

Teaching Outline / Semester 1, 2015-2016

1. **Subject Code:** 242-515

Subject Name: Animation and Games Development (AGD)

2. **Credits:** 3(3-0-0)

3. **Teaching Period:** Semester 1, August 2015 -- December, 2015

4. **Responsible Department:** Dept. of Computer Eng., Fac. of Eng., PSU

5. Course Objectives

- 5.1. To develop skills in introductory animation and computer graphics;
- 5.2. Learn about basic 3D Computer Graphics theory;
- 5.3. Carry out graphics programming with the Java game engine JMonkeyEngine (<http://jmonkeyengine.org/>).

6. Course Description

Why learn about games development?

- The demand for games programmers in the commercial world is huge and growing rapidly.
- Games programming drives research and development in many areas, such as graphics and AI.
- Game programming is inspiring a new generation of designers and programmers.
- It's fun! People like to play games.

7. Prerequisites

241-211 *OOP* (or equivalent)

8. **Teaching Method:** lectures

9. Course Outline

Aj. Andrew will teach for roughly the first 8 weeks, and Aj. Anant will take over for the last part of the semester.

Week	Subject
1	Preliminaries
2	<i>PSU Open Week</i> (no teaching)
3	Background (history, genres, the future)
4	Game Dev. and Arch.

5	Intro to jME
6	Basic 3D Maths
7	Forms of Rotation
8	Illumination
9	Meshes and Models (Part 1)
10	<i>Midterm Exam</i>
11	Meshes and Models (Part 2)
12-13	Textures and Maps
14-15	Physics
16	Particle Effects
17	Landscape
18-19	<i>Final Exam</i>

10. Assessment

- Mid-term Exam: 30% (2 hours)
- Two exercises, each worth 15% (30% in total)
 - Exercise 1 in weeks 7-8
 - Exercise 2 in weeks 15-16
- Final Exam: 40% (3 hours)

Grading Scheme

Grade	Mark Range
A	80 and above
B+	75-79
B	70-74
C+	65-69
C	60-64
D+	55-59
D	50-54
E	below 50

11. Lecturers

Names : Dr. Andrew Davison and Dr. Anant Choksuriwong (not in 2015-16)

Affiliation: Dept. of Computer Engineering
Prince of Songkla University

Hat Yai, Songkhla 90112

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Teaching Equipment

- white board, black board, chalk, marker pens, a computer with network connection, a projector connected to the computer, a projector screen, overhead projector, chair

References

The Website for this subject is:

http://fivedots.coe.psu.ac.th/Software.coe/242-515_AGD/

The PowerPoint slides for this subject will be made available to the students.

The students will be strongly encouraged to install Java's excellent documentation and tutorials, which have been downloaded to a departmental Web site (<http://java.coe.psu.ac.th/>).

We will include URLs to good sources of information on the Web.

A copy of the current version of Java for Microsoft Windows has been downloaded to a departmental server. The students will need to install it to run the examples and carry out the project. They will also need to install JMonkeyEngine (<http://jmonkeyengine.com/>), a Java-based games engine.

Textbooks

Three optional textbooks:

- *Introduction to Game Development*
Editor: Steve Rabin
Charles River Media, 2005
- *jMonkeyEngine 3.0 Beginners Guide*
Ruth Kusterer
Packt Publishing, 2013
- *3D Math Primer for Graphics and Game Development*
Fletcher Dunn and Ian Parberry
A K Peters / CRC Press, 2002
<http://gamemath.com/>

12. Subject Type: elective

13. Teaching Schedule and Timetable

3 hours/week for 15 weeks