

# Course Outline

**Title:** 3D MODELLING FOR COMPUTER GAMES

**Code:** ITECH3221

**Formerly:** CP791

**Faculty / Portfolio:** Faculty of Science

## Program Level:

	AQF Level of Program					
	5	6	7	8	9	10
Level						
Introductory						
Intermediate			✓			
Advanced						

**Pre-requisites:** (CP586 or ITECH1004)

**Co-requisites:** Nil

**Exclusions:** (CP791)

**Progress Units:** 15

**ASCED Code:** 029999

## Learning Outcomes:

### Knowledge:

- K1.** Describe basic technologies associated with games and their creation;
- K2.** List and explain the fundamental concepts and techniques used in the design and creation of computer game assets and 3D models;
- K3.** Discuss and explain the operation of a basic lighting model;
- K4.** Choose appropriate materials, colours and colour schemes for a scene to provide a desired effect.

### Skills:

- S1.** Demonstrate basic knowledge of a commercial 3D modelling package;
- S2.** Construct basic 3D models from a collection of simple geometric primitives;
- S3.** Research and identify resources which can be used in the creation of basic computer generated environment;
- S4.** Define materials and lighting for a 3D scene;
- S5.** Construct a short animated sequence.

### Application of knowledge and skills:

- A1.** Choose appropriate tools and techniques to design and construct 3D models that meet project requirements;
- A2.** Operate software packages to animate 3D models in an animated sequence.

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### Values and Graduate Attributes:

#### Values:

V1. Recognise the cultural effect and implications of 3D modelling for computer games.

#### Graduate Attributes:

Attribute	Brief Description	Focus
Continuous Learning	Students will continually learn new modelling tools and techniques throughout the course and these are merely the fundamentals, with further experience will come further knowledge and proficiency long after the course is completed.	Medium
Self Reliance	Students must rely on their own skills and knowledge to construct 3D models, but are assisted if stuck or having difficulty.	Low
Engaged Citizenship	Confidently employ and adapt professional expertise regarding the application of 3D modelling to multiple sectors	Low
Social Responsibility	Consider issues of intellectual property, copyright law and censorship in regards to multimedia design and deployment.	Low

#### Content:

This course introduces students to the technology, design concepts and cultural effects and implications involved in computer games. The course will focus on putting theory into practice, requiring students to design and develop an animated 3D scene. Theoretical aspects will be covered to an extent that is appropriate for the aims of the course. Design issues and concepts relating to computer games assets will be explored and students will be encouraged to experiment and develop their skills. The cultural effects and implications of computer games will be explored. The tools used for asset and level creation for an existing computer game introduced.

Topics may include:

- Fundamentals of 3D space & 3D modelling;
- Lighting and shading;
- Modelling techniques;
- Colours and colour schemes;
- Materials;
- Animation techniques;
- Cultural impact of computer games.

#### Assessment:

Assessment for this course will be based on a number of tasks including practical assignments, design documentation and an end of semester examination covering theoretical aspects of the course.

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
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K1, K4, S1, S2, S3, S4, S5 A1, A2	Non-invigilated assignments consisting of research and design of a 3D scene (including identification of reference materials), followed by construction of 3D models and animation of these models in a scene.	Assignment(s)	40% - 60%
K1, K2, K3, K4	Invigilated lecture test & exam covering theoretical and application content aspects	Test(s) & examination(s)	40% - 60%

### Adopted Reference Style:

APA

### Presentation of Academic Work:

<https://federation.edu.au/students/assistance-support-and-services/academic-support/general-guide-for-the-presentation-of-academic-work>