

BSc (Hons) Music Computing

Programme Specification

Primary Purpose:

Course management, monitoring and quality assurance.

Secondary Purpose:

Detailed information for students, staff and employers. Current students should refer to the related Course Handbook for further detail.

Disclaimer:

The University of Portsmouth has checked the information given in this Programme Specification and believes it to be correct. We will endeavour to deliver the course in keeping with this Programme Specification but reserve the right to change the content, timetabling and administration of the course whilst maintaining equivalent academic standards and quality.

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Programme Specification

1. Named Awards

BSc (Hons) Music Computing

2. Course Code (and UCAS Code if applicable)

C2554S (I150)

3. Awarding Body

University of Portsmouth

4. Teaching Institution

University of Portsmouth

5. Accrediting Body

None

6. QAA Benchmark Groups

Computing 2007
Music 2008

7. Document Control Information

Version 4, July 2015

8. Effective Session

2015/2016

9. Author

Mark Sexton

10. Faculty

Creative and Cultural Industries

11. Department

School of Creative Technologies

12. Educational Aims

The programme aims to equip students for employment in a range of computing and creative technologies environments by providing a range of technical skills with a specific focus on digital sound in the form of sound creation, editing and manipulation through specialist software and equipment. Both aspects of the curriculum are covered by core units at each level, integrated in the final year by two compulsory projects, one in group form and one individual. In addition, and more generally, the course aims to:

- Provide a challenging, stimulating and rewarding study environment.

- Develop a range of key skills by means of opportunities provided by the study units.
- Provide an opportunity for students to acquire a range of skills focused on music computing and digital sound throughout their course.
- Accommodate student needs in relation to maximising their career potential by enabling them to develop knowledge, understanding and skills in their chosen subject area.
- Promote career aspirations by including study topics on general professional practice and study skills and offering access to a range of guest speakers from industry and academia.
- Provide the opportunity to undertake an industrial placement.

13. Reference Points

- University of Portsmouth Curriculum Framework Document
- The UK Quality Code for Higher Education
- Framework for Higher Education Qualifications (FHEQ)
- National Qualifications Framework
- Subject Benchmark Statements Computing and Music
- Policy for Placement Learning

In particular, the Programme has been designed with the following Subject Benchmark Statements in mind:

- Computing
 - Graphics and Sound (GS) – Human perception of sound, sound compression, synthesis, sound analysis
 - Multimedia (MM)
 - Web-based Computing (WBC) – the specification, design, implementation and operation of web-based technologies and services
 - Software (SW) – range of programming languages, software development tools, testing and debugging, data structures and algorithms, databases and object oriented programming
 - Computing Theory (CT) – analysis of algorithms, program specification and proving, object oriented models and UML
 - Computing Practice (CP) – software engineering, requirements engineering, software design, evaluation of software and systems
- Music (MU) - use and create computer software for musical tasks including composing and performing, making notation, recording, editing, analysing and synthesising sound

14. Learning Outcomes

A. Knowledge and Understanding of:

A1. The fundamentals and underlying theory of music computing and digital sound in programming, software systems, web authoring, information systems structures. (SW, CT, CP)

A2. The fundamentals and underlying theory of digital sound production and manipulation, video creation and editing. (GS, MM, SW, MU)

A3. The theory and practice of requirements analysis, specification and prototyping, implementation, testing, integration, documentation, delivery and maintenance. (MM, WBC, SW, GS, CP)

A4. The need for creativity in producing novel, robust software and sound artefacts. (GS, MM, WBC, SW, CP, MU)

A5. Underlying mathematics and its applications in computer science and digital sound creation and manipulation. (GS, CT)

A6. The need for the efficient and effective management of the software construction and sound production processes. (GS, SW, MM, CP)

A7. The industrial and commercial contexts of digital sound. (GS, MM, CP, MU)

Learning and Teaching Strategies and Methods

Core knowledge is acquired mainly through lectures and tutorials, using specialised facilities such as video editing suites where appropriate. Individual learning is supported by directed reading, study guides, tutorial and worked examples, use of online resources and design exercises.

Encouragement to research and discuss areas of interest beyond the taught curriculum is given at all levels. Students opting for the Sandwich year placement will gain experience and insight into the commercial imperatives associated with creative computing applications in industry.

Assessment

Testing of theoretical knowledge is largely through examinations offered in various modes. Major software related activities are assessed by observation or reports based on completion of portfolios and extended programmes of work set either individually or to small groups.

B. Cognitive (Intellectual or Thinking) Skills, able to:

B1. Develop general abilities of an intellectual, analytical, creative and problem-solving nature.

B2. Develop common skills and an ethical awareness, which are both necessary and appropriate for a reflective practitioner.

B3. Develop a critical awareness of the effects upon society of technical and technological development and the importance of digital sound in everyday life. (GS, MM, CP, MU)

B4. Apply professional codes of conduct and appreciate the ethical considerations that underpin them and develop a proper self-updating sense of professional conduct in relation to society's increased dependence on technology. (GS, MM)

B5. Plan, execute and report a significant final year project.

Learning and Teaching Strategies and Methods

Core knowledge is acquired mainly through lectures and tutorials, using specialised facilities where appropriate. Individual learning is supported by directed reading, study guides, tutorial and worked examples, use of online resources and design exercises.

Assessment

Testing of theoretical knowledge is largely through examinations offered in various modes. Major software related activities are assessed by observation or reports based on completion of portfolios and extended programmes of work set either individually or to small groups.

C. Practical (Professional or Subject) Skills, able to:

C1. Select or create appropriate, effective and productive methods and tools for the successful construction and timely delivery of valid computer-based systems and digital sound artefacts. (All named benchmark statements)

C2. Apply industry standard software and hardware proficiently and effectively to both specific and innovative situations. (MU)

C3. Programming skills in one or more programming environments. (SW, GS, MM, CP, CT)

C4. Use acquired experience to develop a broad range of creative skills in digital sound creation and manipulation. (MU)

C5. Apply professional codes of conduct and appreciate the ethical considerations that underpin them.

Learning and Teaching Strategies and Methods

Tutor supported laboratory work and case studies will be used to develop appropriate skills. Use will be made of samples and worked examples as exemplars to support this element.

Assessment

Competency in the requisite skills will be demonstrated by portfolios of work and substantive software developments. Use is made of examinations in a variety of formats, as well as reports for assessing intellectual and analytical skills.

D. Transferable (Graduate and Employability) Skills, able to:

D1. Communication – communicate effectively in writing, speech and in appropriate forms of presentation; read and understand complex documents related to software products, image manipulation, system and user requirements.

D2. Information Technology – use information technology to handle data, simulate solutions and situations and assist with design and testing.

D3. Application of Number – deal with the numerical data that might be found in typical computing or digital sound applications.

D4. Problem Solving – assess problem domains and formulate appropriate problem-solving strategies.

D5. Improving Own Learning – build on previous experience in order to generalise.

D6. Working with Others – work in teams to achieve goals but nevertheless remain distinctly individual.

Learning and Teaching Strategies and Methods

The general emphasis is on building competencies and confidence in the use of these skills, coupled with the ability to apply them appropriately to new situations.

Assessment

The ability to work in groups will be assessed indirectly through group reports, directly by the tutor and through peer observation. A significant component of this assessment will come from assessment of the substantive final year group project. Mathematical and IT related skills will be assessed as part of most units.

15. Course Structure, Progression and Award Requirements

This is a 3 or 4 year programme depending on whether a student elects a sandwich placement. The University strongly encourages the 4 year option since students gain invaluable experience from an industrial placement. The placement year usually takes place at the end of the second year and a placement student should expect to be in employment for a full calendar year.

Students are required to successfully complete 360 credits for the award of an Honours degree. Standard University rules on exit awards apply. The regulations must be consulted for a full description of exit award criteria.

At Level 4, students will undertake 120 credits of core units which introduce them to the fundamental concepts of computing and digital sound creation and manipulation, as well as giving them the opportunity to learn and develop a broad range of associated skills. These skills include IT development through experience of software and hardware systems, problem solving, accessing and referencing of sources and report writing. The aim is for the student to acquire an introductory understanding of music computing, digital sound and programming techniques. Students will also have the opportunity to experience practical lab sessions, including the use of specialist facilities for digital editing.

At Level 5, students will further develop their ability to analyse, develop and evaluate a broad range of computing and digital sound production skills. The course is designed to provide students with

both a broad technical background in the computing discipline and more specialist skills in digital sound creation and manipulation. Students have 20 credits of options to allow them to explore one of several appropriate aspects of the music computing discipline. It is intended that a variety of guest speakers will be brought in to support students at Level 5 and Level 6 by enhancing their understanding of the current employment market and career choices and assist them in preparing for industrial placements if appropriate.

Students opting to take a placement between Level 5 and Level 6 will study for an additional 30 credit unit in addition to the standard 360 credits of the degree. Successful completion of this unit leads to the separate award of a Diploma in Industrial Studies.

At Level 6 students will be encouraged to carry out independent research and to develop their skills of critical analysis and personal reflection. They will aim to acquire a thorough and critical appreciation of music computing development and the wider application of digital sound technologies. Core units at Level 3 continue to develop the students' breadth of knowledge in music programming and sound manipulation. Students will have opportunities to explore and apply their computing and digital sound skills, knowledge and understanding in a variety of contexts through a range of option units.

One credit is equivalent to 10 hours of learning. Each level is comprised of a minimum of 120 credits. Units are offered as 20 and 40 credits. In order to meet the requirements of the British Computer Society core units have been incorporated as part of the 360 credits studied.

Students will have the opportunity at Level 4 and Level 5 to participate in a wide range of elective units designed to increase their employability.

16. Employability Statement

The programme is designed with careers in music computing, music technology and digital sound in mind. There are many professions in the cultural sector that involve computing, such as sound design, film and TV composition, game sound, mobile applications, web design, broadcasting, systems analysis and management, IT consultancy and music/audio production. The degree is a gateway to study at Masters and PhD level, and provides a foundation for practice-based careers. The British Computer Society together with the School of Computing Industrial Advisory Group informs the needs of the curriculum and course profile. There are opportunities to develop employment skills through an industrial placement.

The development of on-line resources to support some units provides for the development of group collaboration skills.

Personal Development Planning (PDP) and career management skills are delivered throughout the curriculum, explicitly in Eportfolio at Level 4, and implicitly as integral components in other units. They are also encouraged to make decisions about potential future careers through this unit and with the support of guest speakers from industry.

Students are offered the opportunity of a sandwich placement year between levels 5 and 6. On completion of the year-long work placement the student returns to full time study to complete level 6.

17. Support for Student Learning

- The Course is managed by a Course Leader.
- Extensive induction programme introduces the student to the University and their course.
- Each student has a personal tutor, responsible for pastoral support and guidance.
- University support services include careers, financial advice, housing, counselling etc.
- The Academic Skills Unit (ASK).
- CCI Creative Skills Centre and CCI Academic Skills Centre.

- The Additional Support and Disability Advice Centre (ASDAC).
- Excellent library facilities.
- Student course and unit handbooks provide information about the course structure and University regulations etc.
- Feedback is provided for all assessments.
- Personal Development Planning (PDP) for all awards.
- For students that elect for a placement year there is a placement supervisor and a placement handbook.
- All placement locations are carefully vetted in terms of health and safety as well as their potential to support the programme learning outcomes. This is in line with the University of Portsmouth's Code of Practice for Work Based and Placement Learning.

18. Admissions Criteria

A. Academic Admissions Criteria

- 280-320 points to include a minimum of 260 points from A levels or equivalent.
- A range of qualifications as specified on the course page on the University of Portsmouth website.
- Applicants whose first language is not English must provide evidence of English language ability with a minimum IELTS score of 6.0 (normally with not less than 5.5 in any one component) or equivalent.
- Prior (formal and/or experiential) learning may be assessed and accredited.

B. Disability

The University makes no distinction in its admissions policy with regard to disability and will endeavour to make all reasonable adjustments in order to make it possible for students to study at Portsmouth on a course of their choice.

19. Evaluation and Enhancement of Standards and Quality in Learning and Teaching

A. Mechanisms for Review and Evaluation

- Course Leader's Annual Standards and Quality Evaluative Review.
- Head of School's Annual Standards and Quality Evaluative Review.
- Unit and Course Level student feedback considered at Board of Studies.
- Unit Assessment Board consideration of student performance for each programme.
- Annual Standards and Quality Reports to Board of Studies, including consideration of Subject and Award External Examiner Reports.
- Periodic Programme Review.
- Student Representatives and Student/Staff Consultative Committees.
- National Student Survey.
- Staff Performance and Development Review.
- Peer Review and Development Framework.
- Faculty Learning and Teaching Committee.

B. Responsibilities for Monitoring and Evaluation

- Unit Co-ordinators for unit content and delivery.
- Course Leader for day-to-day running of course.
- Board of Studies with overall responsibilities for operation and content of course.
- Head of School.
- Associate Dean (Academic).

- Associate Dean (Students).
- Quality Assurance Committee.
- Unit, Award and Progression Board of Examiners.

C. Mechanisms for Gaining Student Feedback

- Student Representation on Board of Studies.
- Student Staff Consultative Committees.
- Unit and Course level student feedback questionnaires.
- University participates in external student surveys, e.g. National Student Survey (NSS), Postgraduate Research Experience Survey (PRES), Postgraduate Taught Experience Survey (PTES) and International Student Barometer (ISB).

D. Staff Development Priorities

- Academic staff undertake activities related to research, scholarship, teaching and learning and student support and guidance.
- Annual staff performance and development reviews match development to needs.
- Managers undertake a variety of management development programmes.
- New academic staff required to undertake appropriate University of Portsmouth learning and teaching programmes.
- All academic staff encouraged to seek Higher Education Academy membership.
- Academic staff new to teaching required to undertake the APEX HEA Fellow Programme for new academic staff.
- Support Staff are encouraged to attend short courses in areas such as minute taking, and specific IT packages.

20. Assessment Strategy

Level 4

The assessment approach for each of the Level 4 units has been designed to enable students to practise and build confidence in their abilities, which will be required throughout the remainder of the programme, to acquire transferable and analytical skills and begin to develop an understanding of the fundamental concepts of music computing and digital sound disciplines with particular emphasis on how those skills relate to digital sound production and manipulation. A mix of different assessment styles are employed at Level 4. The nature of the discipline lends itself particularly to practical coursework and portfolio-based assessment but essays and reports are also produced and assessed.

Level 5

Essential creative, technical and problem-solving skills, introduced at Level 4, such as: programming techniques, creative expertise with audio software, project management and the design, implementation and use of DSP processes are developed further in Level 5. Practical assessment in core units is developed through the use of more complex problems than those at Level 4, supported by more sophisticated portfolios and a range of report and artefact types. Optional units will enable students to be assessed in a variety of ways in areas of music computing and digital sound that allow the pursuit of more individual interests.

Level 6

Students will be required to demonstrate higher level skills of analysis, synthesis, critical judgement and evaluation along with comprehensive knowledge and understanding of the relevant areas of computing and digital sound in the assessment of Level 6 units. The Final Year Project provides the opportunity for a substantial individually researched, defined and constructed artefact to satisfy the learning outcomes of the programme in a way that demonstrates the student's work, approach and achievement with an accompanying report. Optional units will enable students to develop and demonstrate and apply their skills in aspects of the programme of particular individual interest.

21. Assessment Regulations

Standard university rules apply (see [Assessment and Regulations](#)).

22. Role of Externals

Subject External Examiners who will:

- oversee unit assessment and usually attend Unit Assessment Boards;
- review assessment strategy;
- sample assessment artefacts;
- report to Unit Assessment Boards.

Award External Examiners (usually also a Subject External Examiner) who will:

- oversee and attend Award/Progression Boards;
- scrutinise and endorse the outcomes of assessment;
- ensure that the standard of the award is maintained at a level comparable with that of similar awards elsewhere in the United Kingdom.

23. Indicators of Standards and Quality

A. Professional Accreditation/Recognition

None

B. Periodic Programme Review (or equivalent)

This course is subject to normal monitoring and review policy and procedures.

C. Quality Assurance Agency

QAA Higher Education Review, March 2015, judgements about standards and quality meet UK expectations (for full report see [Higher Education Review of the University of Portsmouth, March 2015¹](#)).

D. Others

None

24. Other Sources of Information

Other sources of information may be found in

- Course Approval Document.
- Student Handbook.
- University of Portsmouth Curricula Framework.
- University of Portsmouth Undergraduate Prospectus.
- Assessment Regulations.
- University of Portsmouth (<http://www.port.ac.uk/>) and School of Creative Technologies website (<http://www.port.ac.uk/school-of-creative-technologies/>) and (<http://www.ceetee.net/>).

¹www.qaa.ac.uk/en/ReviewsAndReports/Documents/University%20of%20Portsmouth/University-of-Portsmouth-HER-15.pdf

Unit Assessment Map

UNITS						COURSEWORK				EXAMINATION			
Level	Name	Code	Credit	Delivery	Core/Option	Total %	Type of Artefact	Duration/Length	Weighting %	Total %	Open/Closed	Duration (hrs)	Weighting %
4	EPORTFOLIO	U24139*	20	Year	C	Pass/Fail	Portfolio		100				
4	SCRIPTING AND INTERACTIVE WEB	U23289	20	Year	C	100	Web-based application Interactive web-based application		50 50				
4	TOOLS FOR GAMES AND ANIMATION	U20252	20	Year	C	60	Artefacts and Report		60	40	Closed	1.5	40
4	ELECTRACOUSTIC MUSIC COMPOSITION	U20158	20	Year	C	100	Essay Portfolio Composition	1000 words	25 25 50				
4	SOUND: PRACTICE AND THEORY	U20173	20	Year	C	100	Evaluative Blog Composition		30 70				
4	SOUND FOR MOVING IMAGE	U23488	20	Year	C	100	Group Soundtrack Individual Soundtrack		40 60				
5	AUDIO PROGRAMMING	U23946	20	Year	C	100	Software artefact Poster		70 30				
5	DIGITAL SOUND	U20190	20	Year	C	100	Evaluative Report Sound Installation	1000 words	30 70				
5	LAPTOP MUSIC PERFORMANCE	U20194	20	Year	C	100	Group Presentation Group Activity Journal		20 50 30				
5	PROGRAM CONSOLES	U20199	20	Year	C	100	Report Individual software artefact Group software artefact		20 30 50				
5	PROJECT INITIATION AND CAREER MANAGEMENT	U24013 (U20198)	20	Year	C	100	Portfolio Presentation		75 25				
5	GAMES AUDIO	U23956	20	Year	O	100	Artefact Essay	3 minutes 1500 words	60 40				

5	MUSIC BUSINESS PRACTICE	U23495	20	Year	O	100	Group Presentation Group Activity Journal		20 50 30				
5	PROFESSIONAL EXPERIENCE	U22598	20	Year	O	100	Proposal ePortfolio Reflective Report	A4 2000 words equivalent 500 words	20 60 20				
5	STUDENT ENTERPRISE	U20209	20	Year	O	100	Essay Presentation Business Plan	2000 words 5 minutes 2000 words	50 10 40				
5	IWLP Option		20	Year	O	100			100				
6	FINAL YEAR PROJECT	U20234	40	Year	C	100	Project presentation Project report	10 mins 8000-10000	10 90				
6	EXPERIMENTAL MUSIC PROGRAMMING	U20226	20	Year	C	100	Technical Blog Artefact		30 70				
6	PERFORMING EXPERIMENTAL MUSIC	U20233	20	Year	C	100	Performance Essay	10 minutes 1500 words	70 30				
6	SOUND AND MUSIC PROGRAMMING	U23952	20	Year	C	100	Software artefact Poster		70 30				
6	SOUND APPLICATION	U20241	20	Year	O	100	Presentation Artefact Evaluative Essay	20 minutes 1500 words	25 50 25				
6	INTERDISCIPLINARY GROUP PROJECT	U22567	20	Year	O	100	Group Presentation Group Report and Artefact Reflective Report	15 minutes 2000 words 1500 words	20 50 30				
6	APPLICATIONS OF VIRTUAL REALITY	U20219	20	Year	O	100	Artefact and Report		100				

Unit Learning Outcomes Map²

UNITS						LEARNING OUTCOMES																						
Level	Name	Code	Credit	Delivery	Core/ Option	A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5	D6
4	SCRIPTING AND INTERACTIVE WEB	U23289	20	Year	C	X		X		X			X					X		X			X					X
4	SOUND FOR MOVING IMAGE	U24008 (U20179)	20	Year	C		X		X		X	X	X	X	X			X		X	X	X	X			X		X
4	EPORTFOLIO	U24139	20	Year	C							X		X	X	X						X	X	X			X	X
4	TOOLS FOR GAMES AND ANIMATION	U20252	20	Year	C	X		X					X					X		X				X		X		
4	ELECTROACOUSTIC MUSIC COMPOSITION	U20158	20	Year	C		X	X	X	X	X	X	X	X	X			X	X	X				X		X		
4	SOUND: PRACTICE AND THEORY	U20173	20	Year	C		X	X	X	X	X	X	X	X	X	X		X	X	X			X			X	X	X
5	AUDIO PROGRAMMING	U23946	20	Year	C	X		X					X					X	X	X	X		X	X				
5	PROGRAM CONSOLES	U24013	20	Year	C	X		X		X			X					X		X			X					
5	LAPTOP MUSIC PERFORMANCE	U20194	20	Year	C		X	X	X			X	X	X	X			X	X	X			X					X
5	DIGITAL SOUND	U20190	20	Year	C		X	X			X		X	X	X	X		X		X			X	X		X	X	X
5	PROJECT INITIATION AND CAREER MANAGEMENT	U24013 (U20198)	20	Year	C				X			X	X	X		X		X	X	X		X	X	X	X	X	X	X
5	GAMES AUDIO	U20190	20	Year	O	X		X		X			X		X			X		X	X			X	X	X	X	
5	MUSIC BUSINESS PRACTICE	U23495	20	Year	O																							
5	PROFESSIONAL EXPERIENCE	U22598	20	Year	O										X	X	X	X	X	X	X		X		X	X		X
5	STUDENT ENTERPRISE	U20209	20	Year	O				X			X		X	X	X		X	X	X		X			X	X	X	X
5	IWLP Option		20	Year	O																							
6	FINAL YEAR PROJECT	U20234	40	Year	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X		X	X
6	EXPERIMENTAL MUSIC PROGRAMMING	U20226	20	Year	C	X	X	X	X	X	X	X	X	X	X			X	X		X	X	X	X		X	X	
6	PERFORMING EXPERIMENTAL MUSIC	U20233	20	Year	C		X	X	X			X	X	X	X			X	X	X			X					X

² A = Knowledge and Understanding; B = Cognitive (Intellectual) Skills; C = Practical (Subject Specific) Skills; D = Transferable Skills

6	SOUND AND MUSIC PROGRAMMING	U23952	20	Year	C		X	X			X		X	X	X	X		X		X		X	X			X	X	X
6	SOUND APPLICATION	U20241	20	Year	O	X		X	X	X		X	X	X	X		X	X	X	X	X	X	X					X
6	INTERDISCIPLINARY GROUP PROJECT	U22567	20	Year	O					X		X				X	X				X	X	X	X		X	X	X
6	APPLICATIONS OF VIRTUAL REALITY	U20219	20	Year	O		X	X						X	X	X		X				X		X		X		