EST 1892 LSBU

Course Specification

<table>
<tr><th colspan="4">A. Course Information</th></tr>
<tr><td>Final award title(s)</td><td colspan="3">Acoustics Technician Apprenticeship</td></tr>
<tr><td>Intermediate exit award title(s)</td><td colspan="3">Certificate of Higher Education (CertHE)</td></tr>
<tr><td>UCAS Code</td><td>N/A</td><td>Course Code(s)</td><td>5480</td></tr>
<tr><td>Awarding Institution</td><td colspan="3">London South Bank University</td></tr>
<tr><td>School</td><td colspan="3">☐ ASC ☐ ACI ☒ BEA ☐ BUS ☐ ENG ☐ HSC ☐ LSS</td></tr>
<tr><td>Division</td><td colspan="3">Civil and Building Services Engineering</td></tr>
<tr><td>Course Director</td><td colspan="3">To be arranged</td></tr>
<tr><td>Delivery site(s) for course(s)</td><td colspan="3">☒ Southwark ☐ Havering ☐ Croydon
☐ Other: please specify</td></tr>
<tr><td>Mode(s) of delivery</td><td colspan="3">☐Full time ☒Part time ☐other please specify</td></tr>
<tr><td>Length of course/start and finish dates</td><td colspan="3">
<table>
<tr><th>Mode</th><th>Length years</th><th>Start - month</th><th>Finish - month</th></tr>
<tr><td>Full time</td><td></td><td></td><td></td></tr>
<tr><td>Full time with placement/ sandwich year</td><td></td><td></td><td></td></tr>
<tr><td>Part time</td><td>2 years</td><td>September</td><td>September</td></tr>
<tr><td>Part time with Placement/ sandwich year</td><td></td><td></td><td></td></tr>
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<tr><td>Is this course suitable for students on a Tier 4 visa?</td><td colspan="3">No</td></tr>
<tr><td rowspan="2">Approval dates:</td><td colspan="2">Course(s) validation date:</td><td>July 2021</td></tr>
<tr><td colspan="2">Course specification last updated and signed off</td><td>July 2021</td></tr>
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Professional, Statutory & Regulatory Body accreditation	It is planned for the Institute of Acoustics (IOA) to be the accreditation body. Relevant arrangements and details are being arranged. Education Skills Funding Agency (Funding) OFSTED Monitoring and Support Education Inspection Framework (EIF)	
Link to Institute of Apprenticeship (IoA)Assessment Plan(Apprenticeship only)	https://www.instituteforapprenticeships.org/media/3194/st0613_acoustics_technician_l4_apforpublication_110619.pdf	
Reference points:	Internal	• LSBU Corporate Strategy 2020-2025 • Academic Quality and Enhancement Manual • LSBU Building Services Industrial Advisory Panel for programme support (BSIAP) • BEA School Strategy • LSBU Academic Regulations
	External	• Engineering Council, Accreditation of Higher Education Programmes (AHEP, Third Edition 2014); • Joint Board of Moderators Guidelines for Developing Degree Programmes, January 2018 (Version 1 – Revision 2) • Institute for Apprenticeships (IfA), Acoustic Engineering Technician Apprenticeship, Standard ST0613 • Institute of Acoustics (IOA) for EPA and On-the-Job training programme • The UK Quality Code for Higher Education (QAA ,2018) • Framework for Higher Education Qualifications (QAA) • Subject Benchmark Statements (QAA,2015) • Professional Statutory and Regulatory Bodies (PSRB) • Competitions and Markets Authority • South East England Consortium[1] (SEEC) Level Descriptors 2016 • Office for Students (OfS) Guidance • Subject Benchmark Statements (Dated)
B. Course Aims and Features		
Distinctive features of course	LSBU has over 45 years' expertise in running Acoustics courses and produces more qualified acousticians than any other institute in the country. We produce approximately between 15 and 20% of the acoustic graduates employed in the UK industry. For many years the UK acoustic industry has consistently reported and continues to report the insufficient number of acoustic qualified candidates to fill the job vacancies available The Acoustic Technician Apprenticeship course has been built to equip apprentices with the technical, professional, management and communication skills to be effective employees and members of the acoustic industry and/or its affiliated sectors. The apprenticeship course has been designed to fully meet the	

[1]SEEC is a consortium of universities and Higher Education providers working together to advance the use and practice of academic credit, widening access to learning

	academic requirements of the Acoustic Technician Apprenticeship, standard reference ST0613. This course is intended for technician apprentice engineers who are looking to develop their skills. Graduates will be well equipped to develop professionally in a wide range of industry areas such as build environment, infrastructure, transport, manufacturing, research and development, arts and entertainment, environmental health, and multi-disciplinary engineering disciplines. The apprenticeship aims to supply the high demand of qualified personnel in acoustics and satisfy the specific requirements of the related industries. It will be the first ever occupational course in acoustics taught at level 4 in the UK. A wide range of core and specialism will be taught with emphasis on real world application of the theory. The ample research expertise of the teaching team, will allow the syllabus content delivery to be research-informed. It will introduce some of the latest and relevant applied research into teaching and learning making the learning experience more valuable. Teaching and learning will be supported by the extensive and varied acoustics instrumentation, relevant software and acoustics laboratory facilities. LSBU has the third best educational institution acoustics laboratory facilities in the UK, including full size anechoic and reverberation chambers and impressive range of the latest equipment and instrumentation The course will feature a strong practical focus by having a substantial part of contact time dedicated to undertaking a wide variety of demonstrations, real-world applications, practical assignments and laboratory based experiments. In keeping with the needs of modern engineering practice, management, problem solving, team work, critical thinking and communication skills also strongly feature in this course. Professional registration is an important and expected attribute of the course. This is governed by the Engineering Council Accreditation of Higher Education Programmes (AHEP) learning outcomes which are needed by acoustics apprentices to attain Engineering Technician (Eng Tech) status and further progression path to Incorporated Engineer (IEng) and eventually to Chartered Engineer (CEng). The Acoustics Apprenticeship course is designed to fully satisfy the educational base for an Engineering Technician (EngTech) grade of the Engineering Council (EC). EngTech professional registration can be fully attained after the apprentice successfully pass the End Point Assessment (EPA) see detailed information on Gateway and EPA student support in appendix G of the Course Specification document The course provides the management, design, technical and practical skills for those working within the acoustics industry. The course is specifically relevant to those wishing to join the relevant professional body: the Institute of Acoustics (IOA). The Acoustics Apprenticeship academic content satisfies the educational base for Technician Member of the Institute of Acoustics (TechIOA). Upon successful completion of the End Point Assessment the candidate would meet the requirements for Associate Member of the Institute of Acoustics (AMIOA). The course and its modules have been devised and mapped at level 4 to meet the Acoustics Technician Apprenticeship standard (ST0613) requirements, the AHEP

	learning outcomes and to support the successful completion of the End Point Assessment (EPA). The course is designed to deliver the following core skills that will enable students to work effectively in a wide range of acoustics fields: • Mathematic and scientific skills and their applications in diverse acoustic fields and professional areas • Technical skills, knowledge and understanding required to be competent in the acoustic work environment including the operation of instrumentation, testing, calculations, modelling, evaluation processes and reporting. • Professional skills such as communication skills, problem solving, project management and team-working skills.
Course Aims	The course aims to: 1. Produce Acoustic Technician Apprentice Engineers satisfying in part the academic requirements for registration with Engineering Council at Technician Engineering level (TechEng). 2. Produce Acoustic Technician Apprentice Engineers satisfying in full the academic requirements for the membership grade of Technician (TechIOA) of the Institute of Acoustics 3. Produce Acoustic Technician Apprentice Engineers educated and trained in the core disciplines such as building acoustics, environmental acoustics, noise control, electro-acoustics, testing and instrumentation with a strong emphasis on design and application. Such apprentices will already be working in the acoustics or related industries, either with a consultant, end user, contractor, equipment manufacturer, product designer technician, environmental health officer, test laboratory technician or sound /audio engineer. 4. Develop apprentices' knowledge of mathematics, applied sciences, engineering methods, health and safety, engineering legal responsibilities and ethics, and sustainability in support of the central themes of the course. 5. Develop apprentices' practical and problem-solving skills through the integration of a broad range of subject material and hands-on relevant lab experiments. 6. Educate apprentices to communicate clearly and effectively, to argue rationally, to draw conclusions based on a rigorous, analytical and critical approach to data and systems. 7. Develop the transferable skills expected of an Acoustics Engineer Technician Apprentices who are working in multidisciplinary teams with technical, commercial and management staff in industrial and other related occupations. 8. Produce Acoustics Engineer Technician Apprentices capable of contributing to the profession of Acoustics in the context of modern multidisciplinary industrial practices by promoting advanced research- informed techniques and methods and by extending current technologies. 9. Produce Acoustics Engineer Technician Apprentices who will have the core competencies and enthusiasm to continue lifelong learning and professional development
Course Learning Outcomes	**Accreditation of Higher Education Programmes (AHEP-3rd ed.)** **Learning Outcomes** (see in Appendix F) Acronyms: Science and Mathematics(SM); Engineering Analysis (EA), Design (D); Economic, Legal, Social, Ethical and Environmental context (EL), Engineering Practice (P); Additional General skills (G).

	A) Students will have **knowledge and understanding** of: **A1:** Knowledge and understanding of the scientific principles underpinning relevant current technologies, and their evolution (SM1i) **A2:** Knowledge and understanding of mathematical and an awareness of statistical methods necessary to support application of acoustic engineering principles and to apply mathematical and statistical methods, tools and notations proficiently in the analysis and solution of engineering problems. (SM2i) **A3:** Understanding of the need for a high level of professional and ethical conduct in engineering and knowledge of professional codes of conduct. (EL1i) **A4:** Knowledge and understanding of the commercial, economic and social context of engineering processes. (EL2i) **A5:** Understanding of the requirement for engineering activities to promote sustainable development. (EL4i) **A6:** Gain awareness of risk issues, including health & safety, environmental and commercial risk (EL6i) **B)** Students will develop their **intellectual skills** such that they are able to: **B1**: Ability to monitor, interpret and apply the results of analysis and modelling in order to bring about continuous improvement. (EA1i) **B2**: Ability to apply quantitative methods in order to understand the performance of systems and components. (EA2i) **B3** Ability to use the results of engineering analysis to solve engineering problems and to recommend appropriate action. (EA3i) **B4**: Be aware of business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics. (D1i) **B5:** Define the problem, identifying any constraints including environmental and sustainability limitations; ethical, health, safety, security and risk issues; intellectual property; codes of practice and standards. (D2i) **B6**: Work with information that may be incomplete or uncertain and be aware that this may affect the design. (D3i) **B7:** Apply problem-solving skills, technical knowledge and understanding to create or adapt design solutions that are fit for purpose including operation, maintenance, reliability etc. (D4ii/G1) **B8:** Manage the design process, including cost drivers, and evaluate outcomes. (D5i) **B9**: Communicate the work to technical and non-technical audiences. (D6i) **C)** Students will acquire and develop **practical skills** such that they are able to: **C1**: Knowledge of contexts in which engineering knowledge can be applied (e.g. operations and management, application and development of technology, etc.). (P1i) **C2**: Understanding of and ability to use relevant materials, equipment, tools, processes, or products. (P2i) **C3:** Knowledge and understanding of workshop and laboratory practice. (P3i) **C4**: Ability to use and apply information from technical literature. (P4i) **C5:** Awareness of quality issues and their application to continuous improvement. (P7i) **C6**: Awareness of team roles and the ability to work as a member of an engineering team. (P11i)

	D) Students will acquire and develop **transferrable skills** such that they are able to: **D1**: Apply their skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities. (G1i) **D2**: Plan self-learning and improve performance, as the foundation for lifelong learning/CPD. (G2i) **D3**: Plan and carry out a personal programme of work. (G3i) **D4**: Exercise personal responsibility, which may be as a team member. (G4i) **Acoustic Engineering Apprenticeship Standard (ref: ST0613)** **Knowledge : An Acoustic Engineering Technician has knowledge and understanding of:** **K1** the principles and responsibilities, imposed law and other regulations in acoustics engineering environments **K2** scientific principles that underpin acoustics including the transmission of sound through different materials and behaviour and control of sound **K3** level 4 mathematics for undertaking hand and spread sheet based acoustics calculations **K4** the range of equipment used to measure sound and vibration including calibration and maintenance techniques **K5**sound and vibration measuring and recording techniques in laboratory, internal and external environments **K6** sustainable practices in the design and manufacture of acoustics products **K7** technical drawing using Computer Aided Design software packages **K8** acoustic modelling software and methods and their use in the sector **K9** technical report writing techniques for both internal and external audiences **K10** the standards and guidance applicable to acoustics practitioners **Skills : An Acoustic Engineering Technician can :** **S1** identify risk of activities and apply safe working practices both laboratory and site environments **S2** plan, measure, analyse and report acoustics data **S3** operate acoustic modelling software appropriate to their organisation **S4** operate Computer Aided Design software packages **S5** calibrate, operate and maintain acoustic equipment to maintain the appropriate British Standards

	S6 undertake acoustics calculations manually and using spread sheets **S7** apply standards and guidance in the context of acoustics including those related to the built environment, construction, and laboratory / on site testing **S8** listen critically and interpret sound correctly **S9** communicate effectively, contributing to meetings and presenting information in a variety of ways including oral and written **S10** produce succinct and understandable reports for the end user **S11** think critically, analyse and clearly present the outputs of acoustic information **Behaviours: An Acoustic Engineering Technician demonstrates :** **B1** accuracy and diligence in practical work in both laboratory and site contexts **B2** team working with others in a collaborative and non-confrontational way **B3** attention to detail in results outputs against standards, guidance and client briefs **B4** time management **B5** commitment to Equality and Diversity

C. Teaching and Learning Strategy

The pedagogic approach to this course has the apprentice student at the centre of its design and delivery to promote sustain student engagement and ownership in the learning process. It focuses on the practical application of theoretical understanding and development of independence in learning and transferable skills .
Teaching and learning activities have a strong emphasis on interactivity and student participation aiming at developing reflection , working and learning with others and application of theoretical understanding.

Activity-based learning and problem-solving are key, with an emphasis on offering students the opportunity to apply the knowledge gained to resolve real-world scenarios. This is achieved through the use of real or simulated briefs taken from the industry or through the use of real world case studies and projects.
To implement an apprentice-centred approach to teaching and learning, a strong focus is placed on encouraging learners to undertake self-directed reading, research and refection on practice in order to prepare for focused tutorial sessions.
Traditional lectures with be complemented by case study analysis (problem solving and analytical skills), in-class discussions (communication and critical thinking) , student mini presentations (communication and critical thinking), online based polls, mini quizzes (problem solving), peer evaluation (communication and critical thinking), in-class demos. Some of these activities will be implemented in the form of topical
seminars.
Laboratory work will be mostly group-based to develop interpersonal , communication and team

working skills. Related laboratory course work will be a combination of group and individual assignments.
Laboratory practical sessions will follow a three stage sequential structure comprising : experiment briefing , then supervised group work, then debriefing of findings analysis and discussion of results.
Students will be expected to keep a logbook of their laboratory activities as an organisational and information management good practice.
Computer lab sessions will be used to teach computer based modelling through worked simulation examples and formative short exercises.
Site demo visits will complement the variety of teaching and learning activities making the course relevant and stimulating to the apprentice.
External field visits, guest speakers from the industry and professional body visits are used to enhance the taught elements of the course and to introduce students to an industrial perspective learning in the work place.

The apprentices will be supported academically on regular basis throughout the duration of their apprenticeship by their module leaders outside scheduled contact hours during surgery tutorial times and informally via email and/or TEAMS communications.
Module leaders can additionally sign post apprentices to self-study materials (videos, books, online learning resources) to supplement their support. These are given in each Module Guide.
Moreover, LSBU Skills for Learning Centre offers students a range of interactive workshops, one-to-one tutorials and drop-in sessions in variety of skills (Maths, Statistics, Report Writing, Referencing, Information management, study skills, presentation skills, Excel, Critical Thinking, etc) delivered by experienced learning developers.
Pastoral care provided will be provided by the allocated year personal tutor and the course director.

The course is comprised of six self-contained modules at level 4, each of 20 credits. A university 20 credit is the equivalent of 200 student self-study hours.

Throughout the course apprentices will have on- campus access to computers equipped with all the relevant design and analysis software packages as well as remote off-campus access to those software to be used for educational or research purposes only.

Student interaction with centralised University based learning and development resources is via the Perry Library, the Learning Resources Centre (LRC), Laboratories and Workshops, where the apprentice can access computers equipped with all the relevant design and analysis software packages, paper and online journals, a large collection of paper and online books. The Perry library run regularly a wide range of leaning skills support courses and drop in sessions on topics including Maths, Statistics, report writing, MS Excel, MS Word, information searches, referencing, etc .

The University has a dedicated centralised service for all aspects of non-academic students' support. These are based in the Student Centre which provides advice, assistance and guidance on a broad range of student 'life' issues including:

- Accommodation
- Disability & Dyslexia Support
- Financial Support
- Students' Union
- Communication Skills Development
- Careers Guidance
- Employability and Personal Development

Library Services provide books and journals (in both print and electronic format) and help in finding and using resources. The main library at London South Bank University, the Perry Library, is based at the southern tip of the Southwark complex and is within easy walking distance from all the adjacent buildings. It currently provides seating capacity for over 600 students and has about 300,000 volumes divided between core readings for courses and less specific texts. In response to student demand the library is now open 8.30am-midnight from Monday to Thursday, until 9pm on Friday and 10am-7pm on Saturday and Sunday during term time.

Students can also have access to over 170 other academic libraries across the country via the SCONUL Access scheme; they are also eligible to apply for British Library access and to use the libraries at the Institution of Civil Engineers and the Institution of Structural Engineers.

The library acquisitions programme is largely driven by the requirements expressed within the Module and Course guides. This ensures that stock is matched to academic needs but balanced by background reading obtained on the advice of the relevant course teams or through professional library knowledge.

A large suite of specialist software applications and programmes can be accessed remotely from home. Those include acoustics and modelling software applications to be used in this apprenticeship.

During practical sessions, workshops and laboratories apprenticeship will have access to the extensive range of acoustic instrumentation and laboratory facilities such as the audiometric booths, full reverberation and anechoic chambers

Students can also access the majority of the University information provision from computers at home. All the courses now have online activities and shared resources managed by the lecturers working within the Virtual Learning Environment (Moodle). Moodle provides the quality tools to enable students and lecturers to share and communicate wherever they are. Announcements can be made, information and coursework delivered, for example, accessible only to those relevant to the subject. Moodle platform has been recently supplemented by Microsoft TEAMS to enable effective online remote teaching and learning.

The official mode of delivery for this course is blended. Blended delivery mode involves a combination of in-person (face to face) and remote (online) teaching and learning sessions. The expected delivery of this course will be mostly face to face on-campus, complemented by a small number of remote online sessions when this is deemed to enhance student experience, add value and flexibility[2]. This small online portion of the course will normally occur at the end of each semester, or for instance to provide tutorials or assessments support. Apprentices will be supported for the online portions of the delivery through live and interactive timetabled sessions via MS TEAMS platform.

The teaching team for this course is formed by (see also appendix E)

- Professor Stephen Dance, Professor of Acoustics and Director of the Acoustics Research Group.
- Dr Luis Gomez-Agustina, Senior Lecturer in Acoustics. Course Director for the Institute of Acoustics (IOA) Diploma in Noise Control and (IOA) Certificate of competence in Environmental Noise measurements.
- Dr Haydar Aygun, Associate Professor in Acoustics. Course Director for the MSc in Environmental and Architectural Acoustics

[2] The LSBU Corporate Strategy 2020-2025 includes a commitment to increase the proportion of learning and teaching activity being delivered through digital platforms, where this adds value to the student experience.

Academics of the teaching team are highly experienced educators in acoustics. They are senior fellows or fellows of the Higher Education Academy. They are full corporate members of the IOA and Acoustical Society of America (ASA) and also active members of the IOA education committee, membership and research committees and London Branch. The acoustic teaching team is very active researchers engaging with the industry at national and international networking opportunities. Over the years many collaborative projects were set up with industrial partners which some have involved the enrolment of employees in acoustic courses. The strong and active links between the teaching team and the relevant professional institutions (IOA and ANC) ensures a constant and tight engagement with the relevant industry.

D. Assessment

The course includes two type of assessments, formative and summative. Formative assessment also known as assessment for learning, is a method of evaluation occurring while learning is taking place. It is used in this course as a learning and monitoring tool which provides the student and tutors gradual feedback on student progress. Formative assessment activities in this course do not count towards the final grade of modules.

Summative assessment on the course has been designed principally to demonstrates acquisition of the learning outcomes. This type of assessment takes place approximately at equal intervals spread out throughout the duration of the modules. It is endeavoured that summative assessment for different modules does not occur in the same week and that does not overlap in time with formative assessment activities. Summative assessment provide the information to compute the module grades (see table 1).

Modules are either continuously assessed (100% coursework) especially for design/research/professional skills projects or by Examination/Coursework (Ex/CW) split. The split depends on the level and the nature of the required learning outcomes.

The course modules will be summative assessed through a combination of written examination (W) and/or course work (CW). Written examinations will take place at the end of the taught module. Depending on the module, weighting (in percentage) for each summative component will be either 100%(CW) 70%(Ex):30%(CW); or 50%(Ex):50%(CW) (see table 1). Depending on the module course work may be individual or group-based. Depending on the module it can be either in the form of a written assignment, phase test, group project, laboratory experiment report, or presentation.

Witten exams may be closed book, where the student is not allowed access to notes, or open book, in which the student is allowed access to a limited set of their own notes.

Written exams will be of 2-3 hours in duration (as outlined in the module descriptors document). In exams with a mathematical focus, the student will normally be provided with a list of common formulae.

For more details on the summative assessment type, apportion, weighting, pass mark and time schedule per module see table1 and in each module descriptor

Formative assessment will be embedded in class / laboratory sessions in the form of short quizzes, group tasks, presentations , group discussions, keeping and reviewing a lab log book, diagnosis tests and mock exams. Where possible marks and feedback on formative assessment will be provided in-class on the day of the assignment.

To pass each module, a minimum mark of 30% must be achieved in each component and an overall average minimum mark of 40% in the module

To complete the course successfully, students are required to study and pass the six modules (20 credits each, at level 4). A total of 120 credits is required to finish successfully the course.

Gateway Preparation Module

The Gateway is the entry point to End-Point Assessment (EPA). It is the point at which the apprentice has completed their learning, met the requirements of the standard, off-the-job (OJT) training (6 hours per week), and that they, alongside their employer and LSBU agree that they are ready to enter their EPA.

The Gateway Preparation module is a pass / fail, zero credit module designed to support apprentices to identify and work towards meeting the Gateway criteria from an early stage in their apprenticeship, particularly those that sit outside of an academic qualification. The module will be completed each year throughout the duration of the apprenticeship up to passing the Gateway. A minimum record of 8% of OJT, contributing towards the final total of 6 hours per week is required to pass the module in each year.

IMPORTANT: Evidence of meeting the ALL knowledge, skills and behaviour detailed in the IfATE Standard Assessment Plan, must be covered in the e-portfolio prior to the final Gateway review i.e. apprentices must address each KSB on their respective apprenticeship standard with appropriate workplace evidence.

Table 1 Summative assessment type weighting and approximate submission schedule

Unit Title	Assessment type/ Weighting (%)	Submission Week	Feedback Week
Level 4			
	Year 1		
Engineering Mathematics Y1 S1+S2	Course work/Phase test (50%)	14	18
	Exam (50%)	28	32
Construction Practice Y1 S1+S2	Course work/written assignment (20%,20%,20%)	12, 15, 23	16, 19, 27
	Group work+ group presentation (40%)	26	30
Fundamentals of Acoustics Y1S1	Course work/written assignment (40%)	7	11
	Exam (60%)	14	18
Acoustic Instrumentation Y1 S2	Course work/written assignment (50%)	22	26
	Exam (50%)	27	31
Gateway Preparation Y1 S1 & S2	N/A	N/A	N/A
	Year 2		
Building and Environmental Acoustics Y2 S1	Course work/written assignment (50%)	7	11

	Exam (50%)	14	18
Subjective and Electroacoustics Y2 S1	Course work/written assignment (50%)	22	26
	Exam (50%)	27	31
Gateway Preparation Y2 S1 & S2	N/A	N/A	N/A

End Point Assessment

E. Academic Regulations

Regulations for assessment and progression will follow the LSBU Academic Regulations for Taught Programmes
http://www.lsbu.ac.uk/__data/assets/pdf_file/0008/84347/academic-regulations.pdf

F. Entry Requirements

In order to be considered for entry to the course, applicants will be required to have the following minimum qualifications:

Year 1 Entry:

- Level 3 Math and English.
- Five GCSE passes in five subjects (grade C or above), including English Language and Mathematics.

Additionally, applicants must possess one of the following:

- A-levels EEE (must Include Maths) or
- BTEC National Diploma (MPP) or
- Access Level 3 qualifications worth 48 UCAS points (must include Maths).
-

G. Course structure(s)

Course overview

The mode of study of the course is part-time, day release. The total duration of the course is two consecutive years. The taught part consists of one full day of contact per week over three semesters in two consecutive academic years. Each academic semester has a total duration of 15 weeks. The second semester of year 2 is dedicated to support the apprentices to work towards their End Point Assessment (see table 2 and appendix G).

The course is comprised of six taught self-contained modules at level 4, each of 20 credits.
T This course has no optional modules.
Engineering Mathematics and Construction Practice-B modules run for two consecutive semesters. Each of the other four modules (Fundamentals of Acoustics (FA), Acoustic Instrumentation (AI), Building and Environmental Acoustics (BEA) and Subjective and Electro Acoustics (SEA) run for one semester. See table 2.

Acoustic Instrumentation (AC), Building and Environmental Acoustics (BEA) and Subjective and Electro Acoustics (SEA) modules include approximately half of their contact time laboratory or practical work.

Acoustics Technician – Mode: Part time

Table 2 Course structure and credit structure

	Semester 1	**credits**	**Semester 2**	**credits**
Year 1	Engineering Mathematics part-1 (Level 4)		Engineering Mathematics part-2 (Level 4)	20
	Construction Practice-B part 1 (Level 4)		Construction Practice-B part 2 (Level 4)	20
	Fundamentals of Acoustics (Level 4)	20	Acoustic Instrumentation * (Level 4)	20
	Gateway Preparation (0 Credit)			
Year 2	Building and Environmental Acoustics (Level 4) *	20	EPA	
	Subjective and Electro Acoustics (Level 4) *	20	EPA	
	Gateway Preparation (0 Credit)			
End Point Assessment (0 Credit)				
* Module includes laboratory / practical sessions				

Placements information

N/A

H. Course Modules

This course has no optional modules. No circumstances are envisaged when any module may not run

Module Code	**Module Title**	**Level**	**Credit value**	**Year / Semester**	**Assessment type (Ex / CW)**

					and weighting (%)
BEA-4-450	Engineering Mathematics	4	20	1 / 1+2	50 / 50
BEA-4-485	Construction Practice B	4	20	1 / 1+2	0 / 100
BEA-4-FOA	Fundamentals of Acoustics	4	20	1 / 1	60 / 40
BEA-4-AIS	Acoustics Instrumentation *	4	20	1 / 2	50 / 50
BEA-4-BAC	Building and Environmental Acoustics *	4	20	2 /1	50 / 50
BEA-4-SEA	Subjective and Electro Acoustics *	4	20	2 /1	50 / 50
CBE_4_GW1	Gateway Preparation	4	1 & 2	0	N/A
CBE_4_GW2	Gateway Preparation	4	1 & 2	0	N/A
CBE_4_EPA	End Point Assessment	4		0	N/A

*Module includes laboratory / practical sessions

I. Timetable information

The course will run one full day per week for three consecutive semesters plus the following (fourth) semester dedicated for students to prepare and complete the End Point Assessment (see appendix G). Timetables will be made available to students when they are fully enrolled.
Students will be notified by email of any changes to their timetable.

Monday is the day of contact planned for the two taught semesters of year one.
Tuesday is the day of contact planned for the third taught semester of year two.

Induction session for this course is planned to occur in the week commencing 13 September 2021.
Official start of the taught course is planned to occur in the week commencing 20 September 2021

J. Costs and financial support

Course related costs

N/A

Tuition fees/financial support/accommodation and living costs

- Information on tuition fees/financial support can be found by clicking on the following link - http://www.lsbu.ac.uk/courses/undergraduate/fees-and-funding or
- http://www.lsbu.ac.uk/courses/postgraduate/fees-and-funding
- Information on living costs and accommodation can be found by clicking the following link- https://my.lsbu.ac.uk/my/portal/Student-Life-Centre/International-Students/Starting-at-LSBU/#expenses

List of Appendices

Appendix A: Curriculum Map

Table A1. Course modules mapped against learning outcomes of the Acoustics Technician Apprenticeship Standard, ref: ST0613. Key: T=Taught; D= Developed ; A= Assessed

		Modules Year 1				Modules Year 2		Year 1+2 and EPA		
		Engineering Mathematics	Construction Practice B	Fundamentals of Acoustics	Acoustic Instrumentation	Building and Environmental Acoustics	Subjective and Electro Acoustics	IOA on job assessment	OneFile	EPA
APPRENTICESHIP STANDARD	**Knowledge**									
	K1		TDA			D		A	A	A
	K2			TDA	TDA	TDA	TDA	A	A	A
	K3	TDA		D	D	D	D	A	A	A
	K4				TDA	TDA	TDA	A	A	A
	K5				TDA	TDA	TDA	A	A	A
	K6		TDA	TDA		TD		A	A	A
	K7		TDA			TD		A	A	A
	K8					TDA		A	A	A
	K9		TDA		TDA	TDA	TDA	A	A	A
	K10			TDA	TDA	TDA	TDA	A	A	A
	Skills									
	S1		TDA		TDA	TDA	TDA	A	A	A
	S2				TDA	TDA	TDA	A	A	A
	S3					TDA		A	A	A
	S4		TDA			TD		A	A	A
	S5				TDA	D	D	A	A	A
	S6	D		TDA		TDA	TDA	A	A	A
	S7				TDA	TDA	TDA	A	A	A
	S8			TDA		TDA	TDA	A	A	A
	S9		TDA		DA	DA	DA	A	A	A
	S10		TDA		TDA	TDA	TDA	A	A	A

	S11			TDA	TDA	TDA	TDA	A	A	A
	Behaviours									
	B1				TD	TD	TD	A	A	A
	B2		TDA		TD	TD	TD	A	A	A
	B3		TDA	TDA	TDA	TDA	TDA	A	A	A
	B4		TDA	D	D	D	D	A	A	A
	B5		TD					A	A	A

Table A2. Course modules mapped against learning outcomes of Engineering Council Accreditation of Higher Education Programmes (AHEP3,2014) (see appendix F)

Key: T= Taught; D= Developed ; A= Assessed

Learning Outcomes(AHEP3)	**Engineering Mathematics**	**Construction Practice B**	**Fundamentals of Acoustics**	**Acoustic Instrumentation**	**Building and Environmental Acoustics**	**Subjective and Electro Acoustics**
A1			TDA	TDA	TDA	TDA
A2	TDA					
A3		TDA				
A4		TDA	D		D	D
A5		TDA	D		TD	
A6		TDA		D	D	D
B1			D	TDA	TDA	TDA
B2			TDA	TDA	TDA	TDA
B3	TDA		TDA		TDA	TDA
B4		TDA			TDA	
B5		TDA	TDA		TDA	TDA
B6	TDA			TDA	DA	DA
B7	TDA		TDA	TDA	TDA	TDA
B8		TDA			TDA	
B9		TDA		DA	DA	DA
C1		TDA		TDA	TDA	TDA
C2				TDA	TDA	TDA
C3				TDA	TDA	TDA
C4			TDA	TDA	TDA	TDA
C5		TDA		TDA		
C6		TDA		D	D	D
D1	TDA	TDA	TDA	TDA	TDA	TDA

D2		TD				
D3	D	TDA	D	D	D	D
D4		TDA		TD	TD	TD

Appendix B:
Embedding the Educational Framework for Undergraduate Courses

The Educational Framework at London South Bank University is a set of principles for curriculum design and the wider student experience that articulate our commitment to the highest standards of academic knowledge and understanding applied to the challenges of the wider world.

The Educational Framework reflects our status as University of the Year for Graduate Employment awarded by *The Times and The Sunday Times Good University Guide 2018* and builds on our 125 year history as a civic university committed to fostering social mobility through employability and enterprise, enabling our students to translate academic achievement into career success.

There are four key characteristics of LSBU's distinctive approach to the undergraduate curriculum and student experience:

- Develop students' professional and vocational skills through application in industry-standard facilities
- Develop our students' graduate attributes, self-awareness and behaviours aligned to our EPIIC values
- Integrate opportunities for students to develop their confidence, skills and networks into the curriculum
- Foster close relationships with employers, industry, and Professional, Statutory and Regulatory Bodies that underpin our provision (including the opportunity for placements, internships and professional opportunities)

The dimensions of the Educational Framework for curriculum design are:

- **informed by employer and industry** needs as well as professional, statutory and regulatory body requirements
- **embedded learning development** for all students to scaffold their learning through the curriculum taking into account the specific writing and thinking requirements of the discipline/profession
- **high impact pedagogies** that enable the development of student professional and vocational learning through application in industry-standard or authentic workplace contexts
- **inclusive teaching, learning and assessment** that enables all students to access and engage the course
- **assessment for learning** that provides timely and formative feedback

All courses should be designed to support these five dimensions of the Educational Framework. Successful embedding of the Educational Framework requires a systematic approach to course design and delivery that conceptualises the student experience of the curriculum as a whole rather than at modular level and promotes the progressive development of understanding over the entire course. It also builds on a well-established evidence base across the sector for the pedagogic and assessment experiences that contribute to high quality learning.

This appendix to the course specification document enables course teams to evidence how their courses meet minimum expectations, at what level where appropriate, as the basis for embedding the Educational Framework in all undergraduate provision at LSBU.

Dimension of the Educational Framework	Minimum expectations and rationale	How this is achieved in the course
Curricula informed by employer and industry need	Outcomes focus and professional/employer links All LSBU courses will evidence the involvement of external stakeholders in the curriculum design process as well as plan for the participation of employers and/or alumni through guest lectures or Q&A sessions, employer panels, employer-generated case studies or other input of expertise into the delivery of the course provide students with access to current workplace examples and role models. Students should have access to employers and/or alumni in at least one module at level 4.	The curriculum design is informed by the IOA the Apprenticeship Trailblazer and the Industrial Advisory Panel at LSBU. All teaching staff on the course is LSBU staff with relevant past industrial experience and strong links with the industry and employers. Teaching material will receive the input from the industry as cases studies. Alumni and senior member of the industry will be invited for guest lectures and networking with students. All apprentices will be working in the acoustic industry and related industries where acoustics expertise is needed and will be supported through their studies by their employer. It is recommended that every student has a mentor to support the on job assessment.
Embedded learning development	Support for transition and academic preparedness At least two modules at level 4 should include embedded learning development in the curriculum to support student understanding of, and familiarity with, disciplinary ways of thinking and practising (e.g. analytical thinking, academic writing, critical reading, reflection). Where possible, learning development will be normally integrated into content modules rather than as standalone modules. Other level 4 modules should reference and reinforce	These expectations are achieved in the Construction Practice B module in which professional skills, study and learning skills are formally introduced and developed. Learning development such as analytical thinking, critical thinking and problem solving will be also integrated into the content and delivery of all other modules to consolidate the learning development

	the learning development to aid in the transfer of learning.	acquired in Construction Practice B
High impact pedagogies	<u>Group-based learning experiences</u> The capacity to work effectively in teams enhances learning through working with peers and develops student outcomes, including communication, networking and respect for diversity of perspectives relevant to **professionalism** and **inclusivity**. At least one module at level 4 should include an opportunity for group working. Group-based learning can also be linked to assessment at level 4 if appropriate. Consideration should be given to how students are allocated to groups to foster experience of diverse perspectives and values.	Construction Practice B features a group design work and group presentation assessed assignment. Students are encouraged to provide peer formative assessment. Due to the nature of the scheme, group-based learning is also encouraged in topics such as Engineering Mathematics, Building and Environmental Acoustics and Subjective and Electro Acoustics modules. This is implemented through in-class group tasks and groups discussions. All modules at level 4 concerning laboratory experiments involve group work positively reinforcing team work and collaboration skills
Inclusive teaching, learning and assessment	<u>Accessible materials, resources and activities</u> All course materials and resources, including course guides, PowerPoint presentations, handouts and Moodle should be provided in an accessible format. For example, font type and size, layout and colour as well as captioning or transcripts for audio-visual materials. Consideration should also be given to accessibility and the availability of alternative formats for reading lists.	Teaching and learning materials are developed for a high accessibility. Students are asked about accessibility of materials. Special needs are taken into consideration in the development of materials and course work briefs. Students work in diverse groups in labs. Inclusion is guaranteed with the mix of different cohorts during the lectures and tutorials.
Assessment *for* learning	<u>Assessment and feedback to support attainment, progression and retention</u> Assessment is recognised as a critical point for at risk students as well as integral to the learning of all students. Formative feedback is essential during transition into university. All first semester	Most of the modules incorporate in-class formative assessments in Semester 1 and 2. Most modules will provide valuable feedback on formative in-class assessment activities. Assignments and/or

	modules at level 4 should include a formative or low-stakes summative assessment (e.g. low weighted in final outcome for the module) to provide an early opportunity for students to check progress and receive prompt and useable feedback that can feed-forward into future learning and assessment. Assessment and feedback communicates high expectations and develops a commitment to **excellence**.	formative quizzes/short tests will provide feedback within 15 working days. In tutorial sessions progress will be evaluated and feedback will be provided in-class.
High impact pedagogies	<u>Research and enquiry experiences</u> Opportunities for students to undertake small-scale independent enquiry enable students to understand how knowledge is generated and tested in the discipline as well as prepare them to engage in enquiry as a highly sought after outcome of university study. In preparation for an undergraduate dissertation at level 6, courses should provide opportunities for students to develop research skills at level 4 and 5 and should engage with open-ended problems with appropriate support. Research opportunities should build student autonomy and are likely to encourage **creativity** and problem-solving. Dissemination of student research outcomes, for example via posters, presentations and reports with peer review, should also be considered.	In the Construction Practice B Module there are opportunities for students to be introduced to research and be introduced to independent enquiry and creativity in the group project. A themed written assignment on a research topic and undertaking investigative lab experiments and writing their corresponding reports are an integral part of the four acoustics modules. They are partly designed to develop research skills, critical thinking, creativity and problem solving skills.
Curricula informed by employer and industry need / Assessment *for* learning	<u>Authentic learning and assessment tasks</u> Live briefs, projects or equivalent authentic workplace learning experiences and/or assessments enable students, for example, to engage with external clients, develop their understanding through situated and experiential learning in real or simulated workplace contexts and deliver outputs to an agreed specification and deadline. Engagement with live briefs creates the opportunity for the development of student outcomes including **excellence**, **professionalism**, **integrity** and **creativity**. A live brief is likely to develop research and enquiry skills and can be linked to assessment if appropriate.	The written assignments required to be submitted by the students by a certain deadline for five of the modules introduce students to working on a live brief to as set specification and deadline. Undertaking laboratory experiments and producing corresponding reports simulate real world workplace activity and tasks where professional and research skills can be developed. In class case studies analysis and discussions will provide an added opportunity to simulate

		authentic professional scenarios to develop excellence, critical thinking professionalism, integrity and creativity.
Inclusive teaching, learning and assessment	<u>Course content and teaching methods acknowledge the diversity of the student cohort</u> An inclusive curriculum incorporates images, examples, case studies and other resources from a broad range of cultural and social views reflecting diversity of the student cohort in terms of, for example, gender, ethnicity, sexuality, religious belief, socio-economic background etc. This commitment to **inclusivity** enables students to recognise themselves and their experiences in the curriculum as well as foster understanding of other viewpoints and identities.	Teaching notes graphics, real life examples and case studies reflect on the diversity of students and diversity in the workplace. The diversity in the course is exemplified by the wide cultural and ethnical background diversity of the teaching team.
Curricula informed by employer and industry need	<u>Work-based learning</u> Opportunities for learning that is relevant to future employment or undertaken in a workplace setting are fundamental to developing student applied knowledge as well as developing work-relevant student outcomes such as networking, **professionalism** and **integrity**. Work-based learning can take the form of work experience, internships or placements as well as, for example, case studies, simulations and role-play in industry-standards settings as relevant to the course. Work-based learning can be linked to assessment if appropriate.	As noted above students on the course are part-time and working in the acoustic industry where they will have many opportunities to develop work-based learning and network skills. LSBU tracks and monitors on job progression via OneFile. In class case studies analysis and discussions will provide an added opportunity to simulate professional scenarios to develop excellence, professionalism, integrity and creativity.
Embedded learning development	<u>Writing in the disciplines: Alternative formats</u> The development of student awareness, understanding and mastery of the specific thinking and communication practices in the discipline is fundamental to applied subject knowledge. This involves explicitly defining the features of disciplinary thinking and practices, finding opportunities to scaffold student attempts to adopt these ways of thinking and practising and providing opportunities to	Writing skills are specifically taught, practiced and developed in Construction Practice B where there are three written course work assignments and one group presentation on subjects relevant to the acoustic or construction industry. All the acoustic modules have written course work where the student is required to write in the

	receive formative feedback on this. A writing in the disciplines approach recognises that writing is not a discrete representation of knowledge but integral to the process of knowing and understanding in the discipline. It is expected that assessment utilises formats that are recognisable and applicable to those working in the profession. For example, project report, presentation, poster, lab or field report, journal or professional article, position paper, case report, handbook, exhibition guide.	discipline. Three acoustics modules require student to submit lab experiment reports where understanding and critical thinking and learning development is practiced and reflected.
High impact pedagogies	<u>Multi-disciplinary, interdisciplinary or interprofessional group-based learning experiences</u> Building on experience of group working at level 4, at level 5 students should be provided with the opportunity to work and manage more complex tasks in groups that work across traditional disciplinary and professional boundaries and reflecting interprofessional work-place settings. Learning in multi- or interdisciplinary groups creates the opportunity for the development of student outcomes including **inclusivity**, communication and networking.	Apprentices are introduced to these expectations by embedding this knowledge in lectures for all modules. Construction Practice B group work is designed to develop inter-disciplinary and inter professional awareness. This is also the case for the lab experiments run in groups of students of different professional backgrounds. Students attending shared modules Engineering Mathematics and Construction practice B mid and meet with students from other courses and different professional background. This will facilitate development of inter professional awareness inclusivity, communication and networking
Assessment *for* learning	<u>Variation of assessment</u> An inclusive approach to curriculum recognises diversity and seeks to create a learning environment that enables equal opportunities for learning for all students and does not give those with a particular prior qualification (e.g. A-level or BTEC) an advantage or disadvantage. An holistic assessment strategy should provide opportunities for all students to be able to demonstrate achievement of learning outcomes in different ways	A variety of formative assessment will be embedded in class / laboratory sessions to cater all learning styles. They will be implemented in the form of short quizzes, group tasks, presentations, group discussions, diagnose tests and mock exams. There are a range of summative assessment types on the course catering for a

	throughout the course. This may be by offering alternate assessment tasks at the same assessment point, for example either a written or oral assessment, or by offering a range of different assessment tasks across the curriculum.	wide range of student learning styles. These include as follows: Written examinations, phase tests. Written assignments. Laboratory experiment Reports Individual Presentations. Group Presentations
Curricula informed by employer and industry need	<u>Career management skills</u> Courses should provide support for the development of career management skills that enable student to be familiar with and understand relevant industries or professions, be able to build on work-related learning opportunities, understand the role of self-appraisal and planning for lifelong learning in career development, develop resilience and manage the career building process. This should be designed to inform the development of **excellence** and **professionalism**.	Career management and professional development is specifically taught and practice in Construction Practice B module. Those skills and awareness are embedded and reinforced through practical cases in the teaching of all the other modules. Tutors in the course will provide regular advice and guidance on personal development plans and CPD opportunities to attain professional recognition and develop excellence. A member from the professional body (IOA) and employer will be invited to talk to students about career management and professional progression. The course is informed on career development by the IOA through teaching team who are members of the IOA Education Committee, IOA Membership Committee and IOA Research Coordination Committee. The course is also informed on those topics by the Industrial Advisory Panel at LSBU opportunities

Appendix C: Personal Development Planning

Personal Development Planning (PDP) is a structured process by which an individual reflects upon their own learning, performance and/or achievement and identifies ways in which they might improve themselves academically and more broadly. Course teams are asked to indicate where/how in the course/across the modules this process is supported.

Approach to PDP	Level 4
1 Supporting the development and recognition of skills through the personal tutor system.	Apprentices are appointed a personal tutor who advise on development and recognition of skills PDP and career development. This is brought to the attention of all students at induction, by a welcoming announcement on the VLE and also by reference to personal tutoring in the course guide. Students are sent an email informing them who their personal tutor is and the personal tutor invites them to an introductory meeting. There are open surgeries offered by all personal tutors for two hours a week in each semester. In addition, the LSBU apprenticeship are a central point for apprentices and employers to seek advice on personal development
2 Supporting the development and recognition of skills in academic modules/modules.	The Course Director who is responsible for the progress and development of all the apprentices or the course, works together with the module leaders and year tutors to solve issues and support the development and recognition of the student skills and effort. Assessed coursework and tutorial sessions, in stages, provides the feedback for the recognition, consolidation and improvement of these academic skills. Formative assessment provides additional recognition and monitoring of progress and/or needs.
3 Supporting the development and recognition of skills through purpose designed modules/modules.	Each module has progressive coursework which is assessed providing valuable feedback and feed forward for the consolidation and improvement of the student academic and professional skills. Technical skills required for an acoustic technician course are the taught in all the purposed designed modules. The recognition, support and development for the attainment of those skills run throughout the course in several modules via the module leaders though formative course work, feedback on assessed coursework and tutorials.
4 Supporting the development and recognition of skills through research projects and dissertations work.	Guided laboratory experiments and their corresponding reports are designed to provide practical confidence in research and engineering skills. The recognition, support and development for the attainment of research and report writing skills are provided in five modules via the module leaders though tutorials, lab experiment supervision,

	feedback on assessed coursework (investigative assignments, lab experiment reports, group assignment) where valuable feedback and feed forward will be provided. The LSBU School assigned librarian provides dedicated face to face or online support available for off-line and on-line searches for reports, papers, articles and other research tools.
5 Supporting the development and recognition of career management skills.	Career management skills and PDP are taught and developed specifically in Construction Practice B. Support for the development and recognition of career management skills is embedded in the content and delivery of all modules. Tutors in the course will provide regular advice and guidance on identifying strengths and weaknesses in personal development plans and CPD opportunities to attain professional recognition and develop excellence. Representatives of IOA are invited to give a presentation to the students on the services offered by their respective institution and also to brief the students on the benefits of the student membership of the institutions. The LSBU Careers and Employability Centre are invited to give a presentation to the students on the services they provide. LSBU staff will closely work with both companies and professional institutions to ensure the development of professional skills and career management through the apprenticeship programme
6 Supporting the development and recognition of career management skills through work placements or work experience.	Apprentices on the course are part-time and working in the acoustic industry where they will have many opportunities to obtain career development support. The academics along with the apprenticeship team /office will be in regular contact with apprentices' employers to monitor and support in a coordinated way, the academic and professional development of apprentices and to identify potential weaknesses and needs.
7 Supporting the development of skills by recognising that they can be developed through extra curricula activities.	The supplement of relevant and additional skills that can be acquired outside the course is brought to the attention of all apprentices at induction and regularly during the course. Students are encouraged to attend conferences, seminars or free evening talks organised by LSBU, the IOA, industrial organisations or relevant supporting companies. Students are encouraged to join the IOA different groups and in particular the Early Careers Group which organises presentations, site visits, network and social events.
8 Supporting the development of the skills and attitudes as a basis for continuing professional development.	The development of the skills and attitudes as a basis for continuing professional development is specifically provided in Construction Practice B module and more broadly in the content and teaching delivery of all

	modules. The construction practice module introduces specifically tools and reflective techniques to identify, develop and monitor professional progression. Lecturers consolidate professional development skills and correct attitudes in the lectures throughout the duration of the course. There is additional guidance and support at LSBU Job Shop and Careers Gym and through every level of the course to develop effective Personal Development Plans reviewed by the year tutor
9 Other approaches to personal development planning.	The LSBU Careers and Employability Centre are invited to give a presentation to the students on the services they provide. They provide specialist career development advice to LSBU students. Good reference and text books of career development are recommended to students. Senior practitioners or managers of relevant companies will be invited as guest speakers to talk to students about career management and professional progression. All students are encouraged to join the relevant professional body (IOA) and familiarise with the Continuing Personal and Professional Development guidance and resources provided.
10 The means by which self-reflection, evaluation and planned development is supported e.g. electronic or paper-based learning log or diary.	The construction practice module introduces the relevant professional associations as the ideal channels and resources to develop effective career plans. It specifically teaches and encourages reflection on the role of the apprentice in the concern industry and possible interactions and involvement. It introduces specifically tools and reflective techniques (e.g. keeping of an electronic reflective log or industry standard PDP template) recommended to students to identify, develop and monitor professional progression. Professional development is an important running theme embedded and promoted throughout the entire course.

Appendix D: Terminology

[Please provide a selection of definitions according to your own course and context to help prospective students who may not be familiar with terms used in higher education. Some examples are listed below]

awarding body	a UK higher education provider (typically a university) with the power to award higher education qualifications such as degrees
blended teaching and learning	Blended learning combines in-person classroom / laboratory activities with online learning, interaction and delivery

bursary	a financial award made to students to support their studies; sometimes used interchangeably with 'scholarship'
collaborative provision	a formal arrangement between a degree-awarding body and a partner organisation, allowing for the latter to provide higher education on behalf of the former
compulsory module	a module that students are required to take
contact hours (QAA)	The term 'contact hours' refers to the time allocated on learning programmes to direct contact between a student and a member of staff. This can occur in various different forms depending on its intended purpose. Contact time may also take a virtual rather than face-to-face form, through the use of email, email discussion groups, webinars, video conferencing and other web-based discussion forums
coursework	student work that contributes towards the final result but is not assessed by written examination
current students	students enrolled on a course who have not yet completed their studies or been awarded their qualification
delivery organisation	an organisation that delivers learning opportunities on behalf of a degree-awarding body
distance-learning course	a course of study that does not involve face-to-face contact between students and tutors
extracurricular	activities undertaken by students outside their studies
feedback (on assessment)	advice to students following their completion of a piece of assessed or examined work
formative assessment	a type of assessment designed to help students learn more effectively, to progress in their studies and to prepare for summative assessment; formative assessment does not contribute to the final mark, grade or class of degree awarded to students

higher education provider	organisations that deliver higher education
independent learning	learning that occurs outside the classroom that might include preparation for scheduled sessions, follow-up work, wider reading or practice, completion of assessment tasks, or revision
intensity of study	the time taken to complete a part-time course compared to the equivalent full-time version: for example, half-time study would equate to 0.5 intensity of study
lecture	a presentation or talk on a particular topic; in general lectures involve larger groups of students than seminars and tutorials
learning zone	a flexible student space that supports independent and social learning
material information	information students need to make an informed decision, such as about what and where to study
mode of study	different ways of studying, such as full-time, part-time, e-learning or work-based learning
modular course	a course delivered using modules
module	a self-contained, formally structured unit of study, with a coherent and explicit set of learning outcomes and assessment criteria; some providers use the word 'course' or 'course unit' to refer to individual modules
national teaching fellowship	a national award for individuals who have made an outstanding impact on student learning and the teaching profession
navigability (of websites)	the ease with which users can obtain the information they require from a website
optional module	a module or course unit that students choose to take
performance (examinations)	a type of examination used in performance-based subjects such as drama and music
professional body	an organisation that oversees the activities of a particular profession and represents the interests of its members
prospective student	those applying or considering applying for any programme, at any level and employing any mode of study, with a higher education provider

regulated course	a course that is regulated by a regulatory body
regulatory body	an organisation recognised by government as being responsible for the regulation or approval of a particular range of issues and activities
scholarship	a type of bursary that recognises academic achievement and potential, and which is sometimes used interchangeably with 'bursary'
semester	either of the parts of an academic year that is divided into two for purposes of teaching and assessment (in contrast to division into terms)
seminar	seminars generally involve smaller numbers than lectures and enable students to engage in discussion of a particular topic and/or to explore it in more detail than might be covered in a lecture
summative assessment	formal assessment of students' work, contributing to the final result
term	any of the parts of an academic year that is divided into three or more for purposes of teaching and assessment (in contrast to division into semesters)
total study time	the total time required to study a module, unit or course, including all class contact, independent learning, revision and assessment
tutorial	one-to-one or small group supervision, feedback or detailed discussion on a particular topic or project
work/study placement	a planned period of experience outside the institution (for example, in a workplace or at another higher education institution) to help students develop particular skills, knowledge or understanding as part of their course
workload	see 'total study time'
written examination	a question or set of questions relating to a particular area of study to which candidates write answers usually (but not always) under timed conditions

Appendix E: Team Staff

Acoustics Apprenticeship teaching team

- Dr Luis Gomez-Agustina BEng (Hons), MSc (Acoustics), PhD (Acoustics), FIOA, MASA, SFHEA. Senior Lecturer. Academic lead of the Acoustics Technician Apprenticeship at LSBU.

  He is the director of the Institute of Acoustics (IOA) courses at LSBU (Diploma in Acoustics and Noise control and Certificate of competence in environmental noise measurement (CCENM)).
  He teaches research methods and laboratory modules in the MSc Environmental and Architectural Acoustics. He also teaches in IOA Diploma modules Building Acoustics, Noise and Vibration Control Engineering and Final Project and in the short course CCENM. He teaches acoustics in shared modules of MSc , BEng and HND Building Services Engineering courses. He taught Construction Practice-B module to BEng and HND Building Services Engineering students. He has over 12 years teaching experience in higher education, is a published active researcher and has 8 years of acoustic industrial experience. He is the main academic liaison between LSBU and the IOA. He is member of the IOA Education committee, IOA London Branch committee, London Heliport Consultative Group, and member of the LSBU Industrial Advisory Board

- Dr Haydar Aygun BSc (Hons), MSc, PhD (Acoustics), MIOA, MASA, FHEA. Associate Professor.
  He is the Course Director of the MSc Environmental and Architectural Acoustics and module leader of four modules in the MSc Environmental and Architectural Acoustics. He teaches acoustics on the MSc, IOA Diploma and CCENM. He also teaches Building Services Engineering subjects at undergraduate level. He is a published and active researcher and has 7 year teaching experience. He is member of the LSBU Industrial Advisory Board, Timetabling Officer and NSS lead for the School.

- Professor Stephen Dance BSc (Hons), PhD (Acoustics), FIOA, MASA, SFHEA, MUKHCA. He is the co-lead for the Acoustic Engineering Technician Apprenticeship at LSBU.

  He is a National Teaching Fellow, teaches acoustics and research methods on the MSc Environmental and Architectural Acoustics, acoustics in the IOA Diploma and CCENM. He is an active and published researcher and leads the Acoustic Research Group. He is also an academic entrepreneur. He has 22 years teaching experience at undergraduate and post graduate level. He is Chair of the IOA Research Coordination Committee, Chair of the IOA Musical Acoustics Group, member of the IOA membership committee, member of the LSBU Industrial Advisory Board. He is the Chair for the Ministry of Housing, Community and Local government for the Building Regulations (Noise).

- A New Member of Academic Staff with appropriate academic qualifications (PhD level), teaching experience (undergraduate level) and industrial experience has been authorised and the job advert published.

- Dr Esmail Saber BEng MSc PhD. FHEA. Senior Lecturer. He is the Course Director of HNC Building Services Engineering apprenticeship. He is the module leader of Engineering Mathematics taught in HNC Building Services Engineering apprenticeship. He also teaches subjects in building services engineering area including mathematics and passive building design. His research activities span around building performance modelling, natural ventilation design and control and CFD simulation in the built environment.

- Dr Metkel Yebiyo BEng MSc PhD MCIBSE MIoR. SFHEA. Senior Lecturer He is the Course Director of BEng (Hons) Building Services Engineering. He teaches and is the module leader of Construction practice B module. He also teaches refrigeration air conditioning and heat pumps engineering. He teaches at postgraduate and undergraduate levels.

- Dr Rusdy Hartungi BSc PhD CEng MCIHT AMBCA PR2 SFHEA. Senior lecturer. He teaches electrical and power disciplines as well as project business management. He teaches Construction Practice-B module to BEng and HND Building Services Engineering students Rusdy's research interests are mainly in the area of power quality and energy in building. Prior to becoming an academic, Rusdy spent several years in the building services industry working for a multinational company as an engineer.
- Navpreet Chohan BTEC BEng MSc. He teaches computer drafting in Construction Practice B. He has extensive industrial experience and possesses a sound knowledge of construction and design software, namely AutoCAD REVIT and BIM.

Other supporting and relevant staff from the Civil and Building Services Division

- Dr Alex Paurine BEng PhD CEng MIMEchE MInstR MCIBSE. Head of the Division. He is the module leader and teaches Engineering Mathematics module in BEng Building Services Engineering. He is an active researcher on fire safety and sustainable energy systems. Alex worked as energy manager for Houses of Parliament and as a mechanical design engineer for a number of consulting companies, and keeps up-to-date links within the industry.

- Dr Mahmood Datoo BSc PhD CEng MICE MIMechE MRAeS SFHEA is the School of BEA Director of Education and Student Experience. Associate Professor. He teaches Structural Analysis, Stress Analysis, Finite Element Modelling.

- Carlos Gonzalo, DET, BEng, MSc, SFHEA, Senior Lecturer in Civil & Building Services Engineering. He is the Apprenticeship Academic Lead of the School of BEA.He is the director of HNC Civil Engineering course. Carlos has significant experience in both Further Education and Higher Education Apprenticeship Programmes. His MSc in Multidisciplinary Engineering makes him fit for purpose to work with both divisions of Building Services and Civil Engineering for which he teaches and leads modules such as Mathematics, Sustainable Construction and Renewable Energy Technologies. He is an active researcher currently focused on a novel technique for fire safety in cladding panels. He also has industry experience in his country (Spain) where he used to give approval for Built Environment and Industry Installations on behalf of the Council of his city. Carlos leads the development of the academic part of the programmes and he allocates personal tutors for the apprentices of Building Services Engineering. The tutors from the teaching team are made up of experienced academics who will teach, support and guide apprentices on programme.

- Prof Issa Chaer BEng PhD FInstR SFHEAT. He is Director of Research and Enterprise for the School of BEA. He teaches Design applications, integrated building design and thermal energy systems. Issa has a research portfolio spanning over 15 years with evidence of significant contribution to the advancement of engineering knowledge at national and international levels
- Dr Joy Zhihui Ye BEng MSc PhD MEI FHEA, teaches thermofluids engineering, thermal energy systems and passive building design. Her broad research interests are in energy, the indoor environment and the operational performance of buildings. She worked in heating networks for the private sector.

Appendix F: Engineering Council AHEP 3 Learning Outcomes

Science and Mathematics (SM)

SM1i Knowledge and understanding of the scientific principles underpinning relevant technologies, and their evolution

SM2i Knowledge and understanding of mathematics and an awareness of statistical methods necessary to support application of key engineering principles

Engineering and Analysis (EA)

EA1i Ability to monitor, interpret and apply the results of analysis and modelling in order to bring about continuous improvement

EA2i Ability to apply quantitative methods in order to understand the performance of systems and components

EA3i Ability to use the results of engineering analysis to solve engineering problems and to recommend appropriate action

EA4i Ability to apply an integrated or systems approach to engineering problems through know- how of the relevant technologies and their application

Design (D)

D1i Be aware of business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics

D2i Define the problem identifying any constraints including environmental and sustainability limitations; ethical, health, safety, security and risk issues; intellectual property; codes of practice and standards

D3i Work with information that may be incomplete or uncertain and be aware that this may affect the design

D4i Apply problem-solving skills, technical knowledge and understanding to create or adapt designs solutions that are fit for purpose including operation, maintenance, reliability etc.

D5i Manage the design process, including cost drivers, and evaluate outcomes

D6i Communicate their work to technical and non-technical audiences

Economic, legal, social, ethical and environmental context (EL)

EL1i Understanding of the need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct

EL2i Knowledge and understanding of the commercial, economic and social context of engineering processes

EL3i Knowledge of management techniques that may be used to achieve engineering objectives

EL4i Understanding of the requirement for engineering activities to promote sustainable development

EL5i Awareness of the relevant legal requirements governing engineering activities, including personnel, health & safety, contracts, intellectual property rights, product safety and liability issues

EL6i Awareness of risk issues, including health & safety, environmental and commercial risk

Engineering practice (P)

P1i Knowledge of contexts in which engineering knowledge can be applied (for example operations and management, application and development of technology, etc.)

P2i Understanding of and ability to use relevant materials, equipment, tools, processes, or products

P3i Knowledge and understanding of workshop and laboratory practice

P4i Ability to use and apply information from technical literature

P6i Ability to use appropriate codes of practice and industry standards

P7i Awareness of quality issues and their application to continuous improvement

P11i Awareness of team roles and the ability to work as a member of an engineering team

Additional general skills (G)

G1i Apply their skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities

G2i Plan self-learning and improve performance, as the foundation for lifelong learning/CPD

G3i Plan and carry out a personal programme of work

G4i Exercise personal responsibility, which may be as a team member

Appendix G: Gateway and End Point Assessment student support

The gateway requirements to progress to the EPA stage for this apprenticeship are:

- Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard.
- The apprentice satisfies English / mathematics at Level 2
- Apprentices complete the work based portfolio. That includes evidence of regular reviews of performance between the apprentice and line manager; feedback from you line manager, peers and any direct report; and a continued professional development log.

The employer in consultation with the academic provider (i.e. LSBU) identifies when the apprentice is ready to pass the gateway and undertake their EPA and notify the EPAO (i.e. IOA) that the apprentice has passed the gateway.

The End Point Assessment (EPA) requirements are that the apprentice passes :

- Assessment Method 1: Project and Presentation
- Assessment Method 2: Professional Discussion (based on portfolio)

A successful apprenticeship programme is expected to be completed in two consecutive academic years.

The course team, the skills coach and the apprenticeship team /office will work closely to provide appropriate support and guidance. They'll be in regular contact with apprentices' employers to monitor and support in a coordinated way, the academic and professional development of apprentices and to identify potential weaknesses and needs particularly at the gateway and through the apprentice preparation work toward the end point assessment (EPA).

Gateway

Apprentices reaching gateway will have completed their training and are preparing for their final End Point Assessment to certify the new KSBs which they have learned.
To support the gateway process, the course team, the skills coach and the apprenticeship team will organise outside the teaching hours a gateway discussion with the employer and the End Point Assessment Organisation (EPAO). This discussion will evaluate the apprentice against the KSBs set out in their standard to decide whether they are ready to take their assessment.

EPA preparation, employer and apprentice support

The course team and the skills coach in consultation with the apprenticeship office will familiarise apprentices with their EPA format and grading criteria, particularly where reasonable adjustments have been made to the default format.
During the EPA preparation semester they will provide support (drop in sessions, seminars, tutorials) to complete the EPA tasks such as giving guidance on reports writing and presentation techniques and assisting with the review of the portfolio and interview.

Mock assessments might be held which will be worded and assessed taking into account the KSBs included in the standard and EPA grading criteria. The mock results will be used to

determine when to hold a three way “gateway” discussion to agree whether the apprentice is ready to move to the next stage, or if they need any additional support
The course teams will strive to word and assess all assignments and reviews with reference to the EPA grading criteria to familiarise the apprentice in advance.
The skills coach will meet regularly with the apprentice to guide, monitor and manage their academic progress and development in the workplace. They will also advise and feedback to the course team and company supervisor on any identified difficulty on the progress of apprentices.

The employer company will assign a relevant senior employee as a mentor/supervisor to support the progress of the apprentice on the job part of the apprenticeship. At regular tripartite meetings, the course director and the skills coach, will educate and guide the company supervisor in ways to fulfil the programme requirements and support the learning and professional development of the apprentice in the workplace
The employer will be encouraged to share the responsibility for monitoring the apprentice’s progress and provide regularly meaningful feedback to their apprentices to help them understand what they need to improve to make progress.
It is also important to regularly give meaningful feedback to apprentices to help them understand what they need to improve to make progress.

20% off the job training

The course team in conjunction with the skills coaches and the apprenticeship office will work together to record and review the apprentice contributions towards the minimum 20% off the job training requirement. This will be implemented by logging and monitoring contributions and course attendance contact hours in the OneFile portfolio management system. This monitored information and apprentice performance logged in OneFile will then be discussed at the regular apprentice progress reviews.
The skills coach will be instrumental in ensuring compliance with the 20% off the job training requirement and will need to ensure that this is being adequately given by the employer.

The frequency of these progress review meetings between the training provider (LSBU), should be set out in the commitment statement. They are held typically every 12 weeks. However they may need to be at shorter intervals early on and adjusted as the apprenticeship progresses.

A recently developed active tracker process will be also used so that the apprentice, employer, LSBU skills coach and course team can collaboratively work on line on the monitoring, support and progress of the apprentice

Below is expanded detailed information on the End Point Assessment , content, process and requirements

THE EPA

A full summary of the End point Assessment can be found at:
https://www.instituteforapprenticeships.org/media/3194/st0613_acoustics_technician_l4_apforpublication_110619.pdf

1. What is being assessed

The Independent End Point Assessment Organisation (EPAO) will develop the detailed Assessment Tools, based on the published Assessment Plan. The End Point Assessment will be synoptic and therefore cover the knowledge skills and behaviours in the Standard. Some knowledge will be evidenced implicitly through the skills demonstrated by the apprentice e.g. a project investigating room acoustics will provide evidence of knowledge of the appropriate methods and standards to be used.

2. How will the assessment be carried out
The focus of the End Point Assessment is on the apprentice being able to meet the requirements of the Standard and to be able to evidence this through their work. It takes place in the last 6 months of the apprenticeship, once the apprentice has met the Gateway criteria, and consists of two assessment methods:

- Project and Presentation

and

- Professional Discussion, based on a portfolio

The Employer, LSBU (Apprenticeship team + skills coach + Course leader)
and the Independent Assessment Organisation (Institute of Acoustics) will work with the apprentice to agree the content of the Project, providing guidance as to the content, structure etc. The Independent Assessment Organisation will sign this off.

On-programme (typically 24 months)	Training to develop the occupation standard's knowledge, skills and behaviours.
End Point Assessment Gateway	• Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard. • English/mathematics Level 2 Apprentices must complete: • The work-based portfolio
End Point Assessment (which would typically take 6 months)	Assessment Method 1: Project and Presentation Assessment Method 2: Professional Discussion (based on portfolio)
Professional recognition	Aligns with recognition by: • The Engineering Council at Eng Tech level

EPA Summary Table

2.1. Assessment Method 1: Project and Presentation

This method has 2 components (both components are assessed holistically and must be passed).

Component 1: Project
Apprentices will undertake a project which would typically take 4 weeks and produce a report that appropriately covers all of the KSBs assigned to this method of assessment.
The project will be based on a typical real work-based acoustics project such as:

• Sound insulation test;

• Compliance Noise monitoring;
• Room acoustic design;
• Mechanical services assessment;
• Laboratory building element test;
• Acoustic assessment in support of a planning application
• Road traffic noise assessment

The project used in assessment method 1 must not be one of the projects included in assessment method 2. The project brief must be agreed at the Gateway between the apprentice, the employer and EPAO and the project report will cover the following as a minimum:

• project context;
• the apprentice's responsibilities and action taken by the apprentice (planning and execution);
• acoustic calculations;
• demonstration of skills and knowledge used;
• results.

The report must include an annex containing a maximum of 10 pieces of evidence relating to the project. The evidence must be attributable to the apprentice, in part or in full. Evidence must be accompanied by a statement outlining the apprentice's contribution, signed by the apprentice and their employer thereby authenticating it. Example evidence may include plans, diagrams, calculations, blog content, press releases, client feedback, manager feedback, video clips. This list is not definitive and other evidence sources apart from self-reflection are permissible. The annex must include a mapping of the evidence to the KSBs assessed by this assessment method.

A more detailed brief for the Project will be provided by the Independent Assessment Organisation. Apprentices must submit a project report to their EPAO within 30 working days of the agreed project start date.

The project report must be 2,500 words +/-10%, excluding annexes.

The Project will be sent to the EPAO for a fully independent assessment against the standard. It will be marked before the Professional Discussion Panel is held. The Professional Discussion Panel should be held within two working weeks of the Project being marked.

The project will be assessed by the independent assessor however they may consult with an independent technical expert where clarification is needed. The technical expert will only supply clarification on technical matters* to do with the job role. The assessment decision is made solely by the independent assessor.

Component 2: Presentation & Questioning

Apprentices will prepare and deliver a presentation that appropriately covers the KSBs assigned to assessment method 1.

The presentation will be based on a summary of the project report and will cover the following as a minimum:

• a summary of the project report;
• explanation of how and why specific techniques and criteria have been selected;
• recommendations;
• evaluation against project brief.

The independent assessor will then draw out any further information using questions. EPAOs must develop ‘question banks’ of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure the questions are fit for purpose’. The assessor may also generate no more than four of their own questions, if required.

The presentation will be completed and submitted after the Gateway and will be presented to an independent assessor, either face-to-face or via online video conferencing. If using an online platform, EPAOs must ensure appropriate measures are in place to prevent misrepresentation and ensure the apprentice is not being aided in some way.

The apprentice will submit the presentation between submission of the project report and the presentation date provided by the EPAO. The presentation must be submitted 10 working days before the presentation to allow the assessor to review it.

The presentation will last for 30 minutes including questioning. The assessor has the discretion to increase the time of the presentation by up to 10% to allow the apprentice to complete their last point.

The independent assessor will ask a minimum of 8 questions at the end of the presentation. Follow up questions are allowed for clarification of a point.

2.2. Assessment Method 2 - Professional Discussion

This assessment will take the form of a professional discussion, which must be appropriately structured to draw out the best of the apprentice’s competence and excellence and cover the KSBs assigned to this assessment method. It will focus on:

- the projects, work based training, development activities and performance reviews that the apprentice has undertaken during the “on-programme” apprenticeship period;
- details of the projects undertaken which will include a high-level overview of the project, key objectives and deliverables, dates and time periods for the project and a detailed description of the activities of the apprentice in order to achieve the project deliverables;
- A portfolio which should demonstrate how each work project and work-based training activity helps to achieve the Knowledge, Skills and Behaviours (KSBs) set out in the apprenticeship standard.

End Point Assessment Organisations (EPAOs) will receive a copy of the Portfolio at the Gateway point to provide sufficient time to review its content. EPAOs must provide guidance on what format the portfolio might take, including how it will be submitted and stating that it should not include any reflective self-assessment.

The content of the portfolio is expected to be used to support the professional discussion. The portfolio of evidence itself is not assessed, but is used to inform the questioning for the professional discussion. The portfolio of evidence must contain at least one piece of evidence mapped clearly to each of the knowledge, skills and behaviours (KSBs) relating to the professional discussion. Although each piece of evidence may map to more than one KSB, this will typically result in 10 pieces of evidence to cover all KSBs assigned to the professional discussion.

The professional discussion can take place in any of the following:
· Employer’s premises · a suitable venue selected by the EPAO (e.g. a training provider's premises). If the employer’s premises is not used, the EPAO is responsible for ensuring that it can facilitate the EPA.

The independent assessors will conduct and assess the Professional Discussion Panel.

The professional discussion must last for 45 minutes. The assessor has the discretion to increase the time of the professional discussion by up to 10% to allow the apprentice to complete their last answer. Further time may be granted for apprentices with appropriate needs, in-line with the EPAO's Reasonable Adjustments Policy.

During the discussion, the independent assessor must combine questions from the EPAO's question bank and those generated by themselves. The independent assessor will ask a minimum of 10 questions during the professional discussion, 5 from the question bank and 5 generated by themselves. The independent assessor may ask follow-up questions to seek clarification where required. Assessment should take place against the knowledge, skills and behaviours listed in the mapping section of this document.

3. Who carries out the assessment?

The End Point Assessment will be carried out by an Independent Assessment Organisation. The Employer and LSBU may have a role in ensuring that the apprentice is ready for End Point Assessment and understands what is required but they do not play any part in the decision of the grade to be awarded. Their respective roles are as follows:

Assessor Role

The Employer

- Brings a view of the apprentice from Performance Management and working with them in the workplace through the apprenticeship
- Has greatest clarity about whether the apprentice is fully competent in the workplace
- While consulting others, such as the LSBU and apprentice, makes the final decision to put the apprentice through the Gateway to commence the End-Point Assessment
- Plays no part in the End-Point Assessment itself.

LSBU (Apprenticeship team, skills coach, course leader)

- Brings a view of the apprentice from supporting them through the apprenticeship
- Brings greater understanding of the assessment process than the employer and hence broader view on competence
- Provides advice and guidance on the assessment process
- Plays no part in the End-Point Assessment itself.

Independent Assessor

- Brings a completely independent view to the End Point Assessment as they have had no engagement with the apprentice until that moment
- Reviews and marks the Project and Presentation
- Conducts and marks the Professional Discussion
- Determines the grade to be awarded to the apprentice
- Makes the decision on any appeal about the grade awarded.