

Course Outline

Code: SGD213

Title: Professional Game Programming

School: Communication & Creative Industries
Teaching Session: Semester 1
Year: 2019
Course Coordinator: Dr Ginna Brock, gbrock@usc.edu.au
Course Moderator: Dr Uwe Terton, uterton@usc.edu.au

Please go to the USC website for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1 Description

In this course, you will apply the programming skills learnt in SGD203 to Unity, and the C# programming language. Unity is a professional game development environment, used widely in the industry, and C# is one of the most commonly used programming languages within and beyond game programming. Concurrently, you will begin to develop the essential 'soft skills' required to excel as a game programmer within a multi-disciplinary development team.

1.2 Field trips, WIL placements or activities required by professional accreditation

Activity	Details
N/A	N/A

2. What level is this course?

200 level Developing – Applying broad and/or deep knowledge and skills to new contexts. May require pre-requisites and introductory level knowledge/skills. Normally undertaken in the 2nd or 3rd year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

Specific Learning Outcomes	Assessment tasks	Graduate Qualities or Professional Standards mapping
On successful completion of this course, you should be able to:	You will be assessed on the learning outcomes in task/s:	Completing these tasks successfully will contribute to:
Analyse, evaluate, and develop programs in the C# language.	3	Creative and critical thinkers. Empowered.
Work in a structured and modular manner, consistent with the needs of a team development environment.	1, 2 and 3	Engaged.

Specific Learning Outcomes On successful completion of this course, you should be able to:	Assessment tasks You will be assessed on the learning outcomes in task/s:	Graduate Qualities or Professional Standards mapping Completing these tasks successfully will contribute to:
Communicate programming concepts with simplicity and precision when collaborating with non-programmers, both verbally and in the form of a technical specification.	2	Empowered. Engaged.
Develop code to specification within the Unity Development Environment.	3	Creative and critical thinkers. Empowered.

5. Am I eligible to enrol in this course?

Refer to the [USC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1 Enrolment restrictions

Nil

5.2 Pre-requisites

SGD102 or ICT221 or SGD203

5.3 Co-requisites

Nil

5.4 Anti-requisites

Nil

5.5 Specific assumed prior knowledge and skills (where applicable)

Not applicable

6. How am I going to be assessed?

6.1 Grading scale

Standard – High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL)

6.2 Details of early feedback on progress

The course material is structured in a way that students are progressively working towards their assessment pieces. These progressive works are based on weekly learning material which is delivered in a way that is initially demonstrated, then applied. During application, the teacher will provide support and feedback for the student's growth in each subject matter.

6.3 Assessment tasks

Task No.	Assessment Product	Individual or Group	Weighting %	What is the duration / length?	When should I submit?	Where should I submit it?
1	Artefact - Technical and Scientific	Individual	30%	N/A	Code segments released on Friday, Weeks 4, 6, 8, 10 & 12,	Online Assignment Submission

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					Assessment due Friday Week 13	
2	Artefact - Creative, and Written Piece	Group	30%	1500 words & architecture diagrams	Friday, Week 7, 5pm	Online Assignment Submission
3	Artefact - Technical and Scientific, and Written Piece	Individual	40%	500 words & code artefacts	Friday, Week 13, 5pm	Online Assignment Submission
			100%			

Assessment 1: Code clean-up

Goal:	When working in a structured team environment, you will inevitably work on programs written by other programmers, and they will work on yours. Poorly written code results in inefficiency and confusion. In this task, you will evaluate and debug flawed code, follow a specified style, and provide useful comments where necessary.
Product:	Artefact - Technical and Scientific
Format:	Professional/industry format Each piece of debugged code must be submitted separately to blackboard, by the end of weeks 4, 6, 8, 10 and 12, respectively. Each sub-task is weighted evenly, and worth 6% of the total weighting for the course. This is an individual task.
Criteria:	Adherence to the provided coding standards. Functioning of code. Clarity of commenting. Efficiency of code.

Assessment Task 2: Developing a tech spec

Goal:	Miscommunication within a team, especially between programmers and non-programmers, often leads to inefficiency, confusion, and programs which do not perform as expected. In this task, you will develop a client specification document, which simply and precisely translates "client-speak" into "programmer-speak". You must not only distil the client's expectations, you must also describe the technical requirements of the project, adding structure to the process (architecture) and reducing the likelihood of miscommunication.
Product:	Artefact - Creative, and Written Piece
Format:	Professional/industry format The specification document should be as descriptive as necessary, but as concise as possible, 3-4 pages, including relevant architecture diagrams (in any consistent format of your choice, such as UML). Examples will be provided in class. This is a group assessed task.
Criteria:	Verbal and written communication of development requirements. Specifically: <ul style="list-style-type: none"> • Analysis of available Architectural Options • Detailed communication of chosen Architecture • Identification of Constraints and Risks • Contact Management • Correct Identification of Client Requirements

Assessment Task 3: Implementing a tech spec

Goal:	Developing a client requirements specification clarifies the expectations of the client as well as the technical requirements of the project. In this task, now implement a portion of C# code accordingly, within the Unity 3D Game Engine.
Product:	Artefact - Technical and Scientific
Format:	Professional/industry format This is a group task with individual assessment. You will work with the rest of your group from Assessment Task 2 to ensure that your sections of code interact with the rest of the project as expected. Submit the project as a group, and each individual will also be required to submit their own self-assessment.
Criteria:	Ability to implement functional requirements Adherence to the provided coding standards Code readability Utilisation of design patterns Critical self-evaluation and contribution to team work

7. Directed study hours

The directed study hours listed here are a portion of the workload for this course. A 12 unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Directed study hours may vary by location. Student workload is calculated at 12.5 learning hours per one unit.

Location:	Directed study hours for location:
Sippy Downs	Computer Workshop: 3 hours

8. What resources do I need to undertake this course?

Please note that course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Blackboard site. Please log in as soon as possible.

8.1 Prescribed text(s) or course reader

Nil

8.2 Specific requirements

Nil

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low.

It is your responsibility as a student to review course material, search online, discuss with lecturers and peers, and understand the health and safety risks associated with your specific course of study. It is also your responsibility to familiarise yourself with the University’s general health and safety principles by reviewing the [online Health Safety and Wellbeing training module for students](#), and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1 Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.

10.2 Assessment: Additional requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

- a) The final mark is in the percentage range 47% to 49.4%
- b) The course is graded using the Standard Grading scale
- c) You have not failed an assessment task in the course due to academic misconduct

10.3 Assessment: Submission penalties

Late submission of assessment tasks will be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day
- 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task.

Weekdays and weekends are included in the calculation of days late.

To request an extension, you must contact your Course Coordinator and supply the required documentation to negotiate an outcome.

10.4 Study help

In the first instance, you should contact your tutor, then the Course Coordinator. Additional assistance is provided to all students through Academic Skills Advisers. To book an appointment or find a drop-in session go to [Student Hub](#).

Contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au

10.5 Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website:

<http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.6 General Enquiries

In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **USC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **USC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **USC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **USC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au