Faculty of Computing, Engineering & Mathematical Sciences

BSc (Hons) Creative Music Technology

Definitive Document – December 2003

Programme Specification

Section 1: Basic Data

Awarding institution/body	University of the West of England
Teaching institution	University of the West of England
Faculty responsible for programme	Computing, Engineering and Mathematical Sciences
Programme accredited by	N/A
Highest award title	BSc (Hons) Creative Music Technology
Default award title	
Interim award title	BSc Creative Music Technology Diploma of Higher Education Certificate of Higher Education
Modular Scheme title (if different)	
UCAS code (or other coding system if relevant)	
Relevant QAA subject benchmarking group(s)	Engineering
On-going/valid until* (*delete as appropriate/insert end date)	
Valid from (insert date if appropriate)	September 2004
Authorised by…	**Date:…**

Version Code 2
For coding purposes, a numerical sequence (1, 2, 3 etc.) should be used for successive programme specifications where 2 replaces 1, and where there are no concurrent specifications. A sequential decimal numbering (1.1; 1.2, 2.1; 2.2 etc) should be used where there are different and concurrent programme specifications

Section 2: Educational Aims of the Programme

The aims of the programme are:

The programme in Creative Music Technology has the following general aims:

1. To prepare students for careers in organisations with a research and development culture of engineering design.

2. To prepare students for careers in organisations in which technology is applied to the creation or distribution of music or other performance or performing arts.

3. To develop problem-solving and other transferable skills that will be valuable to them in any career.

4. To continue the development of those general study skills that will enable students to become independent, lifelong learners.

The programme in Creative Music Technology has the following specific aims:

1. To link the design and engineering of music systems with appropriate understanding and theoretical underpinning, especially in the use of computer technology in a musical context.

2. To develop the students' ability to make a contribution to companies engaged in the use, design and production of music or music systems.

3. To educate students in the use and application of technology in creative and performance arts – specifically music and audio.

Section 3: Learning Outcomes of the Programme

The programme route provides opportunities for students to develop and demonstrate knowledge and understanding, intellectual skills, subject-specific skills and transferable skills., as shown below.

A. Knowledge and Understanding

Knowledge and Understanding of:	Teaching/Learning Methods and Strategies	Assessment
1. basic engineering applications and processes 2. applications of computers in music and audio systems 3. basic music theory 4. acoustics theory and application 5. application of music technology within multimedia and video systems 6. basic business and marketing practice	Acquisition of 1 is through core modules UFEE6S-20-1 Acquisition of 2 is through core modules UFIEK3-20-2, UFEE7A-20-1, UFEE6X-20-1, UFEEJY-20-2, UFIE9S-20-3, UFEEJX-20-3 Acquisition of 3 is through core modules UFEE68-20-1, UFIEK3-20-2 Acquisition of 4 is through core modules UFEE6X-20-1, UFEE65-10-2, UBCLD7-20-3 Acquisition of 5 is through core modules UFIEK3-20-2, UFIE9T-20-2, UFIE9S-20-3, UFEEJX-20-3 Throughout the programme, the learner is encouraged to undertake the practical application of theory knowledge learnt in other modules, especially in UFEE68-10-2. Independent use of the recording studio is encouraged throughout the degree and is a requirement for UFEE6X-20-1 and UFEEJX-20-3. Independent learning through reading and use of appropriate software is encouraged both to supplement and consolidate what is being taught/learnt and to broaden the individual knowledge and understanding of the subject. This is further emphasized in the project module, UFEE63-30-3.	The outcomes are assessed in core modules through a variety of methods, including exams under controlled conditions and coursework assignments, some of which are based on practical laboratory investigations and recording projects.

B. Intellectual Skills

Intellectual Skills	Teaching/Learning Methods and Strategies	Assessment
1. logical thinking and the use of symbolic language to describe the relationships between real or abstract quantities in the context of problems that arise in engineering. 2. critically interpret solutions obtained using appropriate techniques in a musical/technical context and report conclusions in a clear and appropriate manner. 3. application of analysis and understanding of musical instruments, sound and recording. 4. critical appreciation of the professional approach to music and recording work and the ability to control and produce a recording session to professional standards.	Intellectual skills are developed through tutorials that stimulate the student's analytical and problem-solving abilities. Through music studio sessions the student's ability to work with modern recording equipment is stimulated along with the ability to use modern music synthesis techniques for the creation of professional sound recordings. Furthermore the project module promotes intellectual independence and self-confidence. Professional production of sound recording is developed through modules UFEE6X-20-1 and UFEEJX-20-3.	Intellectual skills 1 and 2 are assessed mainly through coursework and examination throughout the programme. Intellectual skills 3 and 4 are assessed by coursework and examination mainly within UFEE65-10-2 and UFEEJX-20-3 as well as UFEE6X-20-1. The project module, UFEE63-30-3 with its assessment based on a substantial report further enhances intellectual skills, particularly skill 2.

C. Subject, Professional and Practical Skills

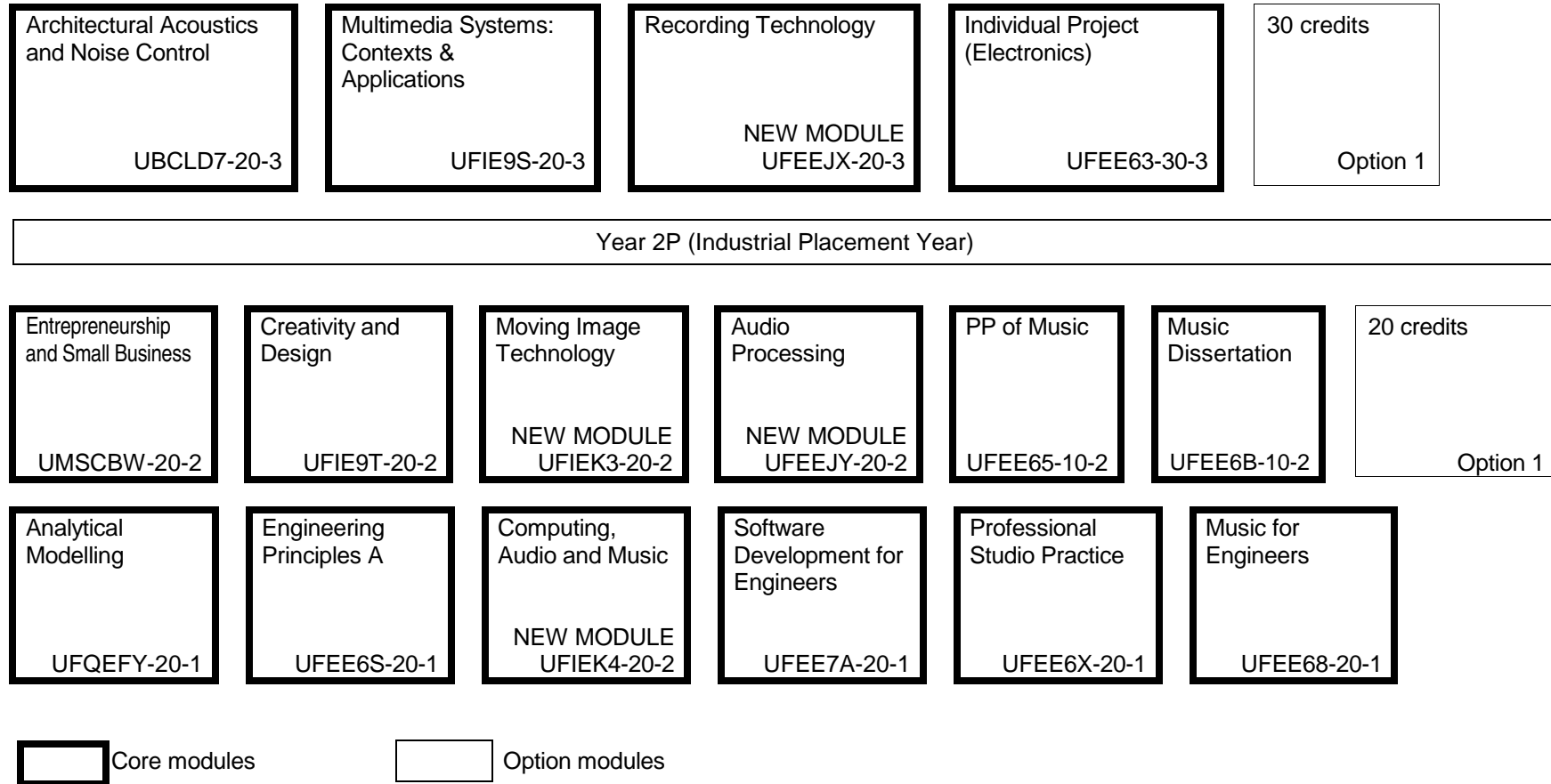| Subject/Professional/Practical Skills	Teaching/Learning Methods and Strategies	Assessment
1. use of computers in music and audio as part of music creation and audio recording and processing 2. practical application of music technology and the recording studio in the process of creating music within professional environments 3. development of listening skills in music and recording	The ability to work with music systems in a professional practical manner and the understanding and application of mathematical techniques to problems associated with music systems are major outcomes of the programme. Tutorials consolidate material introduced in the lecture environment, which together with computer laboratory practice using appropriate software, facilitate interpretation of theory to practical problems. Independent learning is encouraged through project based recording coursework. Thorough understanding of the physics of musical instruments is also learned through a practical and research based approach. Practical recording projects will be undertaken	The possession of these skills is demonstrated by the development of practical laboratory work, coursework, presentations and examinations. The practical nature of the skills to be acquired means that some are specifically addressed by particular modules. Skills 1 is assessed in core modules UFEE6X-20-1, UFEE7A-20-1, UFIEK3-20-2, UFIE9T-20-2, UFEEJY-20-2, UFIE9S-20-3 and UFEEJX-20-3. Skill 2 is assessed in core modules UFEE6X-20-1, UFIEK3-20-2, UFEEJY-20-2 and UFEEJX-20-3. Skill 3 is assessed in modules UFEE68-20-1, UFEE6X-20-1, UFEEJY-20-2, UFEEJX-20-3. More generic skills are assessed across a range of modules.

D. Transferable Skills and Other Attributes

Transferable Skills and Other Attributes	*Teaching/Learning Methods and Strategies*	*Assessment*
1. Communication skills**:** to communicate orally or in writing. Assignments will be presented in both written form and orally in class and vivas.	1. Skill one is developed through a variety of methods and strategies including the following: ♦ Students maintain laboratory log books ♦ Students participate in workshops and groupwork sessions. ♦ Students participate in discussion tutorials ♦ Students present research topic findings in tutorials ♦ Students participate in individual tutorials	These skills are demonstrated in a variety of contexts including • examination • poster presentation. individual and group projects • Practical assignments
2. Self-management skills: to manage one's own time; to meet deadlines; to work with others having gained insights into the problems of team-based systems development.	2. Skill two is developed through a variety of methods and strategies including the following: ♦ Students conduct self-managed practical work ♦ Students participate in practically-oriented tutorial laboratory sessions ♦ Students work through practical work-sheets in teams ♦ Students undertake group projects and individual projects which require peer participation.	
3. IT Skills in Context: to use software in the context of the creation of musical projects as well as in problem-solving investigations, and interpreting findings.	3. Skill three is developed widely throughout the programme especially in the recording studio and multimedia labs.	
4. Problem formulation: To express problems in appropriate notations.	4. Skill four is developed through a variety of methods and strategies including the following: ♦ Students develop problem solving programs ♦ Students practice design and programming	

5. Progression to independent learning: To gain experience of, and to develop skills in, learning independently of structured class work. For example, to develop the ability to use on-line facilities to further self-study.	5. Skill five is developed through a variety of methods and strategies including the following: ♦ Students are encouraged to practice programming to extend their skills ♦ Students develop problem-solving programs ♦ Students are encouraged to research relevant topics ♦ Students are encouraged to use online facilities to discover information	
6. Comprehension of professional literature: to read and to use literature sources appropriate to the discipline to support learning activities.	6. Skill six is developed through a variety of methods and strategies including the following: ♦ Students are encouraged to access online material	
7. Working with Others: to be able to work as a member of a team; to be aware of the benefits and problems which teamwork can bring.	7. Skill seven is developed through a variety of methods and strategies including the following: ♦ Students undertake group projects as well as individual assignments which require peer participation	

Section 4: Programme Structure　　　　　　　　*Note: This structure is indicative and subject to change*

Programme Structure for BSc Creative Music Technology

Architectural Acoustics and Noise Control	Multimedia Systems: Contexts & Applications	Recording Technology	Individual Project (Electronics)	30 credits
UBCLD7-20-3	UFIE9S-20-3	NEW MODULE UFEEJX-20-3	UFEE63-30-3	Option 1

Year 2P (Industrial Placement Year)

Entrepreneurship and Small Business	Creativity and Design	Moving Image Technology	Audio Processing	PP of Music	Music Dissertation	20 credits
UMSCBW-20-2	UFIE9T-20-2	NEW MODULE UFIEK3-20-2	NEW MODULE UFEEJY-20-2	UFEE65-10-2	UFEE6B-10-2	Option 1

Analytical Modelling	Engineering Principles A	Computing, Audio and Music	Software Development for Engineers	Professional Studio Practice	Music for Engineers
UFQEFY-20-1	UFEE6S-20-1	NEW MODULE UFIEK4-20-2	UFEE7A-20-1	UFEE6X-20-1	UFEE68-20-1

☐ Core modules　　　☐ Option modules

Option 1 taken from

ILP	Language
UFEE69-20-2	Embedded Microprocessor Systems
UFPECH-10-2	Quality Assurance and Management
UFEE6D-10-3	Project Management
UFEE5V-10-3	Software Engineering Management
UMSCCA-10-3	Marketing & Strategic Management
UMAC3P-10-3	Management Accounting in a Business Context

PLEASE NOTE: REFER TO THE FACULTY ON-LINE INFORMATION SYSTEM FOR UP-TO-DATE STRUCTURE INFORMATION

http://www.cems.uwe.ac.uk/exist/index.xql

Section 5: Entry Requirements

The university's minimum requirements for entry to a degree apply to this programme. In addition entrants are required to have:
(a) evidence of achievement in Mathematics at GCSE Grade C or equivalent
(b) evidence of achievement in Music at GCSE Grade C or equivalent
(c) evidence of achievement equivalent to A2 Level in a scientific discipline

Section 6: Assessment Regulations

The Modular Assessment Regulations apply to this programme

Section 7: Student Learning: Distinctive Features and Support

Class Activities The mode of delivery of a module is determined by its Module Leader, and typically involves a combination of one or more lectures, tutorials, 'lectorials', laboratory classes, group activities and individual project work. Modules are often delivered by means of 'lectorials', classes for groups of 20-30 students with no distinction between lectures and tutorials, and this has proved to be an effective mechanism for modules at Level 0 and 1.

Practical (lab and studio) Activities The programme makes extensive use of the faculty's multimedia and recording facilities. One of the important underlying aims of the programme is to encourage students to work in a professional manner. All recording and audio laboratory work will be undertaken in a way that will encourage students to use and operate the equipment in a fully professional manner and to produce music and other product to a fully professional standard. Upon graduation their portfolio of work will clearly demonstrate this.

Academic Support   Academic advice and support is the responsibility of the staff delivering the module in question. Staff are expected to be available outside normal timetabled hours, either by appointment or during published "surgery" hours, in order to offer advice and guidance on matters relating to the material being taught and on its assessment.

Pastoral Care The faculty's offers pastoral care through its Student Advisers, a team of staff who provide comprehensive, full-time student support service on a drop-in basis or by appointment. All students on the same route are allocated to the same Adviser, who is trained to provide advice on matters commonly of concern, including regulatory and other matters; the Adviser will, when necessary, advise the student to seek advice to from other professional services including the university's Centre for Student Affairs or from members of academic staff.

Progression to Independent Study
Many modules require students to carry out independent study, such as research for projects and assignments, and a full range of facilities are available at all sites to help students with these. The philosophy is accordingly to offer students both guided support and opportunities for independent study. Guided support, mainly in the form of timetabled sessions, takes the form of lectures, tutorials, seminars and practical laboratory sessions. Students are expected to attend all sessions on their timetable,.

The progression to independent study will also be assisted by the nature of the support offered in individual modules. Typically, module leaders will provide a plan for the module indicating the activities to be carried out and the forms of learning to be undertaken during the delivery of the module, with a view to encouraging students to plan ahead and to take responsibility for managing their time and resources.

Computing Facilities   The Faculty offers a specialised computing facility along side the general University provisions. There are nine general PC computing laboratories of 20 plus seats all running Windows2000, along with four Unix based laboratory and 10 specialist computing labs. The specialist laboratories are equipped with the specific software for CEMS students; including Software Design Tools development environment, CAD, finite element analysis, mathematics and statistics packages to support the taught program.

Within the Faculty of Computing, Engineering and Mathematical Sciences, student learning is further supported in the following distinctive ways :
- Through provision of a Mathematics and Statistics Learning Centre
- Through provision of Open Access and other available computer laboratories that provide access to a range of relevant computer based applications
- Through provision of the CEMS System Support Helpdesk that provides a range of support for learning to students including :
  - Support for a wide range of applications used by the students;
  - Help in the form of Assistants who are trained to resolve many common student problems
  - And help in the form of a large set of 'help-sheet documents', developed over a number of years, that cover a variety of common student requests for information.
- Through provision of the MuSE recording studio and other laboratories

Mathematics & Statistics Learning Centre
The MSLC offers a drop-in support centre for students studying mathematics or statistics from across the university. Within a dedicated room, it provides access to a variety of learning resources, including mathematics / statistics software, course handouts, software documentation and textbooks. The Centre is open-access until midnight during term-time, and is staffed for part of each day by a member of academic staff, who is available to help students on a drop-in basis.

Section 8 Reference Points/Benchmarks

This programme has been prepared with reference to a number of external benchmarks, including the QAA Subject Benchmark Statement for Engineering, the QAA Framework for HE Qualifications, the university's Learning & Teaching Strategy.

The Subject Benchmark Statement for Engineering outlines a set of skills expected of a graduate in an engineering discipline (Section 4 of the Statement refers), while noting that they should be interpreted in the context of the particular engineering discipline which is being studied. These skills map closely to the skills contained in the learning outcomes for this programme, and hence we have confidence that the programme is in accordance with the precepts of the Statement.

The university's Learning & Teaching Strategy has informed the faculty's policy for the delivery of its programmes, whose main features are described in section 7.