

**Glasgow School of Art Course Specification
Course Title: Game Development Project**



Please note that this course specification is correct on the date of publication but may be subject to amendment prior to the start of the 2024-25 Academic Year.

Course Code	HECOS Code	Academic Session
PSGV203		2024-25

Course Title	Game Development Project
Course Contact	Brian Loranger

Credits	20
SCQF Level	11
When Taught	Semester 2

Associated Programmes	MSc Serious Games & Virtual Reality
Lead School	School of Innovation and Technology
Other Schools	N/A
Date of Approval	Programme Approval March 2023

Course Introduction

In this course, students refine their game development skills and build upon the knowledge obtained in game development. The deliverable project in this course will be centred on the development of a larger, 12-week serious game created in student teams consisting of approximately 3-4 students.

Students will work with a commercial game engine and 3D modelling software but will also be introduced to several advanced techniques in object-oriented development, game architecture, animation systems, lighting, etc. These new development techniques should then be incorporated into their projects.

Mentoring will continue to support students in developing projects that allow them to further consolidate and grow their existing knowledge and skills.

Course Aims

This course aims to:

- Build on semester 1 classes which introduce interactive visualisation and serious games design, provide an opportunity for students to put prior learning into practice to build practical skills in developing serious games from concept, design and planning through to final product in a significant self-directed project.
- Additionally, introduce students to a critical overview of the deployment of music and audio in video games including:
 - Provide an overview of the creative and technical processes underpinning the production of music and audio for electronic games.
 - Enable students to deploy audio and music within an electronic game environment.

Course Intended Learning Outcomes

By the end of this course students will be able to:

1. Design and develop serious games for their chosen application domain using a state-of-the-art game engine and related software;
2. Demonstrate self-direction and ability to work with others through the development and management of a significant practical project
3. Integrate a critical understanding and awareness of advanced techniques/methods and multiple forms of media (2D, 3D, sound and music) in the creation of a serious game

Indicative Content

This course is a practice-based course, with a focus on student led investigation and software design and development. Students are expected to cover issues such as:

- Current practices in serious game design and development practical project management and planning.
- Project organization and an introduction to the Agile development process.
- Evaluation and assessment of serious games.
- Analysis of current workflow practices and design structures in game audio and music
- Practical, conceptual and critical understanding of audio integration in games and 3D environments
- Introduction to audio middleware such as FMOD or WWISE

Students may also integrate more advanced topics (c.f. AI, advanced interaction) on a self-directed, supervised, basis.

Description of Learning and Teaching Methods

The focus of the class is student practice led, working in groups to develop and complete a serious game project according to students' own set goals and targets.

This is supplemented with a series of lectures on game and software architecture, object-oriented design, real-time animation systems, lighting, shader development, and audio integration.

The practical nature of lectures is applied by students in the creation of serious games that address educational or complex real-world themes. Previous student projects have explored topics such as:

- Exploring gender identity through game play
- Understanding deforestation in the Amazon Basin
- Famous Artists of the Modern Era

Indicative Contact Hours	Notional Learning Hours
28 Hours	200 Hours

Description of Formative Assessment and Feedback Methods

Projects developed in this course will be based on a twelve-week project schedule, with students working in two-week Agile sprint cycles.

Formative feedback will be provided at the end of each of these two-week cycles, with students demonstrating their progress for review, discussion and reflection.

Description of Summative Assessment arrangements

Learning outcomes will be assessed through individual student contributions to the group project and will be based on a demonstration of the student's competency in the design and development of serious games, sound and interface choices, and knowledge and understanding of key issues for serious games and sound design.

Each group should submit the completed executable application and project files and a group report which should outline the project design (including elements such as initial design concepts, drawings, etc.), key design decisions, and group member roles, responsibilities and deliverables. Each individual student is also required to submit a personal critical and reflective report. This should include an appendix that clearly summarises their contribution to the project.

Learning Outcomes 1, 2 & 3: Project files, executable, and the group report will contribute 80% to the final grade.

Learning Outcome 2: The Student's individual critical reflective report with appendix detailing individual contributions (1500 to 2000 words in length) will be worth 20% of the final grade.

Description of Summative Assessment Method	Weight %	Submission week
Small group project, including group report	80	12 (indicative)
Individual reflective report	20	12 (indicative)

Exchange/Study Abroad

Can this course be taken by Exchange/Study Abroad students?	No
Are all the students on the course taught wholly by distance learning?	No
Does this course represent a work placement or a year of study abroad?	No
Is this course collaborative with any other institutions?	No
If yes, then please provide the names of the other teaching institutions	N/A

Reading and On-line Resources

Key resources for this course can be found in the MSc Serious Games and VR list <https://gsa.keylinks.org/#/list/594> And the MSc Visualisation (Core) resource list: <https://gsa.keylinks.org/#/list/595>

Some of the key resources for this course are:

Hocking, J., (2022) *Unity in Action, 3rd Edition*, Multiplatform game development in C#

Chandler, 2013. *The Game Production Handbook*. Jones & Bartlett Publishers.

Stevens, R. & Raybould, D. 2011. *The Game Audio Tutorial: A Practical Guide to Sound & Music for Interactive Games*. Focal Press.

DeBeer, G. 2012. *Pro Tools 10 for Game Audio*. Delmar Cengage Learning.

GDC Vault, Videos from the Game Developers Conference, <https://www.gdcvault.com/>

Unity Tutorials, <https://unity3d.com/learn/tutorials>

