PROGRAMME SPECIFICATION

BMUS/BSC MUSIC COMPUTING

Awarding Institution	University of London
Teaching Institution	Goldsmiths College
Department	Computing, Music
Final Award	BSc (Hons)
FHEQ Award Level	6
QAA subject benchmarking group	Computing
Date	March 2010

Background to this Programme Specification

This document is the result of the curriculum review undertaken by the Department of Computing which has resulted in a fully revised curriculum starting 2010-11. It is the specification of the BMus/BSc Music Computing programme, which is intended to replace the existing BMus/BSc Music Computing programme and forms part of the department's integrated suite of undergraduate programmes.

Introduction to the Programme

The BMus/BSc programme accords with Goldsmiths' aims to pursue intellectual curiosity, work beyond the "boundaries of preconceptions" and provide "a unique and creative approach" to subjects. This programme, a collaboration between the Departments of Computing and Music, is an innovative synthesis of contemporary musical practice and musicology with the creative and analytical applications of computer science. It builds upon well-established research collaborations that link the two departments, in areas such as interactive performance, computer-based analysis and music cognition.

The programme is designed to meet the opportunities, challenges and intellectual demands presented by careers in the culture industries, in music technology and in audio, music and media-related computing. You will encounter the most up-to-date technologies and programming methods, and explore current issues in programme design, sonic art, contemporary composition and musicology.

The programme meets the demands of the rapidly evolving and innovative subject area of music computing. It fosters further development of our interdisciplinary understandings across the broad fields of computer science, creative practice and musical research. You will study how computers listen and analyse sound and music, how they can derive, generate or 'invent' processes and structures for music, and how such processes are rendered into music in the form of audio or printed musical text.

This programme is informed by the Departments of Computing and Music Learning and Teaching Strategies, as well as by external guidelines and frameworks, including the QAA Computing and Music subject benchmark statements and the QAA qualifications framework.

What are the admissions criteria?

You will be expected to have at least BBB or ABC at A2 level or equivalent.

An A2 level, or equivalent, qualification in Music or Music Technology is preferred. However we encourage applications from those without a formal qualification in music who can demonstrate relevant knowledge and experience.

At the interview stage you may be asked to present a portfolio of recent work relevant to your knowledge and experience of computing and/or music (for example: creative work in music technology or other media, musical scores and recordings, written work).

Applicants whose first language is not English must have received a score of 6.0 or more in the IELTS (or equivalent) examination for written English.

What are the aims of the programme?

You develop the critical, technical and intellectual skills needed to be able to analyse problems, design and implement solutions on computers and communicate your ideas in a variety of forms. You develop awareness of diversity in music and the diversity of values, critical stances and analytical methods, in their historical and cultural contexts. The programme encompasses a wide range of repertoires of music, offering modules that reference various aspects of film music, Western art and contemporary music, popular music, 'world' music, sound art and electronic music. By exploring the interrelationships between theories of music and computing, and between theoretical understanding and creative practice, you develop the knowledge and skills to create your own independent research project in your final year.

What are the learning outcomes of the programme?

Knowledge and understanding

Graduates should have knowledge of:	Taught by:
The interrelationships between computer science, musicology and creative practice. The knowledge should be sufficient to produce substantial creative musical work with computers.	Music Computing 1, 2, Major Project in Music Computing
A wide range of topics underlying computers and software design, as relevant to music computing. A broad range of topics will be known to a basic level and some will be known in depth.	Year 1 and Year 2 core Computing courses
Advanced theoretical models and abstractions that underpin reasoning about computing systems. This knowledge will be sufficient to understand and implement substantial software systems.	Programming OO Data Structures and Algorithms
Key concepts and technical strategies evident in a range of musical repertoires, which may include contemporary music and sonic art, Western art music, popular and 'world' music.	Approaches to C20 Music, first, second and third year options in Music
Critical approaches and analytical methods that can be applied to music, appraised in aural and written form, to the standard of academic discourse.	Core and optional courses in Music
Selected musical discourses and practices in their historical, societal and cultural context.	Second and third level Music options
Theoretical and contextual systems that inform creative practice in software design, musical interpretation and composition.	Perception and Multimedia Computing, Music Computing 2, Major Project in Computing

Thinking (cognitive/intellectual) skills

Graduates should be able to:	Taught by:
Analyse moderately complex computing systems to verify they are correct and well-designed.	Introduction to Programming, Programming OO Data Structures and Algorithms
Critically self-evaluate creative and technical work, and evaluate the work of others	Creative Computing 1 and 2
Assess effectively a user's requirements and specifications, in order to design and realise a solution to a moderately complex problem.	Programming OO Data Structures and Algorithms, Major Project in Computing (Option C)
Solve problems in a systematic, logical manner.	All core and optional Computing courses.
Apply intuitive and experimental methods in the production of creative work	Music Computing 1, 2, Major Project in Music Computing, Introduction to Audiovisual Processing

Practical (including subject-specific) skills

Graduates should be able to:	Taught by:
Apply current analytical and musicological methods to assimilate, assess and interpret music in notated form and/or aurally.	Core and optional Music courses
Compose music to a professional level in the form of notated score, studio-based media and/or live performance	Music Computing 1, 2; Music options in Years 1, 2 and 3
Apply different algorithms and data structures, both well-established and innovative, with particular reference to musical applications.	Programming OO Data Structures and Algorithms, Music Computing 2
Implement a moderately complex functional specification from generalised requirements, demonstrating an understanding of correct processes and their concomitant problems.	Programming OO Data Structures and Algorithms, Music Computing 1, 2, Major Project in Music Computing

Graduates should be able to:	Taught by:
undertake a substantial independent project in which you design, implement, test (realise or perform with, as appropriate) and evaluate a software system for musical application OR 12B undertake a substantial independent project in which you design and carry out a creative project by using appropriate research and computing methods and by synthesizing relevant compositional techniques, source materials and contextual writing.	Major Project in Music Computing

Transferable skills

Graduates should:	Taught by:
Use library resources, databases, and other research tools to identify, collect and reference primary and secondary material, to academic standards.	Many courses in Music and Computing involve project-style assessments in which the student is expected to undertake independent research.
The ability to use information technology effectively, including music-writing and word-processing programmes.	Introduction to Music Technology.
Ability to structure and communicate ideas effectively and persuasively, both orally and writing to a professional level.	Many courses in Music and Computing require the submission of essays, critical evaluation and technical reports. There will oral presentations of ideas and work in Music Computing 1, 2 and Major Project in Computing.
The ability to work independently and effectively, and sustain work in the production of a substantial project.	Major Project in Computing

What courses are offered on this programme?

At all levels, students must take a minimum of 45 CATS in terms 1 and 2.

Level 1

Core:
IS51008B	Introduction to Programming (30 CATS)
ISXXXXA	Data representations and Architecture Modelling (15 CATS)
ISXXXXA	Creative Audiovisual Computing (15 CATs)
MU51047A	Music Computing 1 (15 CATS)
MU51024A	Approaches to 20th Century Music (15 CATS)
MU51021A	Introduction to Music Technology (15 CATS)

Indicative Options: One of the following (all courses are 15 CATS):
MU51022A	Tonal Harmony & Form
MU51017A	Analytical and Contextual Studies
MU51023A	Western Art Music: Development and Repertoire
MU51025A	Popular Music: Ways of Listening

Options will be presented and selected in induction week.

Level 2

Core:
IS52020A	Perception and Multimedia Computing (30 CATS)
ISXXXXA	Programming OO Data Structures and Algorithms (15 CATS)
MU52XXX	Music Computing 2 (30 CATS)

Indicative Options (All courses are 15 CATS). Up to three courses (45 CATS in total) from the following groups, comprising:

Group A: At least one of the following:
MU52046A	Music of Africa and Asia
MU52013A	Musical Style and Historical Culture
MU52014A	Music and Modernism
MU52016A	Culture, Media and the Music Industries
MU52020A	Music, Communication and Identity
MU52022A	Music and Postmodernism
MU52026A	Music Aesthetics
MU52034A	Romanticism and Musical Structures

Group B: At least one of the following:
MU52023A	Composition: Creative Strategies
MU52024A	Studio Techniques
MU52027A	Composition and Performance
MU52028A	Studio Composition
MU52036A	Language of Jazz
MU52037A	Film Music
MU52039A	Orchestration
MU52040A	Arranging: Jazz & Commercial Music

Group C
ISXXXXXA	Programming User Interfaces
ISXXXXA	Data Modelling

Level 3

Core:
Music Computing Major Project: Option *C* or *M* (60 CATS)

Indicative Options (all courses are 15 CATS):

R = Recommended (not compulsory)

A total of 60 CATS from Groups A and B
Group A (options differ from year to year but current examples include)
IS53027a (CC342)   Innovative Audiovisual Processing
IS53032a (CC349)   Advanced Graphics and Animation
IS53002a (CIS311)   Neural Networks (R)
IS53008a (CIS322)   User Interface Design
IS53013a (CIS323)   Electronic Commerce
IS53011a (CIS324)   Language, Design and Implementation
IS53012a (CIS326)   Computer Security
IS53021a (CIS336)   Website Design, Implementation and Management
IS53023b (CIS338b)   Data Mining (R)
IS53026a (CIS339)   Enterprise Networking
IS53024a (CIS341)   Artificial Intelligence (R)
IS53030a (CIS350)   Physical Computing (R)

Group B
MU   Aesthetics of Performance
MU53XX   Psychological Approaches to Music (R)
MU53009A   Minimalism and Postminimalism
MU53012A   Soviet Music and Beyond
MU53014A   Indeterminacy and Improvisation (R)
MU53017A   Composition for Visiting Ensemble   (Pre-requisite MU52023A)
MU53018A   Phonography (Pre-requisite MU52024A) (R)
MU53023A   Live Electronics   (Pre-requisite MU52024A) (R)
MU53024A   Analysis and New Music (R)
MU53033A   Narrative, Representation and Popular Song
MU53034A   Mozart's Operas: Advanced Music History Sources and Documents

Criteria for the award of BSc
Minimum of 1 CU from Group A and Music Computing Major Project Option *C*

Criteria for the award of BMus
Minimum of 1 CU from Group B and Music Computing Major Project Option *M*

If the criteria are not met, the award of either BSc or BMus will be proposed by the student, with the advice of his or her personal tutor, and agreed by the Programme Convener no later than the end of Term 2 of the final year of study.

How will courses be taught?

The Departments of Computing and Music are committed to a diverse and stimulating range of learning and teaching methods that ensure the programme outcomes are addressed rigorously and effectively. Learning emphasises a close synthesis between theoretical understanding and practical application that helps you develop an advanced, critical approach to the interdisciplinary subject of music computing. Outcome 1. is consistently fostered and developed through independent and collaborative projects across years 1 and 2, in both music or computing specialist modules and the core music computing courses themselves. This is fully integrated in the supervision of final year project that will draw together programme elements. In addition, the College's 3-D graduate scheme and personal tutoring system are opportunities to develop coherent links between seemingly disparate elements in the programme.

New and existing modules provide network of cross-referenced and cumulative knowledge across modules; this is further developed through your independent research and learning activities directed towards course assignments and the large-scale project component. You achieve the outcomes relevant to your individual pathway, that combines core and optional modules, through the experience of interconnected teaching and learning strategies across the various elements of the programme. All modules provide a weekly lecture-seminar or other session, which reinforces preparatory or follow-up reading, and other related learning activities in both group and individual settings to foster new understandings and skills.

Programme outcomes that emphasise knowledge and understanding are developed in lecture-seminar sessions, supported by tutorials, and where relevant, lab/workshop sessions. Practical and subject-related skills are developed through class-based tasks, either individually or in groups, (including analytic, listening-based, or discursive exercises) or by setting up or reviewing follow-up tasks undertaken outside of class. Lab sessions, practical workshops (e.g. composition workshops) and music studio sessions provide opportunity for you to develop and present the wide range of skills in computing and music necessary. Cognitive and transferable skills are integral to your learning experiences across all elements of the programme.

The relative extent of a lecture, seminar or task-based component in any individual module or session depends on the learning outcomes and material at hand. Class discussion and debate, whether staff- or student-led, encourages collaborative engagement with questions, issues, problems and exercises that help develop your individual learning. Independent learning requires close and rigorous engagement with primary and secondary sources, as directed by course materials and online resources, including instructional 'off-the-shelf' software modules and other online resources, musical scores, recordings, film, historical documents and a range of other relevant materials. The relevant library resources are referenced to help develop research-based and ITC related skills. Your learning development is supported and reviewed in tutorial meetings that occur across the academic year. Learning and teaching is supported by a wide variety of practical activities that pertain to various aspects of the programme, including the Music Department's concert series, masterclasses, guest lectures, events run by the Music Research Forum, Digital Studios and Unit for Sound Practice Research.

Options: The programme offers a degree of flexibility at all three levels, in order to offer learning opportunities across the broad range of theoretical and practical subjects encompassed by music and computing. You will select your options with the advice and agreement of your personal tutor and the programme convener at various stages in the degree programme. You will be advised about Level 1 choices at interview and/or enrolment.

How will my work be assessed?

Summative and formative assessment of the programme outcomes occurs across the selection of modules offered by the Departments of Computing and Music (see 14.1 Outcomes-Module Map). Individual modules deploy the most effective and appropriate assessment method(s) according to the topic and learning outcomes.

 The methods comprise:
1) a 3,000-word essay that demonstrates ability to apply reasoning to a set question, comparative or analytical task, conduct independent research and produce an academic argument that can be supported by evidence and examples.

2) a coursework portfolio that demonstrates ability to undertake one or more practical or creative task(s) in response to explicit criteria (e.g. a composition, a musical performance, a transcription) and write a short self-evaluation.

3) an unseen examination that demonstrates ability to apply reasoning to set question(s), comparative or analytical task(s) and produce reasoned solutions and/or academic argument supported by evidence.

4) oral presentation that demonstrates ability to articulate and present coherent solutions, arguments and understandings relevant to tasks set, and respond to feedback in discussion with peers and tutors.

The programme outcomes are achieved and demonstrated in their most extensive and comprehensive form in the final year project component that is compulsory for the programme.

The methods are:
1) a software application project based upon an independent area of theoretical and practical research, in which you design, implement, test (realise or perform with, as appropriate) and evaluate a software system for musical application. Accompanied by a research essay c.3,000 words.

2) a creative project based upon an independent area of theoretical and practical research, in which you design and carry out a creative project (e.g. substantial composition, improvisations, sound installation) by using appropriate research and computing methods and by synthesizing relevant compositional techniques, source materials and contextual writing. Appropriate media accompanied by a research essay c.3,000 words.

F formative assessment occurs in class discussion of tasks set, tutorial review of your progress as well as through written and oral feedback.

What do I need to do to progress between levels?

To be confirmed based on college regulations to be published

What are the grading criteria for a BSc (Hons) degree?

Mark	Descriptor	Grading Criteria
0%	Non submission	Work was not submitted or it was plagiarised
1-9%	Very bad fail	A submission that does not even attempt to address the specified learning outcomes (shall be deemed a non valid attempt and unit must be re-sat).
10-24%	Bad fail	Represents a significant overall failure to achieve the appropriate learning outcomes (shall be deemed a valid attempt and not necessarily required to be re-sat).
25-34%	Fail	Represents an overall failure to achieve the appropriate learning outcomes. The work is deficient in most respects, revealing insufficient grasp of material and poor organisation and an inability to identify and address the task required. Text-based assessment: The text entirely lacks structure and focus; there are major inconsistencies and mistakes in the usage of scholarly procedures and their presentation. Creative and technical work: This will demonstrate inadequate technical competence, imaginative thinking or conceptual coherency. Relevant materials will be inadequately produced.
35-39%	Pass	Represents the overall achievement of the appropriate learning outcomes to a minimum level. Evidence of a minimal level of response to the set task. There some evidence of reading of recommended texts and/or attempt to solve a problem at hand, but only limited evidence understanding and competence at designing and implementing a problem solution. Text-based assessment: The text lacks structure and / or sound argument; the focus is not clear; there are major inconsistencies and mistakes in the usage of scholarly procedures and their presentation. Creative and technical work: Creative works and computer systems will demonstrate some engagement with the task set but will fail to meet honours standards: they will demonstrate inadequate technical competence, imaginative thinking or conceptual coherency. Scores, CDs, data or other relevant materials may be poorly produced..

Mark	Descriptor	Grading Criteria
40-49%	Threshold	Represents the overall achievement of the appropriate learning outcomes to an adequate level. Overall mainly adequate level of response to the set task; the conceptual coherency of the work/project is largely adequate. There is some recognition of the problem and attempt at a solution, however, the work falls short of the expectations in terms of understanding and/or skills or technical ability. Such work is generally differentiated from failure by a sense of a positive, if limited, engagement by the candidate. Text-based assessment: The text evidences some structure and / or sound argument and the focus; there are minor inconsistencies and mistakes in the usage of scholarly procedures and their presentation. Creative and technical work: Creative works and computer systems will demonstrate some merit: they will demonstrate adequate technical competence, and conceptual coherence. Scores, CDs, data or other relevant materials will be adequate.
50-59%	Good	Represents the overall achievement of the appropriate learning outcomes to a good level. There is evidence of an adequate level of understanding of relevant tasks, concepts, methods, and context and of sufficient skill to tackle the problem at hand. Such work is likely to demonstrate a lower level of competence and less insight in analysis than upper second class work. Text-based assessment: the text is structured around an argument, though not consistently focussed; scholarly procedures are employed throughout and are largely correct though routinely applied. Creative and technical work: Creative works and computer systems will demonstrate an overall satisfactory standard showing some degree of originality or potential. They will demonstrate technical competence, relevant knowledge and understanding, a degree of imaginative thinking and conceptual coherency. Scores, CDs, data or other relevant materials will be adequately produced, with written commentaries that show some awareness of context.

Mark	Descriptor	Grading Criteria
60-69%	Very Good	Represents the overall achievement of the appropriate learning outcomes to a very good level. Overall evidence of good analytical research in the conceptualisation of the project; a very good level of response to the set tasks; the conceptual coherency of the work/project is good and ideas deployed within a defined contextual framework. The candidate must also demonstrate good skills in application of ideas, in synthesis of material and/or in design and implementation of systems. Such work is generally missing the sense of originality that is sought from first class work. Text-based assessment: the text is well organised, the main argument is clearly focused and constructed. Correct scholarly procedures are employed throughout with accuracy. Creative and technical work: Creative works and computer systems will demonstrate a high standard with clear signs of conceptual coherence and individuality. They will demonstrate the confident and effective use of a range of techniques, informed by theoretical understanding and imagination. Scores, CDs, data or other relevant materials will be produced to a high standard, with written commentaries that demonstrate individual insight and assimilation of contextual frameworks.
70-79%	Excellent	Represents the overall achievement of the appropriate learning outcomes to an excellent level. Overall the work shows evidence of rigorous analytical research in its conceptualisation of the project; an excellent level of response to the set tasks; the conceptual coherency of the work/project is strong and ideas are deployed within a clearly defined contextual framework. There is evidence of a thorough grasp of relevant concepts, methods and contents appropriate to the assessed work, and demonstrate originality in application of ideas, in synthesis of material and/or in design and implementation of systems. Text-based assessment: the text is extremely well structured, ideas are developed, articulated and synthesised to a high standard through cogent argument throughout. Correct scholarly procedures and theoretical frameworks are consistently employed with care, accuracy and an understanding of their purpose Creative and technical work: Creative works and computer systems will demonstrate an excellent standard with strong evidence of originality, individuality and conceptual coherence. They will demonstrate a convincing synthesis of technique, theoretical understanding and imagination. Creative works and computer systems will be well conceived and will demonstrate an incisive exploration of technical, conceptual and aesthetic issues, as relevant. Relevant materials will be produced to a professional standard, with written commentaries that evidence a sophisticated and critical approach to contextual frameworks.

Mark	Descriptor	Grading Criteria
80-100%	Exceptional	Represents the overall achievement of the appropriate learning outcomes to an exceptionally accomplished level. Overall the work demonstrates the conceptualisation, coherency, contextual appropriateness, theoretical sophistication, critical evaluation, accuracy and, above all, originality. Any omissions that occur arise as a result of a deliberate, justified focus, rather than through any lack of awareness or incompetence. Text-based assessment: the text is structured with exceptional clarity and cogency, the argument is compelling and the presentation and scholarly procedures employed are flawless. Creative work: Works will demonstrate a fluency of approach and outstanding qualities with strong evidence of originality, individuality and conceptual coherence. They will demonstrate a sophisticated synthesis of technique, theoretical understanding and imagination. Works will be clearly address well articulated aims of contemporary relevance, and will demonstrate an incisive exploration of aesthetic and technical issues. Relevant materials will be produced to a professional standard, with written commentaries that evidence a sophisticated and critical approach to contextual frameworks.

What support can I expect?

Expertise is provided by the Departments' resident staff who are dedicated and experienced teachers, but also distinguished practitioners and researchers in their own right, working in national and international contexts. The Departments also draw on a large pool of visiting tutors and researchers, to provide a breadth of expertise and contact with current research and practice.

Student learning is supported by the Rutherford Information Services Building, which houses extensive book, score, CD/DVD and electronic resources. All registered students also have access to the University of London libraries network. In addition, the Music Department has its own dedicated specialist facilities, including an Audio Library and studio facilities for music processing, recording and digital film editing. The Department of Computing has extensive computer lab facilities. Both Departments make extensive use of the VLE learn.gold online facility, in order to support student learning in a number of ways, including the dissemination of learning resources and to provide an electronic forum for the exchange ideas and debate.

The BSc/BMus curriculum is supported by a wide range of activities that encourage awareness and involvement in the Departments' high profile practical, performance and research activities, including termly postgraduate conferences, the Music Research Forum, the Digital Studios' 'Thursday Club', a large number of regular performance ensembles and concert events, masterclasses, workshops, visiting speakers, and various other activities of the Digital Studios, the Centre for Contemporary Musical Cultures, the Intelligent Sound and Music Systems group and the Unit for Sound Practice Research. Further information about these groups can be found from the Departments' web pages www.gold.ac.uk.

You are allocated a personal tutor during your period of study who offer advice, guidance or clarification of courses, options, requirements and regulations; and to monitor your progress through the programme. The Personal Tutor can also offer support in cases of academic difficulty. Should further advice be necessary, the Senior Tutor, the Chair of the Sub-Board of Examiners can also be consulted. If you encounter difficulties at any time with your studies, the programme convenor and other course tutors can provide additional academic support whilst the Senior Tutor is available by appointment to discuss welfare-centred issues. Staff members have office hours each week to discuss any matters; outside these hours students may arrange an appointment with staff via email or telephone.

Both Departments take advantage of and pursue the College's Disability Awareness policies. Students with specific needs in this regard are considered on an individual basis. The College also actively supports students with specific learning difficulties (e.g. dyslexia), and provisions are made to ensure that all students, regardless of specific difficulty/disability, derive full benefit from the learning environment. In addition to specialist advice and assistance within the College, both Departments ensure that course materials are suitable for all students and, where necessary, these are altered to meet the requirements of individual students.

You will develop and maintain a personal development plan, run by the Goldsmiths 3-D Graduate scheme, during your course of study. This pan helps you record aspirations, plans and goals, record your achievements, and enables progress to be monitored, in order to help achieve your individual aims. The Senior Tutor is available to discuss the 3-D scheme with students, and Departments will advise you about how best to approach this task.

The medical, counselling and financial services provide support for students when necessary, and in the case of students with special needs (including dyslexia), the Student Support Office will

provide sympathetic advice and help. Goldsmiths also provides a wide range of other support services for students, which can be found on its web site at www.gold.ac.uk. Overseas students whose first language is not English may seek assistance from the Goldsmiths English Language Unit.

The Departments are committed to making any reasonable adjustment that allows, as far as possible, for equality of opportunity and access, and to ensuring that students are not substantially disadvantaged because of specific learning difficulties or disability.

What Careers will be open to me?

The programme is designed with careful consideration of the opportunities, challenges and intellectual demands presented by careers in music technology and music computing, and the various professions involving computing in the cultural sector, such as the sonic arts and performance, film and TV composition, sound design, web design, broadcasting, systems analysis and management, IT consultancy, librarianship, arts administration, and music record production. In addition the course acts as a gateway to further study at Masters and PhD level, creating opportunities in computer music research and music software development.

How will teaching quality be monitored?

The Departments are committed to effective programme monitoring, in which representatives from the BSc/BMus programme can comment about the programme, the Departments and provision for learning, teaching, assessment and related activities. Student representatives contribute to the undergraduate Staff-Student Forums run by both Departments: termly meetings that are minuted and report to the Departments. Student representation is also included in the membership of Department Boards, meeting several times over the academic year. The BSc/BMus programme participates in the College's procedures for course evaluation, including the National Student Survey, and students are strongly encouraged to participate in this process. In addition, the Music Department operates its own procedure for more detailed and specific, anonymous course evaluation with its own text-based form that encourages more discursive responses to the learning experience. Course leaders are encouraged to actively seek and respond to student responses.