

Programme Specification

Postgraduate Programmes

Awarding Body/Institution	University of London
Teaching Institution	Goldsmiths, University of London
Name of Final Award and Programme Title	MSc Computer Games and Entertainment
Name of Interim Award(s)	PGCert Computer Games and Entertainment; PGDip Computer Games and Entertainment
Duration of Study/Period of Registration	1 year FT or 2 years PT
UCAS Code(s)	N/A
QAA Benchmark Group	Computing
FHEQ Level of Award	Level 7
Programme Accredited by	Creative Skillset
Date Programme Specification last updated/approved	September 2015
Primary Department/Institute	Computing

Departments which will also be involved in teaching part of the programme
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Not Applicable

Programme overview

We propose to create a unique portfolio of post-graduate modules in the areas of Games and Special Effects for the Creative (Computer Games, TV, Film, Design) industries. There are presently no good post-graduate programme in the London area serving these industries. Furthermore, no program is ready to answer a number of nascent needs from these fields:

- know-how in new hardware and software in game consoles and computing based on parallel processing and on-the-fly generation of data,
- special requirements of the mobile phone gaming sector,
- well-rounded candidates in arts and computing with a post-graduate degree relevant to the concerned industries,
- multi-disciplinary research focused on these industries.

The proposal is centered around a core MSc program that would support the most urgent needs of the industry in multicore and procedural programming and serve to rapidly establish its reputation in the UK and abroad. A number of variants would then be introduced (post-2007) to target the needs of artists, musicians, writers, choreographers, creators, interested in making a transition to these areas (games and entertainment) or in learning and using these new technologies in their own practice.

The result would be a unique post-graduate portfolio with world-wide appeal, serving the needs of rapidly growing multi- billion pounds industries

Programme entry requirements

This Masters course is aimed at graduates with an interest in working and intervening in computing in the Games and Entertainment (TV, Film, Design) Industries. Some candidates may come via the traditional academic route, while others will have experience of working within the Games and Interactive Entertainment field in some way prior to undertaking the course. Candidates will normally have an undergraduate degree in the computing, engineering or mathematical sciences. In all cases, applicants will be expected to be interested in and capable of working in interdisciplinary contexts. An upper second

class honours degree or its equivalent in a relevant discipline is normally required. In exceptional circumstances, outstanding practitioners, or individuals with strong commercial experience may arrive at the course via other routes. Non-native speakers of English will normally have to satisfy the University of London requirements of IELTS (6.5), and may be encouraged to use the resources of the English Language Centre.

Candidates will be required to demonstrate sufficient proficiency at programming in a major language, such as C, C++ or Java, prior to being accepted and enrolled on the MSc programme. This may take the form of a test, or during an interview, of a practical challenge to program a well-known method or algorithm. Students will be asked to attend for interview where appropriate. Students will be expected to present a small portfolio of work including programming samples, demos and graphics.

Aims of the programme

This Masters programme is aimed at graduates with an interest in working and intervening in computing in the Games and Entertainment (TV, Film, Design) Industries. Some candidates may come via the traditional academic route, while others will have experience of working within the Games and Interactive Entertainment field in some way prior to undertaking the course. Candidates will normally have an undergraduate degree in the computing, engineering or mathematical sciences. In all cases, applicants will be expected to be interested in and capable of working in interdisciplinary contexts. An upper second class honours degree or its equivalent in a relevant discipline is normally required. In exceptional circumstances, outstanding practitioners, or individuals with strong commercial experience may arrive at the course via other routes. Non-native speakers of English will normally have to satisfy the University of London requirements 5/12 of IELTS (6.5), and may be encouraged to use the resources of the English Language Centre.

What you will be expected to achieve

Learning outcomes for the PGCert, PGDip and MSc:

Knowledge and Understanding		Taught by the following modules
A1	Show knowledge and ability with the main concepts and methodologies of the games and interactive entertainment.	All taught modules
A2	Understand the collaborative and team management aspects of projects that operate in the context of games and interactive entertainment.	All taught modules
A3	Object Oriented programming (typically, in C++) and scripting (e.g., Python or Lua).	Introduction to Programming for Games and Interactive Graphics; Advanced Programming for Games and Interactive Graphics
A4	Apply the taught advanced programming and core concepts in graphics, perception (e.g., graphics, audio, touch), and A.I.	Introduction to Programming for Games and Interactive Graphics; Advanced Programming for Games and Interactive Graphics; Mathematics and Graphics for Computer Games 1; Maths and Graphics for Computer Games 2

Cognitive and Thinking Skills		Taught by the following modules
B1	Be able to efficiently design a software or a system to fulfill a given high-level task (e.g., for an interactive computer vision game application)	Introduction to Programming for Games and Interactive Graphics; Advanced Programming for Games and Interactive Graphics

B2	Be able to come up with original and innovative ideas that fit the context, both creative and technical.	All taught modules
B3	Be conversant with the Games and Interactive Entertainment, with terminology and current state of the industry in multiple format areas and articulate views and opinions.	All taught modules

Subject Specific Skills and Professional Behaviours and Attitudes		Taught by the following modules
C1	Be able to devise projects and other forms of research that actively work with and test the main concepts and methodologies of the Games and Interactive Entertainment.	All taught modules
C2	Be comfortable and familiar with team work under tight scheduling.	All taught modules
C3	Explore and use a range of technologies, middlewares and languages (both compiled and scripted)	Introduction to Programming for Games and Interactive Graphics; Advanced Programming for Games and Interactive Graphics; Tools and Middleware
C4	Be familiar with the main software project management techniques, e.g., waterfall, agile, xp, x-discipline, and critically evaluate those approaches.	Business and Practice
C5	Be able to able to work in a team in a commercial product development environment and engage in production issues and where appropriate management issues, to be an effective team member.	Business and Practice
C6	Experience in evaluating a particular research question of relevance to computer games or entertainment graphic systems. (MSc only)	Final Project
C7	Independent development of a piece of software in support of the explored research question. (MSc only)	Final Project

Transferable Skills		Taught by the following modules
D1	Develop the ability to work in a multidisciplinary context (games software/production, maths, business/IP, presentation/marketing, art/design, cultural/social impacts) and to transfer information and collaborative materials from one kind of work to another.	All taught modules
D2	To be able to develop learning strategies for the ongoing acquisition of skills and knowledge.	All taught modules
D3	To be able to communicate ideas, plans and projects to different kinds of collaborators	All taught modules
D4	To design, take part in and lead team-based projects, as well as be able to plan and undertake	All taught modules

	independent projects.	
D5	To be able to produce extended written work of a high academic standard.	All taught modules
D6	To be able to orally present (e.g., in seminars) state-of-the-art research in the studied fields (e.g., in computer graphics).	All taught modules
D7	Appropriately plan and design, present and evaluate, a research project in computer games or entertainment graphic systems. (MSc only)	Final Project
D8	Experience in writing an extended report in support of a research project. (MSc only)	Final Project

How you will learn

The MSc consists of compulsory modules (5 main 15 CATS modules, and 3x 15 CATS amongst a choice from “options” [availability subject to change]) and a Final project (60 CATS). Students are required to accumulate 180 CAT points (credits) to graduate - the equivalent of 8 x 15 credits and a Final project valued as 60 credits.

NB: Taught options may not all be available each year; but at least one option each semester will be available to allow students to fulfil their degree requirements. A range of teaching methods is employed to support the learning outcomes detailed above. Students take modules organised around the recognised protocols of lectures, labs and seminars, as well as individual tutorials to discuss work and general progress, workshops, project work and student presentations. Throughout the programme students are involved in the development of projects via the use of the lab facilities.

Students are encouraged to study independently and to make full use of the extensive libraries available to all University of London students. Students are strongly encouraged to attend the full range of seminars taking place throughout the University of London and beyond. Events of particular interest to this cohort are publicised through the notice board in the department and via an e-mail list.

How you will be assessed

Exams/Courseworks (including projects) Exams and courseworks test the student's understanding of concepts and examples presented in class. Includes programming challenges. Projects for a given module represent a more ambitious challenge, with room for novelty or the test/implementation of state-of-the-art topics seen in class. Typically, a project may stand as the final coursework or exam of a given module.

Essays

Assessed essays test the ability of the student to sustain a coherent and original argument on the basis of their reading and research throughout the duration of the module. Students are expected to discuss the content of their report with their module convenor.

Dissertation (Final project)

The written and programming component of the dissertation develops and assesses the capacity of students to work independently, to define a research and development problem and design the research and presentation and, where applicable, to collect suitable and reliable data. The dissertation promotes and tests the ability to construct a clear argument on a complex and extensively treated topic.

Marking criteria

Mark	Descriptor	Specific Marking Criteria
80-100%	Distinction (Outstanding/Exceptional)	A mark in the 80s or even the 90s will be awarded in the case of really accomplished work, demonstrating high

		levels of scholarship and originality.
70-79%	Distinction	Awarded when candidates show evidence of an excellent application of appropriate knowledge, understanding and skills as specified in the module learning outcomes. Demonstration of a thorough grasp of relevant concepts, methodology and content appropriate to the subject discipline; indication of originality in application of ideas, in synthesis of material or in performance; insight reflects depth and confidence of understanding of the material.ven the 90s will be awarded in the case of really accomplished work, demonstrating high levels of scholarship and originality.
60-69%	Merit	Awarded when candidates show a good application of appropriate knowledge, understanding and skills as specified in the module learning outcomes. Demonstration of a sound level of understanding based on a competent grasp of relevant concepts, methodology and content; display of skill in interpreting complex material; organisation of material at a high level of competence
50-59%	Pass	Awarded when there is clear evidence of a satisfactory application appropriate, knowledge, understanding and skills as specified in the module learning outcomes. Demonstration of an adequate level of understanding of relevant concepts, methodology and content; display of sufficient skill to tackle some complex problems; appropriate organisation of material.
30-49%	Fail	Awarded when there is not a satisfactory application of appropriate knowledge, understanding and skills as specified in the module learning outcomes. There may be confusion and incoherence and unfocused comment on the state-of-the-art. Documentation or realization of projects or coursework would characteristically be weak and fragmentary.
10-29%	Bad fail	Awarded when only some but not all of the learning outcomes specified for the module have been achieved. Typically a candidate in this position will not have satisfied the examiners that they have read and understood the essential texts of the module. Research involved in the writing of coursework, the realization of projects or the dissertation will be poorly organised and inadequately discussed.
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).
0%	Non submission or plagiarised	A categorical mark representing either the failure to submit an assessment or a mark assigned for a plagiarised assessment

How the programme is structured

Part time candidates will be expected to pass all of their first year curriculum elements before progressing onto the second year. Full-time and second year part-time candidates will be required to have passed all taught course elements before proceeding to their Final Project with dissertation.

After the successful completion of all taught units, the students will have the possibility to obtain an interim award (PGDip) if they decide not to pursue and complete the Final Project.

Academic Year of Study 1

Module Title	Module Code	Credits	Level	Module Status	Term
Introduction to Programming for Games and Interactive Graphics	IS71030A	15	7	Core	1
Mathematics and Graphics for Computer Games 1	IS71021B	15	7	Core	1
Advanced Programming for Games and Interactive Graphics	IS71026B	15	7	Core	2
Business & Practice	IS71025A	15	7	Core	1
Tools and Middleware	IS71024A	15	7	Core	1
Option modules to the value of 45 CATS		45	7	Optional	1,2
Final Project	IS74019A	60	7	Core	3

Academic support

The programme convenor, course convenor and course tutors are available to discuss any issues arising throughout the course of study. All members of staff have office hours each week to discuss any matters; outside these hours students may arrange an appointment with any member of staff via email or telephone.

Personal Tutors - Each student has a personal tutor from the Department of Computing who acts as a continuing source of advice and support. The personal tutor provides advice and guidance and pastoral support.

Academic Tutors - In addition to their personal tutor, each student has tutors for specific areas of their academic work; the module convenor often provides supervision for the dissertation.

Programme and module information, a student handbook, as well as timetable details are sent to students in advance of the beginning of term. Within the Department, students and staff are linked together via course-specific mailing lists which allow for formal announcements and informal discussion and arrangements to take place. Students are also expected to attend special induction meetings prior to the commencement of teaching, when they are offered further guidance regarding timetables and enrolment procedures.

A variety of library resources and arrangements enhance learning. There is an adequate collection of journals and substantial and up-to-date texts in the College library. Heavily used texts are placed on reference and short-loan. Students are also encouraged to take advantage of the excellent library resources available through the University of London. Support for using the library and college computers are incorporated into the module induction.

If students encounter difficulties at any time with their studies, the module convenor and other module tutors can provide additional academic support whilst the Senior Tutor and Deputy Senior Tutor are available by appointment to discuss welfare- centred issues.

The Department is taking advantage of and pursuing the College's Disability Awareness policies. Students with specific needs in this regard are considered on an individual basis. In addition to specialist advice and assistance within the College, the Department ensures that module materials are suitable for all students and, where necessary, these are altered to meet the requirements of individual students. Where necessary, the location and length of examinations are individually tailored to ensure that no student is at a disadvantage as regards assessment.

The College also provides a range of other student support services. Details can be found on the College web site (www.goldsmiths.ac.uk). Students have access to the College Library, Multi-media, Audio-Visual Study resources and Computer Services and Language Resources and these provide a substantial means of supporting other aspects of your learning. Postgraduate students on our Games modules also have access to a Games lab which is used for some teaching and for independent study and collaboration with peers.

Links with employers, placement opportunities and career prospects

Graduates of the “MSc Computer Games and Entertainment” are expected to be people who rapidly find work in the Games and Entertainment industries, be original thinkers, “hands on” and will often be managers or directors as they progress in their careers. During their course there will be opportunity to meet computer games and recruitment companies through networking events and external lectures

The requirements of a Goldsmiths degree

Master's Degrees

All Master's degrees at Goldsmiths have a minimum value of 180 credits. Programmes are comprised of modules which have individual credit values. In order to be eligible for the award of a Master's degree students must have passed all modules on the programme.

Intermediate Exit Points

Some programmes incorporate intermediate exit points of Postgraduate Certificate and Postgraduate Diploma, which may be awarded on the successful completion of modules to the value of 60 credits or 120 credits respectively. Individual programmes may specify which, if any, combination of modules are required in order to be eligible for the award of these qualifications. The awards are made without classification.

Final Classification

There are four possible categories of final classification for Master's degrees: Distinction, Merit, Pass and Fail.

In order to be awarded an overall classification of Distinction, students should have obtained:

a mark of at least 70% (or A grade) for the dissertation/project (or equivalent)

AND

EITHER a mark of 70% (or A grade) in at least half of the remaining credits.

OR an overall weighted average mark (based on credit value) of at least 70%

In order to be awarded an overall classification of Merit, students should have obtained:

a mark of at least 60% (or B grade) for the dissertation/project (or equivalent)

AND

EITHER a mark of 60% (or B grade) in at least half of the remaining credits.

OR an overall weighted average mark (based on credit value) of at least 60%

Pass: In order to be awarded an overall classification of Pass must have passed all the modules on a programme but not have met the criteria for the award of an overall classification of Merit or Distinction

Fail: If any module on a programme has been failed on more than one occasion the programme will be failed

For further information, please refer to the Regulations for Postgraduate Taught Students, which may be found here: <http://www.gold.ac.uk/governance/studentregulations/>

Programme-specific rules and facts

N/A

How teaching quality will be monitored

Students will provide feedback on module content and lecturer attributes (e.g., pace of lecturer's delivery) in the form of Module Evaluations that students will complete at the end of each taught module. Second, a formal Staff/Student Forum reviews quality within Goldsmiths College: staff and student representatives meet to raise issues of quality (students may contribute directly to this procedure by serving as a student representative, for which Student Union training is provided). The Chair, who is a member of staff, produces an annual report which is sent to Quality Affairs; this report, and the Minutes of the meetings, are also sent to Department Board (on which there is a postgraduate representative). Third, the External Examiners' reports contain a digest of strengths and weaknesses of this Programme and, where suggestions for further improvements are made, these are quickly acted upon. Fourth, Subject Review monitors the general quality of teaching and learning provision in the College. Fifth, regular team meetings are designed proactively to monitor and consider modifications to programmes. Sixth, all members of staff engage in ongoing reflective practice based on awareness of pedagogical issues; this process is facilitated by College-level seminars aimed at raising awareness of such issues.