Programme Specification

BSc (Hons) Acoustics with Music 2019/20

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

Awarding Institution	University of Southampton
Teaching Institution	University of Southampton
Mode of study	Full time
Duration of study	3 years
Accreditation details	None
Final award	Bachelor of Science (Honours)
Name of award	Acoustics with Music
Interim Exit awards	Certificate of Higher Education Diploma of Higher Education Bachelor of Science (Ordinary)
FHEQ level of final award	Level 6
UCAS code	HW73 Acoustics with Music
QAA Subject Benchmark or other external reference	This programme has been designed to conform to the National Qualifications Framework and is informed by QAA benchmark descriptors for Engineering (2015) and Music (2016) (www.qaa.ac.uk)
Director of Programmes	Dr Matthew Wright
Programme Lead	Dr Keith Holland
Date specification was written	December 2003
Date programme was validated	July 2014
Date specification last updated	June 2019

Programme Overview

The Acoustics and Music degree programme aims to provide a broadly based education in both theoretical and practical aspects of both subjects and will provide a sound basis for postgraduate studies in either of them. The modular nature of the degree programme allows you to choose your preferred balance between Acoustics, Vibration and Music as you progress.

Graduates usually find employment across a wide range of different professions ranging from acoustical engineering to all areas of the music industry and are particularly well placed to seek careers in the sound reproduction, architectural acoustics, and sound engineering fields.

The Department of Music provides expert vocal and instrumental tuition for students taking performance modules. There is an extensive library of over 4000 records and CDs and a new suite of music workstations for electronic music. The Department is also able to make use of the purpose-built Turner Sims Concert Hall, which houses a fine collection of historical and modern keyboard instruments. Performance activities are available throughout the acoustics and music degree programme in addition to sound recording facilities, music business studies and composition.

Learning and teaching

Knowledge and understanding in Acoustics are taught principally through lectures and practical laboratories. Extensive use is made of tutorial exercises for private learning which is supported by one-to-one support in tutorial classes. Sometimes you are required to find out for yourself (e.g. from libraries and e-resources) what is relevant to solving a particular problem.
You will develop your knowledge and understanding in Music through lectures, tutor-led and student-led seminars, group projects and coaching, study visits, independent research, individual tutorials and instrumental lessons.

Assessment

Knowledge and understanding in Acoustics is assessed principally by a combination of unseen written examinations and written assignments such as laboratory and reports. Essays are occasionally set for more qualitative subjects. Oral presentations are often used to assess knowledge and understanding of project work and to report information gathering and research based activities.
For music, depending on the nature of the activity (musicology, composition, performance), assessments of your knowledge and understanding may include in Music formal examinations or performances, extended written submissions such as a dissertation or composition portfolio, essays, study diaries, shorter pieces of assessed coursework, individual and group presentations, and listening tests. Progression is recognised in the assessment scheme, which tests the breadth and complexity of knowledge and understanding through to consolidation and application.

As a research-led University, we undertake a continuous review of our programmes to ensure quality enhancement and to manage our resources. As a result, this programme may be revised during a student's period of registration; however, any revision will be balanced against the requirement that the student should receive the educational service expected. Please read our Disclaimer to see why, when and how changes may be made to a student's programme.

Programmes and major changes to programmes are approved through the University's programme validation process which is described in the University's quality handbook.

Educational Aims of the Programme

Acoustical phenomena have far reaching consequences, some which are undesirable such as transportation noise whereas others are life enhancing such as communication and medical ultrasound imaging. However, advances in our understanding of acoustics have historically come from our perception of music, and today music continues to serve as a catalyst for enquiring minds to study physical science.

This joint honours degree programme in Acoustics with Music is unique in the UK in combining the study of these complementary disciplines. The aims of the programme reflect both disciplines and their relative emphasis will depend on your chosen route through the programme. The aims of the programme are:

- To provide you with a foundation in key technical subject areas that underpin acoustics through compulsory engineering modules in parts 1 and 2.
- To broaden and deepen your understanding of acoustics and vibration in the context of mechanical engineering such that you have sufficient technical background to pursue a professional career in an acoustics field.
- To offer you a range of projects and realistic tasks that necessitate problem formulation and solving, promote self-assessment, and enhance communication and teamwork skills.
- To expose you to an intellectually challenging and world leading research environment to stimulate an attitude of enquiry and independent self-learning, and foster an ethos of life-long learning and professional development.
- To develop your knowledge of the nature of musical experiences, musical repertoires and their cultural contexts, and the relevance of music and music-making to societies past and present.
- To enhance your ability to link aural to verbal articulations of musical ideas.
- To enable you to understand relationships between theory and practice.
- To inspire you to engage critically with musical processes and materials, whether through composition, performance, analysis, or criticism.

Programme Learning Outcomes

The following summary of intended learning outcomes reflects what a typical student might be expected to achieve and demonstrate if undertaking acoustics and music modules in equal measure. The learning outcomes attained will depend on your chosen route through the programme and to what extent you take full advantage of the learning opportunities that are provided. The learning outcomes have been informed by:

(i) the benchmark statement for engineering (2010) produced by the Quality Assurance Agency for Higher Education (QAA), which incorporates previous output standards devised by the Engineering Professors' Council and the Engineering Council UK.

(ii) The benchmark statement for music (2008) produced by the QAA.

Also outlined is how you can expect this learning to take place and how your learning will be assessed.

Knowledge and Understanding

Having successfully completed this programme you will be able to demonstrate knowledge and understanding of the following:

A1. Principles and modelling of acoustics and vibration phenomena, and awareness of inherent modelling assumptions and limitations.
A2. Fundamental concepts of sciences and technologies that are interrelated with acoustics and vibration in the context of sound production and engineering more generally.
A3. Mathematical concepts and solution techniques applicable to modelling and simulation of the physical world and engineering systems.
A4. Transduction of sound and vibration and associated signal processing techniques.
A5. Awareness of human response to sound and vibration, measures of human response and relevant standards.

M1. Musical repertoires, the practices involved in their creation, performance, and transmission, and the historical, cultural and technical issues that inform knowledge about them. The repertoires may include those of art music, popular music, jazz, vernacular music, and religious music, etc., of Western and/or non-Western traditions.
M2. Processes of composition, performance and reception.
M3. Aural, analytical, and practical skills.
M4. Elements of history, cultural theory, literature, iconography, anthropology, ethnography, and the physical and technological sciences relevant to the study and/or practice of music.

	Teaching and learning methods	*Assessment methods*
Acoustics	Knowledge and understanding are taught principally through lectures (often in classes of less than 30) and practical laboratories. Extensive use is made of tutorial exercises for private learning which is supported by one-to-one support in tutorial classes. Sometimes you are required to find out for yourself (e.g. from libraries and e-resources) what is relevant to solving a particular problem.	Knowledge and understanding is assessed principally by a combination of unseen written examinations and written assignments such as laboratory and reports. The relative weightings vary from one module to another and are summarised in Appendix 1. Essays are occasionally set for more qualitative subjects. Oral presentations are often used to assess knowledge and understanding of project work and to report information gathering and research based activities.

Music	You will develop your knowledge and understanding through lectures, tutor-led and student-led seminars, group projects and coaching, study visits, independent research, individual tutorials and instrumental lessons.	Depending on the nature of the activity (musicology, composition, performance), assessments of your knowledge and understanding may include formal examinations or performances, extended written submissions such as a dissertation or composition portfolio, essays, study diaries, shorter pieces of assessed coursework, individual and group presentations, and listening tests. Progression is recognised in the assessment scheme, which tests the breadth and complexity of knowledge and understanding through to consolidation and application.

Subject Specific Intellectual and Research Skills

Having successfully completed this programme you will be able to:

A1. Define acoustics and vibration problems, perform appropriate analyses using mathematical methods and computer software as necessary, and exercise creativity in problem solving.
A2. Analyse, interpret and draw conclusions from measured data.

M1. Observe / interpret / manipulate / understand / translate oral / written / visual signs denoting music
M2. Synthesise and deploy a wide range of knowledge and experience of the repertoire(s) studied
M3. Understand theoretical and aesthetic systems and relate theory and practice to each other
M4. Assimilate relevant scholarly literature and relate its insights to the practice and experience of music
M5. Critically assess concepts and hypotheses in the light of evidence, and apply insights and discoveries in one area of study to another
M6. Relate music to its historical, social, cultural, political, philosophical, economic, spiritual and religious context, and relate processes of change in music to historical, social and other factors
M7. Confront, explore and assimilate unfamiliar musical sounds, concepts, repertoires and practices
M8. Interact with and participate in a variety of musical cultures
M9. Operate in a multi-cultural environment
M10. Relate music to other arts and sciences in a multidisciplinary context

	Teaching and learning methods	***Assessment methods***
Acoustics	Problem solving skills are developed through personal study of tutorial exercises supported by tutorial classes and worked solutions. Such problems are typically well defined and conducive to hand calculation. The treatment of open ended problems which require solution by numerical means (e.g. Python) are taught through individual and group assignments. Analysis and interpretation of measured data is taught through experimental laboratories and design exercises.	Problem solving by means of hand calculation is assessed by unseen written examination. More realistic open ended problem solving are assessed through written assignments. Most laboratory work is written up and assessed formatively and summatively.

Music	Activities particularly designed to enhance your thinking skills include lectures, tutor-led and student-led seminars, group projects and coaching, study visits, independent research, individual tutorials and instrumental lessons.	Depending on the nature of the activity (musicology, composition, performance), assessments of your thinking skills may include formal examinations or performances, extended written submissions such as a dissertation or composition portfolio, essays, study diaries, shorter pieces of assessed coursework, individual and group presentations, and listening tests. Progression is recognised in the assessment scheme, which tests the depth and flexibility of cognitive skills through to analysis and critical evaluation.

Transferable and Generic Skills

Having successfully completed this programme you will be able to:

A1. Communicate effectively – in writing and verbally (and in a foreign language if a language option is taken).
A2. Collate data and analyse both quantitatively and qualitatively via graphical, numerical and statistical means.
A3. Use information and communication technology.
A4. Give structured oral presentations including information of a technical nature.
A5. Manage yourself and resources to meet deadlines and deliverables in a changing operating environment.
A6. Learn independently in familiar and unfamiliar situations.
A7. Manage situations which are unfamiliar or uncertain.

You will possess:

M1. Enhanced powers of imagination and creativity

- Flexibility of thought and action
- Openness to new, personal, different or alternative thinking
- Curiosity and the desire to explore
- The ability to conceptualise and to apply concepts
- Imaginative engagement with different cultures and historical periods

M1. Skills of communication and interaction

- Awareness of professional protocols
- IT skills including word processing, e-mail, use of on-line and CD-ROM information sources
- The ability to work as a tightly-integrated member of a team, to respond to partnership and leadership, and to lead others in team-work (as in orchestral / ensemble / band / choral performance, and leading / conducting / directing such groups); an ability to take spontaneous decisions and respond to the decisions of others in a team-work situation; and an ability to improvise, manage risk and cope with the unexpected
- An appropriate outlook and experience for work in a multi-cultural environment
- The ability and confidence to carry a creative project through to delivery
- The ability to absorb the imaginative concepts of others, to build upon them and to communicate the resultant synthesis
- Financial and business awareness (ability to implement career management skills; personal presentation; knowledge of the business aspects of music)

M1. Skills of personal management

- Self-motivation (to practise; take on new repertoire; create a freelance career; acquire new skills; initiate career moves; continue to learn and explore; keep abreast of developments in an ever-changing profession)
- Self-critical awareness (monitor and assess abilities; relate to others in performance; realistically review career path; reflect on achievements)
- The ability to respond positively to self-criticism and to the criticism of others while maintaining confidence in your own creative work

- Self-presentation and self-promotion; transferable skills deriving from expertise in a performance situation or putting forward arguments relating to performance and composition
- Understanding of your own learning style and work regimes (make own timetable; ensure adequate preparation and meet deadlines)
- The ability to work independently and in isolation (ensuring continued individuality; building upon established technique; continuing research; ensuring personal welfare)
- Time-management and reliability (making the most of every opportunity; ensuring consistency of achievement)
- Organisational skills (initiating opportunities and their smooth running; prioritising; managing)
- Problem-solving skills (reacting to new situations; decoding information and ideas; dealing with complex situations; finding ways of working with others under pressure)
- Awareness of spiritual and emotional dimensions (ensuring continuing artistry and creativity; balancing harsh reality with artistic concerns)
- Entrepreneurship (identifying and exploiting opportunities)

	Teaching and learning methods	*Assessment methods*
Acoustics	The development of transferable skills is embedded in all years of the programme starting with induction activities in week 1 of part 1, and depends on the modules chosen. A final year individual project is compulsory where transferable skills are exercised extensively.	Transferable skills are assessed by word processed reports (laboratories, design exercises and research projects) and oral presentations. In the case of the final year individual project achievement throughout the year is assessed as evidenced by regular monitoring of progress.
Music	Your key skills will be developed across the programme, including in lectures, tutor-led and student-led seminars, IT workshops, library sessions, group projects, individual and group performances, involvement in performing organisations, independent research, study and practice, individual tutorials and instrumental lessons.	Depending on the nature of the activity (musicology, composition, performance), you will be able to demonstrate your key skills through examinations or performances, extended written submissions such as a dissertation or composition folio, essays, study diaries, shorter pieces of assessed coursework, individual and group presentations, and involvement in performing organisations. Progression is recognised in the assessment scheme, which tests key skills at appropriate levels of study.

Subject Specific Practical Skills

Having successfully completed this programme you will be able to:

A1. Perform sound and vibration measurements.
A2. Analyse experimental results and assess their validity.
A3. Prepare technical reports.
A4. Perform computational tasks.
A5. Make effective use of scientific literature.

M1. Aural and music-analytical skills
- Recognise and identify by ear essential components of a musical language, such as intervals, rhythms, motifs, modes, metres, and sonorities (timbre, texture, instrumentation, etc.)
- Exercise musical memory, both short-term (as when notating a musical passage that has been heard or imagined) and long-term (as when memorising a composition for performance)
- Read and imaginatively reconstruct the sound of music that has been written in notation
- Recognise underlying structures in music, its style and context, whether aurally or by studying a written score

M2. Performance skills
- Physical skills: demonstrate the high degree of physical agility, dexterity and control necessary for vocal/instrumental performance at an appropriate level

- Technical skills: demonstrate technical mastery of/expertise on the instrument/voice, and the ability to perform convincingly a technically demanding repertoire
- Perform in a variety of styles and contexts and demonstrate versatility of approach
- Synthesise all technical, creative, imaginative and intellectual abilities in order effectively to project and to communicate the music (and its inherent content) to the listener
- Apply the results of personal research, textual and musical analysis, scholarship, reflection and listening skills to the process of performing
- Improvise in appropriate styles
- Demonstrate powers of sustained concentration and focus
- Understand the cultural conventions and symbolic meanings associated with the instruments and genres studied
- Show awareness of the culturally appropriate social conventions and pedagogical principles governing teaching, learning and performance
- Demonstrate presentational skills (e.g. audience awareness and acknowledgement)

M3. Compositional skills

- Exercise vision and imagination in musical composition
- Conceive musical ideas, and manipulate them in an inventive and individual way
- Compose appropriately and idiomatically for instruments and/or voices and/or electro-acoustic media
- Create musical ideas and concepts relating to, or combining with, other art forms (visual, literary or dramatic) and media (e.g. film)
- Develop materials into well-formed and coherent musical structures through compositional work or improvisation
- Engage with a variety of musical styles through creative and technical projects
- Apply appropriate aesthetic and stylistic principles to composition and improvisation
- Communicate musical intentions clearly, economically and unambiguously to performers

M4. Technological skills

- Care for, and in some cases be able to design and construct, acoustic musical instruments
- Use analogue and digital equipment for creating and recording music
- Create and use computer software for music-related tasks such as notation, sound analysis and synthesis, composition, sound recording and editing
- Combine musical sound with other media
- Integrate performers with electronically generated sound

	Teaching and learning methods	***Assessment methods***
Acoustics	Practical skills are developed in experimental laboratories, computer laboratories, design exercises and research based investigations.	Practical skills are assessed largely by written reports. Where a single assignment covers a range of intellectual and practical skills guidance is given as to the allocation of marks. There is some use of in-class tests e.g. to assess computing skills.
Music	Your practical skills may be developed through individual and group coaching, tutorials and seminars, workshops and masterclasses, studio and IT sessions, and your own independent study, research and practice.	Your practical skills may be assessed through individual or ensemble performances, submission of a composition portfolio, preparation of studio recordings or software tasks, listening tests and formal examinations. Progression is recognised in the assessment schemes for the various components of the degree, which test the development of your practical skills from introductory level through to advanced application.

Programme Structure

The University uses the European Credit Transfer Scheme (ECTS) to indicate the approximate amount of time a typical student can expect to spend in order to complete successfully a given module or programme, where 1 ECTS indicates around 20 nominal hours of study. Previously, Credit Accumulation and Transfer Scheme (CATS) points were used for this purpose where 1 CATS credit was 10 nominal hours of study. The University credit accumulation and transfer scheme is detailed at https://www.southampton.ac.uk/calendar/sectioniv/index.page.

Acoustics with Music is a three year full time programme. Successful completion of all three years is awarded the degree of BSc. A Certificate and Diploma in Higher Education are unintended exit awards for those who leave after successfully completing parts 1 or 2 respectively. The programme structure is illustrated in Figure 1.

There are compulsory engineering modules in parts I and II that are necessary to fulfil the learning outcomes of the programme as a whole, and to facilitate a sufficiently broad range of available acoustics options in part III. There are no compulsory music modules, although some modules have pre-requisites or co-requisites as outlined in the module specifications.

You are required to undertake an individual project in acoustics or a research project in Music; it is not permitted to take both. Acoustics projects can either be selected from a list proposed by teaching staff or you can pursue an idea of your own, with appropriate permission and guidance. It is expected that you will spend about one quarter of your time in part 3 on your individual project.

Optional modules are taken from the two disciplines, so that the total value of the acoustic modules taken in each part of the programme is equal or greater than 30 ECTS points. The split of option choices between Acoustics and Music is as shown in Figure 1.

Progression through the programme and classification of degrees are regulated by the standard university progression and classification rules which may be found in section IV of the University Calendar (http://www.calendar.soton.ac.uk/sectionIV/sectIV-index.html

The duration of all the programmes may be extended by one year through enrolment on the Engineering Foundation Year.

The Programme Structure is summarised in the diagram below and detailed in Appendix 1.

Typical course content

You will study a number of core subjects during the first two years, all related to acoustics, audio, sound and vibrations. These provide a solid preparation for the final part of the degree. There are no compulsory modules for Music. Optional modules are taken from both the Acoustical Engineering and Music Programmes during the first 2 years. In Year 3, you will have the opportunity to specialise even further in acoustics or music through a wide selection of subject modules. You will also undertake an individual project.

Particularly in Years 2 and 3, some modules will have pre-requisites, and may be subject to timetabling restrictions. Not all modules shown here may be available in a particular year, although additional modules may be offered.

The total value of the modules taken in each year must be a minimum of 120 CATS points. In all three years you will need to follow more detailed guidelines about the mix of modules, ensuring also a balance of modules across each semester. Some modules may have pre-requisites

The programme follows university guidelines for inclusivity and flexibility and provides and array of teaching and learning approaches that will enable any student who meets the entry requirements to access the curriculum and demonstrate achievement of all the intended learning outcomes.

Additional Costs

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. Costs that students registered for this programme typically also have to pay for are included in Appendix 2.

Progression Requirements

The programme follows the University's regulations for ***Progression, Determination and Classification of Results: Undergraduate and Integrated Masters Programmes*** as set out in the University Calendar https://www.southampton.ac.uk/calendar/sectioniv/index.page

Additional regulations applying to the assessment of Part I of the engineering aspect of your programme, (and also to the Industrial Placement Year and our other BEng (Hons)/MEng regulations) may be found here: https://www.southampton.ac.uk/calendar/sectionvi/feps.page

Intermediate exit points

You will be eligible for an interim exit award if you complete part of the programme but not all of it, as follows:

Qualification	Minimum overall credit in ECTS credits	Minimum ECTS Credits required at level of award
Bachelor of Science (Ordinary)	At least 150	30
Diploma of Higher Education	at least 120	45
Certificate of Higher Education	at least 60	45

Programme outcomes for different exit points

Level 4 (Part I)	You will have a sound knowledge of some of the basic concepts in Acoustical Engineering. You will have learned how to take different approaches to solving problems. You will have some knowledge of the underlying concepts and principles associated with the study of music. You will be able to communicate accurately, and will have the qualities needed for employment requiring the exercise of some personal responsibility.
Level 5 (Part II)	You will have developed a sound understanding of the principles involved in a range of core Acoustical Engineering subjects, and will have learned to apply those principles more widely. Through this, you will have learned to evaluate the appropriateness of different approaches to solving problems. You will be able to demonstrate knowledge and critical understanding of the well-established principles of the study of music, and of the way in which those principles have developed You will have the qualities necessary for employment in situations requiring the exercise of personal responsibility and decision-making.
Level 6 (Part III)	You will have developed an understanding of a complex body of knowledge relevant to Acoustical Engineering, some of it at the forefront of current developments. Through this, you will have developed analytical techniques and problem-solving skills that can be applied to a range of engineering problems, and learned to communicate these effectively. You will have a systematic understanding of key aspects of the study of music, including a coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of the discipline of music. As an Honours graduate you will be able to evaluate evidence, arguments and assumptions, and to reach sound judgements. You should have the qualities needed for employment in situations requiring the exercise of personal responsibility, and decision-making in complex and unpredictable circumstances.

Support for Student Learning

The University provides:

- library resources, including e-books, on-line journals and databases, which are comprehensive and up-to-date; together with assistance from Library staff to enable you to make the best use of these resources
- high speed access to online electronic learning resources on the Internet from dedicated PC Workstations onsite and from your own devices; laptops, smartphones and tablet PCs via the Eduroam wireless network. There is a wide range of application software available from the Student Public Workstations.
- computer accounts which will connect you to a number of learning technologies for example, the Blackboard virtual learning environment (which facilitates online learning and access to specific learning resources)
- standard ICT tools such as Email, secure filestore and calendars.
- access to key information through the MySouthampton Student Mobile Portal which delivers timetables, Module information, Locations, Tutor details, Library account, bus timetables etc. while you are on the move.
- IT support through a comprehensive website, telephone and online ticketed support and a dedicated helpdesk in the Hartley Library.
- Enabling Services offering support services and resources via a triage model to access crisis management, mental health support and counselling.
- assessment and support (including specialist IT support) facilities if you have a disability, long term health problem or Specific Learning Difficulty (e.g. dyslexia)
- the Student Services Centre (SSC) to assist you with a range of general enquiries including financial matters, accommodation, exams, graduation, student visas, ID cards
- Careers and Employability Services, advising on job search, applications, interviews, paid work, volunteering and internship opportunities and getting the most out of your extra-curricular activities alongside your degree programme when writing your CV
- other support that includes health services (GPs), chaplaincy (for all faiths) and 'out of hours' support for students in Halls (18.00-08.00)a Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.
- a Centre for Language Study, providing assistance in the development of English language and study skills for non-native speakers.

The Students' Union provides

- an academic student representation system, consisting of Course Representatives, Academic Presidents, Faculty Officers and the Vice-President Education; SUSU provides training and support for all these representatives, whose role is to represent students' views to the University.
- opportunities for extracurricular activities and volunteering
- an Advice Centre offering free and confidential advice including support if you need to make an academic appeal
- support for student peer-to-peer groups, such as Nightline.

In the School and your Discipline you will be able to access:

- Information for each year of the programme.
- Introductory sessions for all years of the programme.
- Library information retrieval seminar.
- Workshop training.
- Group tutorials in Parts I and II of the engineering modules of the programme, typically 20-30 in a class.
- Engineering laboratory classes in Parts I and II, typically 12 to 20 students in smaller groups of 2-4 for each experimental set-up.
- For the Music modules there is tuition, typically in groups of 2-4, as well as small practical tuition classes in sound recording.
- Engineering Development and Manufacturing Centre (EDMC) equipped with a range of workshop equipment, CAD/CAM.
- Engineering and specific software available on all computers.
- Personal Academic Tutors to assist you with personal problems and to advise on academic issues (contact maintained during periods of studying abroad). A senior tutor is also available.
- Access to academic staff through an open door policy as well as timetabled tutor meetings, appointment system and e-mail.
- Research seminars and invited lectures.
- Student Office for the administration of your programme.

Faculty of Humanities provision (Music)

- The department handbook, and online departmental A-Z

- Individual tutorial guidance throughout the programme, to aid the construction of individual pathways, and choice of particular units
- Performance Handbook
- Library induction tours
- Dedicated practice, rehearsal, and performance facilities
- Dedicated studio facilities
- Computing facilities
- A liaison tutor (for Combined Honours students)
- Access to tutorial staff

Methods for Evaluating the Quality of Teaching and Learning

You will have the opportunity to have your say on the quality of the programme in the following ways:

- completing student evaluation questionnaires for each module of the programme
- acting as a student representative on various committees, e.g. Staff: Student Liaison Committees, Faculty Programmes Committee OR providing comments to your student representative to feed back on your behalf.
- serving as a student representative on Scrutiny Groups for programme validation
- taking part in programme validation meetings by joining a panel of students to meet with the Scrutiny Group

The ways in which the quality of your programme is checked outside the University, are:

- regular module and programme reports which are monitored by the Faculty
- programme validation, normally every five years.
- external examiners, who produce an annual report
- professional body accreditation/inspection
- the national Research Excellence Framework (our research activity contributes directly to the quality of your learning experience)
- institutional Review by the Quality Assurance Agency

The ways in which the quality of your programme is checked inside the University, are:

- discipline, and School boards, convening at the end of each academic year, which consider the outcomes of each module's evaluation.
- moderation of examination papers, coursework and projects, both internally and externally.
- annual examiners' meetings and examiners' boards.
- annual programme and module reviews considering your feedback from all sources, feedback from teaching panels, external examiners and other bodies and student performance.
- periodic meetings of the School Industrial Advisory Board
- response to results from the National Student Survey
- revalidation by the University at least every five years.

Note that quality assurance of part of the programme taken abroad, where applicable, is subject to the quality procedures of the relevant institutions. These procedures are subject to periodic monitoring by members of staff of the Faculty of Engineering and Physical Sciences.

Career Opportunities

Career options include: acoustics consultant (assessing noise problems and advising on solutions); postgraduate student; musician

External Examiners(s) for the programme

Name: Professor David Sharp
Institution: The Open University

Students must not contact External Examiner(s) directly, and external examiners have been advised to refer any such communications back to the University. Students should raise any general queries about the assessment and examination process for the programme with their Course Representative, for consideration through Staff: Student Liaison Committee in the first instance, and Student representatives on Staff: Student Liaison Committees will have the opportunity to consider external examiners' reports as part of the University's quality assurance process.

External examiners do not have a direct role in determining results for individual students, and students wishing to discuss their own performance in assessment should contact their personal tutor in the first instance.

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided. More detailed information can be found in the programme handbook or online at
http://www.southampton.ac.uk/studentservices/academic-life/faculty-handbooks.page
https://www.southampton.ac.uk/engineering/undergraduate/courses/acoustical_engineering/hw73_bsc_acoustics_with_music.page

BSc (Hons) Acoustics with Music

Appendix 1 – Module list and details

The information contained in this appendix is liable to change in minor ways from year to year. It is accurate at the time of writing.
Where optional modules have been specified, the following is an indicative list of available optional modules, which are subject to change each academic year. Please note in some instances modules have limited spaces available.

Part I – Level 4 All required assessments must be taken and passed at the required pass mark. Modules with subject codes ISVR, FEEG and MATH are taught over two semesters with any formal examinations held at the end of semester 2. Feedback on progress is provided throughout the year in many ways including via laboratory work, example sheets, tests and coursework. No more than 22.5 ECTS (45 CATS) of Music (MUSI) modules may be taken

For information on summative assessment of Part I please see Appendix 3

Module Code	Module Name	Semester	ECTS (CATS) Credit Points	Compulsory
ISVR1032	Acoustics 1	1&2	7.5 (15)	Compulsory
FEEG1001	Design and Computing	1&2	15 (30)	Compulsory
MATH1054	Mathematics for Engineering and the Environment	1&2	7.5 (15)	Compulsory
ISVR1034	Dynamics	1&2	7.5 (15)	Compulsory
FEEG1004	Electrical and Electronics Systems	1&2	7.5 (15)	
MUSI1020	Exploring Music 1	1	7.5 (15)	
MUSI1007	Fundamentals of Analysis, Counterpoint and Harmony	1	7.5 (15)	
MUSI1014	Transformations in 20th Century Music	2	7.5 (15)	
MUSI1021	Exploring Music 2	2	7.5 (15)	
MUSI1016	First Year Performance Tuition	1&2	7.5 (15)	
MUSI1017	Composition Fundamentals	2	7.5 (15)	
MUSI1019	Introduction to Music Technology	2	7.5 (15)	
MUSI1018	First Year Performance Tuition Joint studies	1&2	15 (30)	

Part II – Level 5 No more than 30 ECTS (60 CATS) of Music (MUSI) option modules may be taken. .

Module Code	Module Name	Semester	ECTS (CATS) Credit Points	Compulsory?
FEEG2001	Systems Design and Computing	1&2	7.5 (15)	
FEEG2004	Electronics Drives and Control	1	7.5 (15)	
ISVR2042	Acoustics II	2	7.5 (15)	Compulsory
MATH2048	Mathematics for Engineering and the Environment II	1	7.5 (15)	Compulsory
FEEG2002	Mechanics, Machines and Control	2	7.5 (15)	
FEEG2006	Engineering Management and Law	1&2	7.5 (15)	
ISVR2041	Audio and Signal Processing	1	7.5 (15)	Compulsory
FREN90XX	French*	1	7.5(15)	
GERM90XX	German*	1	7.5(15)	
MUSI2009	Performance Tuition (Single Study)	1&2	7.5 (15)	
MUSI2024	Jazz Theory	2	7.5 (15)	
HUMA2013	How the Arts Work	1	7.5 (15)	
HUMA2022	Jane Austen's Playlist	1	7.5 (15)	
MUSI2127	Global Hip Hop	1	7.5 (15)	
MUSI2093	Composition Workshop A	1	7.5 (15)	
MUSI2116	Music Therapy 1: Fundamentals	1	7.5 (15)	
MUSI2020	Conducting	1	7.5 (15)	
MUSI2095	Songwriting	1	7.5 (15)	

MUSI2011	Ensemble Performance 1	1/2	7.5 (15)
HUMA2020	Teddy Boys and Drag Queens	2	7.5 (15)

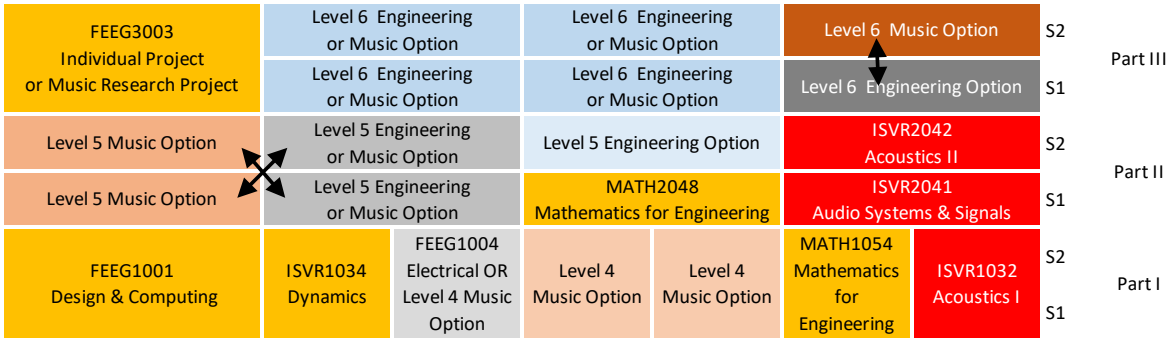
Part III –Level 6

There are no compulsory modules in part III, except that you must do a core* project module, either a Research Project (MUSI3021) in Music or an Individual Project (FEEG3003) in ISVR. You must also take at least 30 ECTS (60 CATS) points of engineering modules (including the Individual Project, if taken). No more than 15 ECTS (30 CATS) may be taken at levels 5 or 7. Where appropriate other engineering or maths modules may be substituted for ISVR optional modules with the agreement of the Programme Lead.

Module Code	Module Name	Semester	ECTS (CATS) Credit Points	Level
SESM3030	Control and Instrumentation	1	7.5(15)	6
ISVR3059	Acoustical Engineering Design	1	7.5(15)	6
ISVR3064	Noise Control Engineering	1	7.5(15)	6
ISVR6137	Electroacoustics	1	7.5(15)	7
FEEG3004	Human Factors in Engineering	1	7.5(15)	6
ISVR3063	Musical Instrument Acoustics	2	7.5(15)	6
ISVR6130	Signal Processing	1	7.5(15)	7
FEEG6011	Architectural and Building Acoustics	2	7.5(15)	7
ISVR3070	Ocean Acoustics and Biomedical Ultrasound	1	7.5(15)	6
FEEG3002	Vehicle Powertrain, Noise and Vibration	2	7.5(15)	6
FEEG3001	Finite Element Analysis in Solid Mechanics	1	7.5(15)	6
ISVR3061	Human response to Sound and Vibration	2	7.5(15)	6
ISVR6138	Biomedical Applications of Signal and Image Processing	2	7.5(15)	7
ISVR6139	Active Control of Sound & Vibration	2	7.5(15)	7
ISVR6142	Numerical Methods for Acoustics	2	7.5(15)	7
ISVR3072	Mathematical Methods for Acoustics	2	7.5(15)	6
FEEG3003	Individual Project (Core) *	1&2	15(30)	6
LANGXXXX	Language	1	7.5(15)	
UOSM2026	Ethics in Science, Engineering and Technology	2	7.5(15)	5
MUSI3019	Studio Techniques 2	1	7.5(15)	6
MUSI3100	Composition Workshop A	1	7.5(15)	6
MUSI3106	Music Therapy 2: Beneath the Surface	2	7.5(15)	6
MUSI3003	Commercial Composition	1&2	15(30)	6
MUSI3010	Performance Tuition (Single Study)	1&2	7.5(15)	6
MUSI3011	Ensemble Performance 1	1&2	7.5(15)	6
MUSI3012	Ensemble Performance 2	1&2	7.5(15)	6
MUSI3017	Composition Portfolio	1&2	15(30)	6
MUSI3021	Research Project (core) *	1&2	15(30)	6
MUSI3132	Global Hip Hop	1	7.5 (15)	6

Guidance is given on the choice of options, which will depend on timetable constraints, students' interests, aptitude, chosen individual project and career aspirations.

Programme Structure



Revision History

January 2010 (T P Waters), September 2011 (T P Waters)
February 2012 (A Barney)
July 2012 (B. Leigh)
June 2013 (T P Waters)
June 2014_CQA_11/06/14
15072014_PV_CQA
March 2015 (M. Wright)
Update to Programme Overview (CMA Changes) – September 2015
Update to External Examiner (CQA) December 2015
Textual Changes CQA/KH April 2016
Textual/module changes, addition of summative assessment for Part 1 FPC July 2017
Updated to reflect 201819 version and removal of Admissions Criteria – CQA March 2018
Updated Faculty name to Faculty of Engineering and Physical Sciences July 2018

Appendix 2:

Additional Costs

Students are responsible for meeting the cost of essential textbooks, and of producing such essays, assignments, laboratory reports and dissertations as are required to fulfil the academic requirements for each programme of study. In addition to this, students registered for this programme typically also have to pay for the items listed in the table below.

In some cases you'll be able to choose modules (which may have different costs associated with that module) which will change the overall cost of a programme to you. Details of such costs will be listed in the Module Profile. Please also ensure you read the section on additional costs in the University's Fees, Charges and Expenses Regulations in the University Calendar available at www.calendar.soton.ac.uk .

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Approved Calculators		Students may use calculators in the examination room only as specified by the University and as permitted by the rubric of individual examination papers. The University specifies permissible models from time to time and these may be purchased from any source.
Stationery		You will be expected to provide your own day-to-day stationary items, e.g. pens, pencils, notebooks, etc). · The third year module FEEG3003 Individual Project requires you to print an Al portrait poster on paper. The typical cost for this is in the range £5 to £20.
Textbooks		Where a module specifies core texts these should generally be available on the reserve list in the library. However due to demand, students may prefer to buy their own copies. These can be purchased from any source. Some modules suggest reading texts as optional background reading. The library may hold copies of such texts, or alternatively you may wish to purchase your own copies. Although not essential reading, you may benefit from the additional reading materials for the module. Students may wish to purchase, at their own cost, one or both of the recommended course texts, but this is optional. There are multiple copies of the texts available via the ISVR and Hartley library.(ISVR1032)

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
Equipment and Materials	Design equipment and materials:	We provide a wide range of resources to support project based modules and activities and these will allow you to complete your assessed exercises to the highest standard. However, you may wish to customise your project by purchasing additional resource e.g. alternative manufacturing materials, electronic components, etc. You may also incur additional costs for printing e.g. large format drawings.
	Excavation equipment and materials:	
	Field Equipment and Materials:	A number of essential items will be provided to you e.g.: field notebook(s); compass-clinometer; geological hammer; steel tape measure; map case; pocket lens (x 10); safety helmet; safety goggles; bottle of dilute hydrochloric acid. If items provided are lost replacements can be purchased from: However, you will need provide yourselves with a ruler; a pair of compasses; set squares; protractor; pencils (including coloured); eraser; calculator, penknife. These can be purchased from any source.
	Laboratory Equipment and Materials:	
	Photography:	
	Recording Equipment:	
Clothing	Lab Coats	
	Protective Clothing: Hard hat; safety boots; hi-viz vest/jackets;	
	Fieldcourse clothing:	You will need to wear suitable clothing when attending fieldcourses, e.g. waterproofs, walking boots. You can purchase these from any source.
	Wet Suits?	
	Uniforms?	
Printing and Photocopying Costs		In some cases, coursework and/or projects may be submitted electronically. Where it is not possible to submit electronically students will be liable for printing costs. Students are expected to cover the costs associated with the printing of drawings and graphic presentations. These are typically expected to be of the order of £20 - 50 per

Main Item	Sub-section	PROGRAMME SPECIFIC COSTS
		student. The third year module FEEG3003 Individual Project requires you to print an Al portrait poster on paper at a typical cost of £20.
Optional Visits (e.g. museums, galleries)		Some modules may include additional optional visits. You will normally be expected to cover the cost of travel and admission, unless otherwise specified in the module profile. For costs related to study abroad please see the relevant module profile.
Travel and subsistence		For additional costs related to travel and subsistence for the Industrial Placement Year, please refer to the module profile for FEEG 3009

MUSIC STUDENTS' ADDITIONAL COSTS

VOCAL AND INSTRUMENTAL LESSONS

Specialist vocal and instrumental tuition for single and combined honours Music students taking performance modules is generally provided free at the point of delivery. When lessons happen away from Highfield Campus students are expected to cover the cost of travel to and from their lessons. Students are expected to cover the cost of travel to and from off-campus rehearsal, performance and music examination venues. Most of those we use are within walking distance of Highfield Campus.

Students taking instrumental lessons are expected to own and maintain their own instruments, maintenance including the cost of repairs and of replacement parts (new strings, drumheads etc.). Students are strongly advised to arrange insurance for their instruments, covering all the usual risks including theft from places of residence and from university storerooms. Storage space for instruments is available in Music Department storerooms. Dozens of students have access to them: it is not possible to guarantee security. The university will accept no responsibility for loss or damage to instruments left in storerooms. Students taking performance modules will be given keys to practice rooms and storerooms. Keys must be returned on or before graduation day. Students will be charged £10.00 per replacement key in the event of loss.

Jazz and pop students must buy and use their own ear protectors if asked to do so by a teacher.

Hartley Library holds a very large collection of sheet music which students can borrow free of charge. Students who want or are advised by teachers to buy their own music, perhaps in order to mark it up, will be expected to cover the cost themselves.

The Music Department has a large collection of keyboard instruments to which keyboard students are allowed free access. It owns a number of other instruments (piccolo trumpet, bass sax, basset horn etc.) which students can borrow on their teacher's recommendation. We do not charge for the use of them but do recommend that students make private insurance arrangements when taking them off campus, especially on tour. If not returned intact they must be replaced like for like at the student's expense or at their insurer's.

Students may wish to hire professional accompanists to play with them in performance exams. Accompanists charge varying levels of fee (rarely more than £60.00 per exam accompaniment, including prior rehearsal) and students are expected to pay the fees themselves.

Turner Sims -- the university concert hall -- makes 10 tickets for each of its own-promoted concerts available free of charge to Music on a first come, first served basis. (There are very rare exceptions: gala concerts intended to raise funds for Turner Sims for instance.) Monday and Friday lunchtime concerts in Turner Sims organised by the Music Department are free of charge both to Music students and to the wider public. External promoters hiring Turner Sims can charge what they like for admission to concerts.

Student-run performing arts societies such as the University of Southampton Symphony Orchestra, JazzManix and Showstoppers (there are many others which Music students might like to join) are free to set their own membership subscriptions. The Music Department does not contribute directly towards the cost of running these societies.

ACADEMIC MUSIC MODULES

Very few Music lecturers insist that students purchase specific set texts. Copies of set texts are made available in Hartley Library, if necessary in the reference-only "course collection" or on short-term loan. Students may wish to own copies of recommended books but are free to choose which to buy and which to borrow.

Some lecturers prepare course handbooks for the modules they are teaching. These are generally made available free of charge to students taking the modules. For unusually bulky handbooks there may be a charge to pay -- never more than £10.00 per copy.

Music software packages are available for licensed use at designated university computer workstations free of charge to Music students. Students who wish to install compatible software on their own computers will have to cover the cost themselves.

Students using the university's Follow Me print service will be charged per page printed out, at rates listed here:
https://www.southampton.ac.uk/isolutions/services/follow_me_print_for_students/faq.php#594

Field trips are infrequent and almost always optional. When occasionally they do happen students involved may be expected to cover travel costs and to pay for admission to the venue(s) visited. Staff organising trips make every effort to keep costs to a minimum, negotiating group and student discounts whenever possible. No one trip is likely to cost more than £20 total.

Appendix 3

Part I Summative Assessment Schedule

The table below shows the summative assessment structure:

Schedule A			
	Approximate Timing	**Pass Mark**	**Repeat Assessment mode**
Multiple Choice Exam: Engineering Fundamentals	Semester 2 exam period. 2 hours	60%	Internal & External
Long Answer Exam: Engineering Problem Solving	Semester 2 exam period. 2 hours	40%	Internal & External
Discipline Specific Assessment	Semester 2 exam period	40%	Internal & External
Mathematics Exam	Semester 2 exam period. 2 hours	40%	Internal & External
Schedule B			
	Timing	**Pass Mark**	**Repeat Assessment mode**
Assessment in Design	End of Semester 2	40%	Internal only
Laboratory Report	End of Semester 2	40%	Internal only
Technical Essay	End of Semester 2	40%	Internal & External

In order to pass Part I and progress to Part II you will need to pass all of the following summative assessments:

- A **technical essay**
- A **lab report** based on one of the lab classes you take as part of your modules.
- A **Summative Design Assessment** that you will undertake as part of your Design module.
- A **Mathematics Exam** on the material you study in MATH1054.
- A **Discipline-Specific Assessment** of the content of you discipline-specific module. This will be set towards the end of semester 2 and may take the form of an exam or a piece of coursework.
- A **Multiple Choice Exam** to test your knowledge of engineering fundamentals from FEEG1002 Mechanics Structures & Materials (Statics 1, Statics 2 and Materials), and FEEG1003 Thermofluids.
- A **Long Answer Exam** to test your ability to solve problems using the concepts from FEEG1002 (Statics 1, Dynamics), FEEG1003 and FEEG1004

The regulations relating to failure in these assessments may be found in Section VI of the University Calendar