

FIT3145
Games engine programming

Unit Guide

Semester 1, 2012

The information contained in this unit guide is correct at time of publication. The University has the right to change any of the elements contained in this document at any time.

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FIT3145 Games engine programming - Semester 1, 2012

This unit exposes students to a variety of industry standard games engine environments and development techniques. Students will develop an appreciation and basic working knowledge of a number of different platforms used in contemporary games development. The unit aims to provide students with a practical insight into contemporary, industry standard, games development process and games engines.

Mode of Delivery

Caulfield (Day)

Contact Hours

2 hrs lectures/wk, 2 hrs tutorials/wk

Workload

Unit Relationships

Prerequisites

FIT2049 and FIT2073

Chief Examiner

Mr Derrick Martin

Campus Lecturer

Caulfield

Derrick Martin

Consultation hours: Monday 2pm - 4pm, Tuesday 1pm - 4pm

Academic Overview

Outcomes

At the completion of this unit students will be able to:

- understand the games development pipeline as used in industry;
- appreciate the number of formal and informal games development platforms that exist and why they are used;
- research new and unfamiliar games development environments and adapt to their use;

understand how to formally approach the use of a new development environment in the games context;

- critically analyse and explore new games development technologies, including graphics and audio engines, for suitability of use for specific games projects;
- create basic games prototypes in a number of contemporary game engines and development frameworks;
- demonstrate a working knowledge of the Microsoft XNA framework of game development, including C#.

Graduate Attributes

Monash prepares its graduates to be:

1. responsible and effective global citizens who:

- a. engage in an internationalised world
- b. exhibit cross-cultural competence
- c. demonstrate ethical values

critical and creative scholars who:

- a. produce innovative solutions to problems
- b. apply research skills to a range of challenges
- c. communicate perceptively and effectively

Assessment Summary

In-semester assessment: 100%

Assessment Task	Value	Due Date
Research and Presentation of findings of a specific Game Engine	20%	During Lecture time, exact week depending on Game Engine chosen, up till Week 10
Case Study (Class Test)	20%	Week 12, during tutorial class
Forum Participation	10%	Weekly task, due before Midnight Sunday each week
Game Creation (Assignment)	50% (30% for game, 20% for Journal)	3pm Monday, Week 15

Teaching Approach

Feedback

Our feedback to You

Types of feedback you can expect to receive in this unit are:

- Informal feedback on progress in labs/tutes
- Graded assignments with comments
- Test results and feedback

Your feedback to Us

Monash is committed to excellence in education and regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through SETU, Student Evaluation of Teacher and Unit. The University's student evaluation policy requires that every unit is evaluated each year. Students are strongly encouraged to complete the surveys. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

For more information on Monash's educational strategy, and on student evaluations, see:

<http://www.monash.edu.au/about/monash-directions/directions.html>

<http://www.policy.monash.edu/policy-bank/academic/education/quality/student-evaluation-policy.html>

Previous Student Evaluations of this unit

This is the first year that this unit is being offered.

If you wish to view how previous students rated this unit, please go to

<https://emuapps.monash.edu.au/unitevaluations/index.jsp>

Unit Schedule

Week	Activities	Assessment
0		No formal assessment or activities are undertaken in week 0
1	Introduction to Game development Engines, historical background to game engines	Students will present research findings on a game engine during one lecture, up till Week 10
2	Unity, Game engine research processes	Forum Participation is a weekly task from Week 2 to Week 11
3	Java, Renderware	
4	XNA, OGRE	
5	SCUMM, Torque	
6	CryEngine, Virtools	
7	Frostbyte, GameMaker	
8	GameStudio, C++	
9	Flash, C#	
10	Scaleform, DirectX	
11	Unreal, Director	
12	Game Engine Overview	Case Study (Class Test) during Week 11 tutorial
	SWOT VAC	No formal assessment is undertaken SWOT VAC. Game Creation (Assignment) due 3pm Monday, Week 15
	Examination period	LINK to Assessment Policy: http://policy.monash.edu.au/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html

*Unit Schedule details will be maintained and communicated to you via your MUSO (Blackboard or Moodle) learning system.

Assessment Requirements

Assessment Policy

Faculty Policy - Unit Assessment Hurdles

(<http://www.infotech.monash.edu.au/resources/staff/edgov/policies/assessment-examinations/unit-assessment-hu>)

Assessment Tasks

Participation

• Assessment task 1

Title:

Research and Presentation of findings of a specific Game Engine

Description:

Students will choose a game engine and present research findings related to the engine (see Moodle for game engines and times that each presentation will occur).

Students will answer questions from peers and staff attending.

Students are expected to provide a copy of their presentation and presentation notes as part of this assessment task.

Weighting:

20%

Criteria for assessment:

Students will be assessed based on clarity, completeness, presentation skills and research quality.

Due date:

During Lecture time, exact week depending on Game Engine chosen, up till Week 10

Remarks:

Please refer to Moodle for a detailed description of expectations for this assignment.

• Assessment task 2

Title:

Case Study (Class Test)

Description:

Students will be given a case study and will be required to decide which game engine (from the engines discussed during semester) is appropriate for the project. Students will discuss the reasons behind their choice, benefits and negatives regarding the engine they are proposing and expected game design process and workflow based on the engine chosen.

Weighting:

20%

Criteria for assessment:

Clarity and reasoning behind choices, completeness and appropriateness of discussion.

Due date:

Week 12, during tutorial class

Remarks:

Please refer to Moodle for a detailed description of expectations for this assignment.

• **Assessment task 3**

Title:

Forum Participation

Description:

Students will create written feedback related to each of the weekly presentations done by students, posting the feedback on the Moodle forums.

Weighting:

10%

Criteria for assessment:

Clarity and appropriateness of feedback.

Due date:

Weekly task, due before Midnight Sunday each week

Remarks:

Please refer to Moodle for a detailed description of expectations for this assignment.

• **Assessment task 4**

Title:

Game Creation (Assignment)

Description:

Students will create a game and a journal describing their thoughts on the game engine chosen for this task. Students are encouraged to work in groups for game creation, but must have individual journals.

Weighting:

50% (30% for game, 20% for Journal)

Criteria for assessment:

For the game (group assessment, worth 30%): completeness, originality and technical (programming, design, art, etc) skills shown. If the individual journals reflect a minimum contribution by an individual student towards the group project, the individual marks will be altered to reflect the proportionate contribution by each individual in the group.

For the journal (individual assessment, worth 20%): clarity of discussion, depth, range and appropriateness of discussed elements.

Due date:

3pm Monday, Week 15

Remarks:

Please refer to Moodle for a detailed description of expectations for this assignment.

Examinations

Assignment submission

It is a University requirement

(<http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html>) for students to submit an assignment coversheet for each assessment item. Faculty Assignment coversheets can be found at <http://www.infotech.monash.edu.au/resources/student/forms/>. Please check with your Lecturer on the submission method for your assignment coversheet (e.g. attach a file to the online assignment submission, hand-in a hard copy, or use an online quiz).

Online submission

If Electronic Submission has been approved for your unit, please submit your work via the VLE site for this unit, which you can access via links in the my.monash portal.

Extensions and penalties

Submission must be made by the due date otherwise penalties will be enforced.

You must negotiate any extensions formally with your campus unit leader via the in-semester special consideration process:

<http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html>.

Returning assignments

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.

Other Information

Policies

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at:

<http://policy.monash.edu.au/policy-bank/academic/education/index.html>

Key educational policies include:

- Plagiarism
(<http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-policy.html>)
- Assessment
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-p>)
- Special Consideration
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/special-consideration-policy.h>)
- Grading Scale
(<http://www.policy.monash.edu/policy-bank/academic/education/assessment/grading-scale-policy.html>)
- Discipline: Student Policy
(<http://www.policy.monash.edu/policy-bank/academic/education/conduct/student-discipline-policy.html>)
- Academic Calendar and Semesters (<http://www.monash.edu.au/students/key-dates/>);
- Orientation and Transition (<http://www.infotech.monash.edu.au/resources/student/orientation/>);
and
- Academic and Administrative Complaints and Grievances Policy
(<http://www.policy.monash.edu/policy-bank/academic/education/management/complaints-grievance-policy>)
- Codes of Practice for Teaching and Learning
(<http://www.policy.monash.edu.au/policy-bank/academic/education/conduct/suppdocs/code-of-practice-tea>)

Student services

The University provides many different kinds of support services for you. Contact your tutor if you need advice and see the range of services available at www.monash.edu.au/students. For Sunway see <http://www.monash.edu.my/Student-services>, and for South Africa see <http://www.monash.ac.za/current/>

The Monash University Library provides a range of services and resources that enable you to save time and be more effective in your learning and research. Go to <http://www.lib.monash.edu.au> or the library tab in my.monash portal for more information. At Sunway, visit the Library and Learning Commons at <http://www.lib.monash.edu.my/>. At South Africa visit <http://www.lib.monash.ac.za/>.

Academic support services may be available for students who have a disability or medical condition. Registration with the Disability Liaison Unit is required. Further information is available as follows:

- Website: <http://monash.edu/equity-diversity/disability/index.html>;
- Email: dlu@monash.edu
- Drop In: Equity and Diversity Centre, Level 1 Gallery Building (Building 55), Monash University, Clayton Campus, or Student Community Services Department, Level 2, Building 2, Monash University, Sunway Campus
- Telephone: 03 9905 5704, or contact the Student Advisor, Student Community Services at 03 55146018 at Sunway