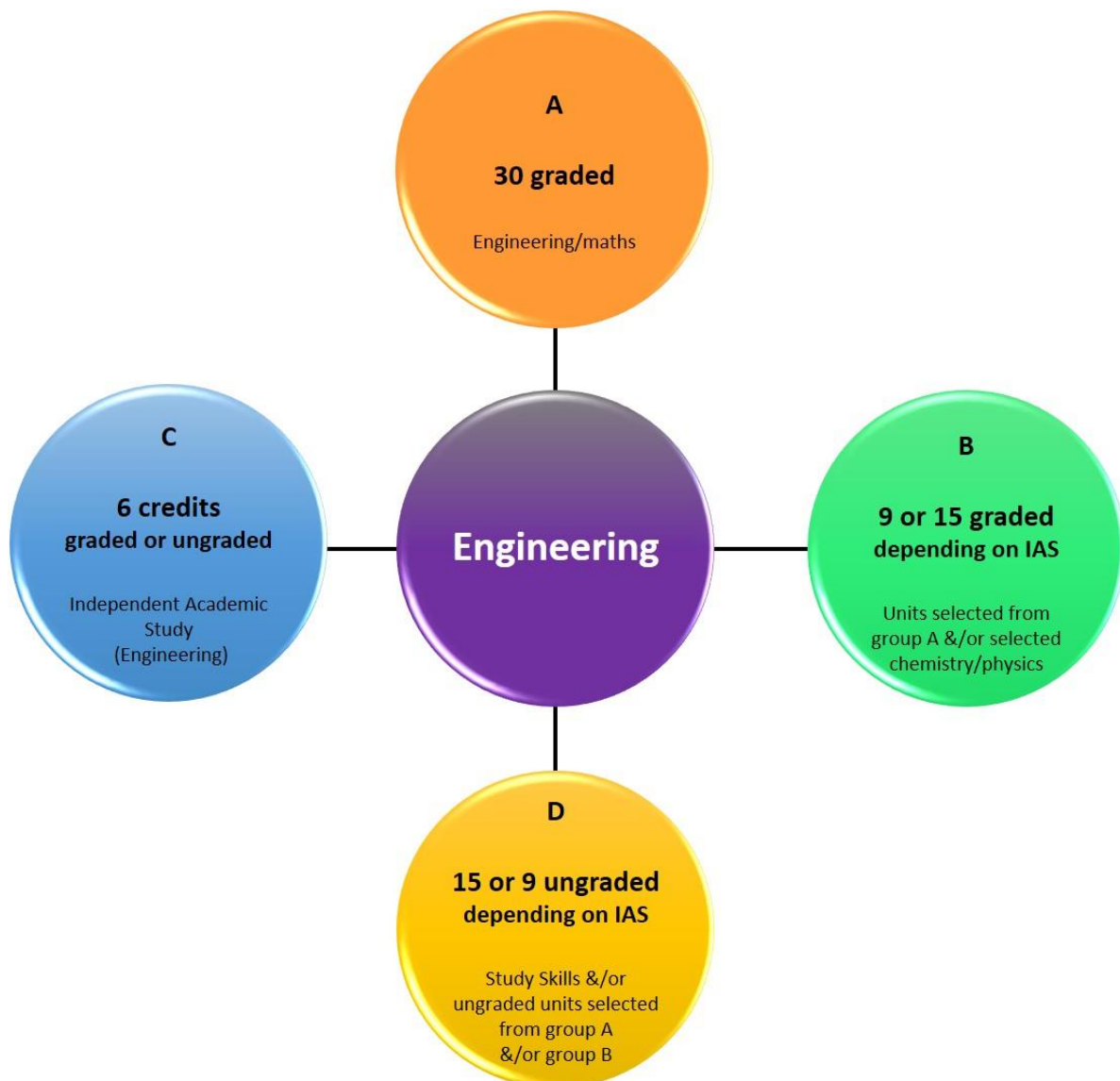
### *About the qualification*

The Diploma Specification for Engineering enables centres to choose from a variety of units in engineering and maths with additional options from physics or chemistry making the combination appropriate for their learners.

<sup>1</sup>The progression routes from this Diploma could include, but are not limited to, degrees in engineering, physics, chemical engineering, civil engineering, mechanical engineering, electrical engineering, electronics, mathematical sciences, etc.

## Specification Rules<sup>2</sup>

All LASER Diplomas are made up of 45 graded credits (sections A, B, C below) and 15 ungraded credits (section D).



<sup>1</sup> Suggested progression routes have been taken from provider feedback and HE consultation, they may be subject to change and further review and do not indicate any guarantee of progression in these fields. LASER would always recommend students ensure the diploma they wish to enrol on is appropriate for their future progression.

<sup>2</sup> the policy for the LASER Access to HE Diploma Specification & Assessment Framework is available via <https://www.laser-awards.org.uk/access-to-higher-education/for-centres/laser-access-framework/> or by contacting the Access Office

# Unit Choices: SUBJECT GROUP A

30 graded credits to be selected from the modules listed below, these units are chosen as specific to the subject of the named Diploma and are all at level 3. The units highlighted below are suggested for inclusion as mandatory units for all Engineering pathways.

<b>Engineering</b>	
<b>Credits</b>	<b>Title</b>
	<b>CORE UNITS</b>
3	Computer Aided Drawing (CAD) for Engineers
6	Electrical Science for Engineers
6	Mathematics for Engineers
6	Further Mathematics for Engineers
6	Mechanical Science for Engineers
	<b>OPTIONAL UNITS</b>
6	Electronics
3	Engineering Design
3	Engineering Materials
3	Manufacturing Processes
3	Professional Engineering
3	Applications and Operation of Programmable Logic Controllers (PLCs)
6	Design and Manufacture of Printed Circuit Boards (PCBs)
3	Hydraulic and Pneumatic Systems
3	Introduction to Mathematical Modelling Software
3	Microprocessor Systems and Applications in Engineering
3	Operations and Applications of Industrial Robotics
<b>Maths</b>	
<b>Credits</b>	<b>Title</b>
3	Algebra
3	Arithmetic
3	Calculus
3	General Mathematics
3	Statistics
3	Trigonometry
3	The Nature and Applications of Statistics
3	Collecting, Presenting and Using Statistics

## Unit Choices: SUBJECT GROUP B

9 or 15 graded credits (depending on choice of graded or ungraded IAS unit from Group C) to be selected from either the modules listed in Group A and/or from the additional modules offered below, these units are related to the subject of the named Diploma or will complement learning. These units are all at level 3.

<b>Chemistry</b>	
<b>Credits</b>	<b>Title</b>
3	Fundamentals of Chemistry
3	Drugs and Food Additives
3	Equilibria Acids and Buffers
3	Reaction Kinetics and Energetics
3	Separation and Analysis
3	Organic Chemistry
3	Organic Reaction Mechanisms
3	Periodic Table, Ionisation Energies and Redox
3	Structure and Bonding
<b>Physics</b>	
<b>Credits</b>	<b>Title</b>
3	Electricity
3	Fields
3	Mechanics and Kinematics
3	Nuclear and Particle Physics
3	Optics and Waves
3	Physical Properties of Materials
3	Thermal Properties of Matter
3	Units, Energy and Motion

## Independent Academic Study: GROUP C

6 credits are achieved from the appropriate Independent Academic Study unit (IAS) for the Diploma title. This unit is at level 3 and can be offered as graded or ungraded (but not both) within a centre's Rules of Combination.

<b>Independent Academic Study</b>	
<b>Credits</b>	<b>Title</b>
6	Independent Academic Study (Engineering) or
6	Engineering Project

## Ungraded Units: GROUP D

15 or 9 ungraded credits (depending on choice of graded or ungraded IAS unit from Group C) are selected from the modules listed in Group D which include study skills, English language and maths and/or ungraded versions of units available in Group A or Group B can be selected in this section. These units are generally at level 3 but selected units may be available at level 2.

Study Skills		
Level	Credits	Title
3	6	Academic Study Skills
3	3	Critical Thinking
3	3	Note Taking and Note Making
3	3	Personal Organisation and Time Management
3	3	Planning and Presentation
3	3	Reviewing and Planning for the Future
2 or 3	3	Skills for Study: Essay Writing <i>(online e-learning course available for this unit)</i>
2 or 3	3	Skills for Study: Research <i>(online e-learning course available for this unit)</i>
2 or 3	3	Skills for Study: Writing <i>(online e-learning course available for this unit)</i>
2 or 3	3	Using ICT for Study
3	3	Preparing for and Taking Written Exams <i>(online e-learning course available for this unit)</i>
English		
Level	Credits	Title
2	3	English Language Skills
3	3	Studying Literature
3	3	Communication – Reading and Writing
3	3	Communication – Speaking and Listening
Maths		
Level	Credits	Title
2	3	Understanding Maths <i>(online e-learning course available for this unit)</i>
3	3	Application of Number - Calculation
3	3	Application of Number – Data Interpretation
3	6	Introductory Mathematics for HE
3	3	Applied Further Mathematics
Ungraded Units selected from Subject Groups A & B <sup>3</sup>		

<sup>3</sup> Units cannot be included within a Centre's Rules of Combination as both graded and ungraded but centres can choose to offer some subject units as ungraded versions. These would be identified as part of the course approval.

## Diploma Assessment Framework<sup>4</sup>

All LASER validated Access to HE programmes must include a **Diploma Assessment Schedule** as a part of their validation/revalidation process and the schedules will be required to be updated and available for review as part of the yearly 'External Verification/Moderation' cycle.

### Required Assessment Models:

Assessment Model <sup>5</sup>	Suggested Weighted Frequency of Use	Comments
Examination <sup>6</sup>	High / Moderate / Low	<i>Required by LASER Examination Policy and also identified as commonly used assessment model within HE.</i>
Project <sup>7</sup>	High / Moderate / Low	
Reflective Log	High / Moderate / Low	
Report	High / Moderate / Low	
Production of an Artefact	High / Moderate / Low	
Production of a Design Specification	High / Moderate / Low	<i>Examples of evidence could include CAD drawing, materials list and production schedule against a pre-agree specification.</i>

### Recommended Assessment Models:

Recommended Assessment Model	Possible Weighting	Comments
Presentation	Strongly Recommended / Recommended / Suggested	

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<sup>5</sup> Definitions of the meanings of given **Assessment Models** are contained within Annex One.

<sup>6</sup> The LASER Examination Policy requires all LASER validated Diploma Titles to include **4** examinations. Two maybe employed as **formative assessment models** and **two MUST** be employed as **summative assessment models** although not necessarily in terms of graded units.

<sup>7</sup> This could be evidenced by the submission of the graded IAS or could be evidenced via an graded alternative unit of assessment.