

Undergraduate study
BMus/BSc in Music Computing

Music Computing

Goldsmiths
UNIVERSITY OF LONDON



BMus/BSc in Music Computing

3 years full-time or
4-6 years part-time

The BMus/BSc in Music Computing is an innovative undergraduate programme that offers a unique and creative approach to this rapidly evolving subject. The programme is jointly delivered by the Department of Computing and the Department of Music, building on well-established research collaborations between the departments in areas such as interactive performance, computer-based analysis, sound art and computational creativity.

The programme is designed with careful consideration of the opportunities, challenges and intellectual demands presented by careers in music technology and music computing, and of professions involving computing in the cultural sector, such as sound design, film and TV composition, web design, broadcasting, systems analysis and management, IT consultancy and music and audio production. It acts as a gateway to study at Masters and PhD level, as well as providing a foundation for practice-based careers and research in interactive performance, computer-related composition and the sonic arts.

Interdisciplinary understandings are fostered across the 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.

You will develop the intellectual, technical and critical skills needed to analyse problems and design and implement solutions on computers, and communicate your ideas. You will study 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 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 will develop the knowledge and skills to create your own independent research project in your final year.

Music Computing students have access to all the facilities available to other undergraduate students in each department. Please take a look the departmental booklets and the Goldsmiths website for further information.

Admission

You will be expected to have at least BBB or ABC at A2 level, or equivalent. An A2 level qualification, or equivalent, relating to music and/or science and technology is preferred. However, we encourage applications from those without a formal qualification in these areas who can demonstrate relevant knowledge, skills and experience. If you do not have an A2 level qualification in Music or Music Technology, or equivalent, you will be asked to submit a music portfolio. Other applicants may also be invited to submit a portfolio, depending on their particular skills and knowledge. This should contain examples of your own work (eg. a sound recording, original composition, sound art project or musical arrangement) that demonstrate technical competence and imagination, and may show an understanding of music-related software. If you do not have an A2 level qualification, or equivalent, relating to the sciences, you should have a good pass in GCSE Mathematics, or equivalent.

If English is not your first language, you must obtain evidence of your English Language competence.

Tests considered appropriate include:

- International English Language Testing System (IELTS) – pass with at least 6.5 overall and a minimum of 6.0 in the written element;
- International GCSE (IGCSE) English as a second language at Grade C;
- Cambridge Certificate of Proficiency of English (CPE) Level 5 at Grade C or above;
- Cambridge Certificate in Advanced English (CAE) Level 4 at Grade B or above;
- TOEFL score of at least 580 including 4.5 in the Test of Written English (TWE), or 237 in the Computerised test (CT) including 4.5 in the essay

component, or 92 in the internet-based test (IBT) with a minimum of 23 in the written element;

- Pearson Test of English (Academic) with a score of 68 overall, including 68 in the written element and 59 in all other elements.

All applicants to the programme may be called for an interview, at which time they may be asked to take a computer aptitude test.

Programme Aims

By the end of the programme you will be expected to have acquired understanding of:

- the interrelationships between computer science, musicology and creative practice;
- a wide range of topics underlying computers and software design, as relevant to music computing;
- advanced theoretical models and abstractions that underpin reasoning about computing systems;
- 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;
- critical and analytical methods that can be applied to music and appraised in aural and written form;
- selected musical discourses and practices in their historical, societal and cultural context;
- theoretical and contextual systems that inform creative practice in software design, musical interpretation and composition.

By the end of the programme you will be expected to be able to:

- apply current analytical and musicological methods to assimilate, assess and interpret music in notated form and/or aurally;
- compose music in the form of notated score, studio-based media and/or live performance;
- apply different algorithms and data structures, both well-established and innovative, with particular reference to musical applications;
- implement a functional specification from generalised requirements, demonstrating an understanding of correct processes and their concomitant problems;

- 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** undertake a substantial independent project in which you design and carry out a creative project by using research and computing methods and by synthesizing relevant source materials, compositional techniques and contextual writing.

Throughout the programme you will be encouraged to further develop your cognitive/thinking skills. You will learn how to analyse computing systems to verify they are correct and well-designed, and critically self-evaluate creative and technical work, and evaluate the work of others. You will also learn how to solve problems in a systematic, logical manner, apply intuitive and experimental methods in the production of creative work, and assess effectively a user's requirements and specifications in order to design and realise a solution.

You will also be encouraged to build up a range of transferable skills. You will develop the ability to structure and communicate ideas effectively and persuasively, and to participate constructively in group work. You will gain the ability to organise and manage a personal schedule in order to work well towards deadlines and performances. Using library resources, databases and other research tools you will learn how to collect, reference and evaluate primary and secondary materials.

Learning and Teaching

Expertise is provided by the Departments' resident staff, who are dedicated and experienced teachers, but also distinguished practitioners and researchers in their own right. 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.

The Departments are committed to a diverse and stimulating range of learning and teaching methods to ensure programme aims are addressed rigorously and effectively. Learning emphasises a close synthesis between theoretical understanding and practical application that will help you develop an advanced, critical approach to the interdisciplinary

subject. In addition, the College's 3-D graduate scheme and personal tutoring system present opportunities to develop coherent links between seemingly disparate elements in the programme.

In addition to core topics, the programme offers a wide range of module choices to ensure that the many opportunities within the broader subject are represented. Through your choices you will develop a cumulative and cross-referenced network of knowledge and skills; these provide a basis for your final year major project.

Lectures and seminars, computer lab sessions, practical workshops and music studio sessions will provide opportunities for you to develop and present the wide range of skills needed in computing and music. Class discussion and debate – whether staff- or student-led – will encourage collaborative engagement with questions, problems and exercises that develop your individual learning. Your progress will be supported and reviewed in one-to-one tutorial meetings across the academic year.

Goldsmiths holds a variety of practical activities that relate to the programme, including the Department of Music's performance events, masterclasses, guest lectures and events run by the Digital Studios, the Unit for Sound Practice Research and the Centre for Contemporary Musical Cultures. Learning is supported by the Rutherford Information Services Building, which houses extensive book, score, CD/DVD and electronic resources. All students also have access to the University of London's libraries network. The Department of Music also has its own specialist facilities, including the Electronic Music Studios and music technology labs, and the Department of Computing has extensive computer lab facilities.

Programme Structure

Core courses are compulsory, while indicative courses are optional.

Level 1

Core Introduction to Programming; Music Computing 1; Introduction to Audio-Visual Computing; Introduction to Music Technology; Approaches to Contemporary Music.

Indicative Options One of the following: Tonal Harmony and Form; Analytical and Contextual Studies; Western Art Music: Development and Repertoire; Popular Music: History, Style, Technique.

Level 2

Core Creative Computing; Problem Solving using Creative Programming; Music Computing 2.

Indicative Options Up to three courses from the following groups: At least one of the following: Music of Africa and Asia; Musical Style and Historical Culture; Music and Modernism; Culture, Media and the Music Industries; Music, Communication and Identity; Music and Postmodernism; Music Aesthetics; Romanticism and Musical Structures. At least one of the following: Composition: Creative Strategies; Studio Techniques; Composition and Performance; Studio Composition; Language of Jazz; Film Music; Orchestration; Arranging: Jazz and Commercial Music. Software Projects, Internet Programming.

Level 3

Core Music Computing Major Project. The selection of either a music or computing specialism for the Major Project determines the award of either BMus (Hons) or BSc (Hons).

Indicative Options Choose any four (from the Dept of Computing): Logic Programming; The Semantic Web; Neural Networks; E-Commerce; Data Compression; Computer Security; Website Design; Implementation and Management; Data Mining; Enterprise Networking; Algorithm Design and Analysis; User Interface Design; Language, Design and Implementation; Artificial intelligence; Decision Support Systems; Physical Computing. (From the Dept of Music): Aesthetics of Performance; Psychological Approaches to Music; Minimalism and Postminimalism; Soviet Music and Beyond; Composition for Visiting Ensemble; Phonography; Live Electronics; Analysis and New Music; Narrative, Representation and Popular Song; Mozart's Operas; Advanced Music History Sources and Documents.

Contact us

To find out more, visit www.goldsmiths.co.uk/ug, or contact the Admissions Tutor, Dr Mick Grierson, by e-mailing computing@gold.ac.uk.

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We can supply information in alternative formats for people with a visual impairment or dyslexia. Please contact the Admissions Office, tel +44 (0)20 7078 5300, e-mail admissions@gold.ac.uk.



Our Mission

We offer a transformative experience, generating knowledge and stimulating self-discovery through creative, radical and intellectually rigorous thinking and practice

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