

# SGD102 Introduction to Games Programming

**School:** School of Business and Creative Industries

2023 | Semester 1

UniSC Sunshine Coast  
UniSC Moreton Bay

**BLENDED  
LEARNING**

Most of your course is on campus but you may be able to do some components of this course online.

Online

**ONLINE**

You can do this course without coming onto campus.

Please go to [usc.edu.au](http://usc.edu.au) 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

This course introduces the fundamental concepts of computer programming in the context of real-time game engines. The course focusses on the essential skills and knowledge required to actively participate as a gameplay programmer in a game production environment. You will engage with and apply game programming languages and techniques commonly used in the game industry, acquiring the skills needed to communicate and work effectively in a game development team.

### 1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
<b>BLENDED LEARNING</b>			
<b>Learning materials</b> – Interactive online learning activities.	1hr	Week 1	13 times
<b>Tutorial/Workshop 1</b> – Scheduled face to face workshops.	2hrs	Week 1	13 times
<b>ONLINE</b>			
<b>Learning materials</b> – Interactive online learning activities.	1hr	Week 1	13 times
<b>Tutorial/Workshop 1</b> – Scheduled online workshops (Recorded).	2hrs	Week 1	13 times

### 1.3. Course Topics

- Introduction to the game engine;
- key programming concepts such as variables, conditions, functions;
- writing a technical specification for a programming project;
- programming a video game.

## 2. What level is this course?

100 Level (Introductory)

Engaging with discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Limited or no prerequisites. Normally, associated with the first full-time study 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?

COURSE LEARNING OUTCOMES	GRADUATE QUALITIES
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...
1 Demonstrate foundational knowledge in programming for games	Knowledgeable Creative and critical thinker
2 Apply and communicate technical skills, frameworks and organisational practices to contribute to the development of games	Knowledgeable Creative and critical thinker
3 Design, research, and develop game components for public distribution	Empowered Engaged

## 5. Am I eligible to enrol in this course?

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

### 5.1. Pre-requisites

Not applicable

### 5.2. Co-requisites

Not applicable

### 5.3. Anti-requisites

Not applicable

### 5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

## 6. How am I going to be assessed?

### 6.1. Grading Scale

Standard Grading (GRD)

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

### 6.2. Details of early feedback on progress

Students will receive early feedback during the progress of the first assessment which is completed mostly in workshops. Students will be given formative feedback on progress each week.

### 6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Artefact - Technical and Scientific, and Written Piece	Individual	25%	Prototypes Written component: No more than 800 words	Refer to Format	Online Submission
All	2	Written Piece	Individual	25%	1000 words	Week 9	Online Submission
All	3	Artefact - Technical and Scientific	Individual	50%	Prototype Reflection - 400 words 3 minute Game Trailer	Week 13	Online Submission

#### All - Assessment Task 1: Skills and concepts portfolio

<b>GOAL:</b>	Complete introductory programming exercises that will scaffold tasks 2 & 3.										
<b>PRODUCT:</b>	Artefact - Technical and Scientific, and Written Piece										
<b>FORMAT:</b>	<p>Programming exercises will be due in weeks 5 and 7.</p> <p>Templates for written tasks will be available on Canvas.</p> <p>Coding exercises will be introduced in class with further information available on Canvas.</p>										
<b>CRITERIA:</b>	<p><b>No.</b></p> <table> <tr> <td>1</td><td>Demonstration of foundational knowledge in programming for games</td><td>1</td></tr> <tr> <td>2</td><td>Application and communication of technical skills, frameworks and organisational practices to contribute to the development of games.</td><td>2</td></tr> <tr> <td>3</td><td>Design and development of game components</td><td>3</td></tr> </table>	1	Demonstration of foundational knowledge in programming for games	1	2	Application and communication of technical skills, frameworks and organisational practices to contribute to the development of games.	2	3	Design and development of game components	3	<b>Learning Outcome assessed</b>
1	Demonstration of foundational knowledge in programming for games	1									
2	Application and communication of technical skills, frameworks and organisational practices to contribute to the development of games.	2									
3	Design and development of game components	3									
<b>GENERIC SKILLS:</b>	Communication, Problem solving, Applying technologies										

**All - Assessment Task 2:** Develop a technical specification for a game prototype

<b>GOAL:</b>	The goal of this task is to demonstrate specialist knowledge in game programming		
<b>PRODUCT:</b>	Written Piece		
<b>FORMAT:</b>	<p>Professional/Industry format: Based on a given game, design how you would implement the core gameplay loop in a technical document which can be read by programmers in a game development team.</p> <p>Your document should be a PDF.</p> <p>A template for the Technical Specification Document will be provided.</p>		
<b>CRITERIA:</b>	<b>No.</b>		<b>Learning Outcome assessed</b>
	1	Communication of technical frameworks and organisational practices to contribute to the development of games	2
	2	Demonstration of foundational knowledge in programming for games	1
	3	Design of game components for distribution	3
<b>GENERIC SKILLS:</b>	Communication, Problem solving		

**All - Assessment Task 3:** Deliver a game prototype

<b>GOAL:</b>	The goal of this task is to design, research, and develop game components for distribution, apply and communicate technical skills, frameworks and organisational practices to contribute to the development of games.		
<b>PRODUCT:</b>	Artefact - Technical and Scientific		
<b>FORMAT:</b>	<p>Professional/Industry format: Your prototype will be finished in the given game engine based upon your technical specification created in Assessment 2.</p> <p>You will also be required to submit a learning reflection, a web page for your game, and a trailer for your game.</p>		
<b>CRITERIA:</b>	<b>No.</b>		<b>Learning Outcome assessed</b>
	1	Application of technical skills, frameworks, and organisational practices to contribute to the development of games.	2
	2	Development of game components for distribution	3
	3	Demonstration of foundational knowledge in programming for games	1
<b>GENERIC SKILLS:</b>	Problem solving, Applying technologies		

## 7. Directed study hours

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. Student workload is calculated at 12.5 learning hours per one unit.

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

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

### 8.1. Prescribed text(s) or course reader

There are no required/recommended resources for this course.

## 8.2. Specific requirements

This course requires some free professional games development software which is provided at USC campuses for student use. If you elect to do this course online, you may install this software on your own computer (this software requires a large amount of disk space and a reasonably good computer) or attend a campus at which it is available.

## 9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility 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 and to familiarise yourself with the University's general health and safety principles by reviewing the [online induction training 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 Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

### 10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

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

The final mark is in the percentage range 47% to 49.4%

The course is graded using the Standard Grading scale

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 (the rates are cumulative):

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 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. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: [07 5430 1168](tel:0754301168) or using the [SafeZone](#) app. For general enquires contact the SafeUniSC team by phone [07 5456 3864](tel:0754563864) or email [safe@usc.edu.au](mailto:safe@usc.edu.au).

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call [07 5430 1226](tel:0754301226) or email [studentwellbeing@usc.edu.au](mailto:studentwellbeing@usc.edu.au).

### 10.5. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or [studentcentral@usc.edu.au](mailto:studentcentral@usc.edu.au).

## 10.6. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email [studentwellbeing@usc.edu.au](mailto:studentwellbeing@usc.edu.au) or call 07 5430 1226.

## 10.7. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email [AccessAbility@usc.edu.au](mailto:AccessAbility@usc.edu.au) or call 07 5430 2890.

## 10.8. 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
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit <https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

## 10.9. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The [Student Charter](#) sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

## 10.10. General Enquiries

### In person:

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

**Tel:** +61 7 5430 2890

**Email:** [studentcentral@usc.edu.au](mailto:studentcentral@usc.edu.au)