

# ENGR 2013 GRAPHICS 4: KINETIC NARRATIVES

**Credit Points** 10

**Legacy Code** 301091

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**Description** From 2020, this unit will be replaced by 301308 - Design Practice: Sustainable Manufacturing. This unit introduces students to real life applications of graphics technology, such as 3D games, 3D virtual environments, immersive learning spaces, dynamic 3D simulations of ecosystems, artwork for public spaces, virtual agents. Students will use different software platforms to create interactive 3D environments. They will apply theories of human-computer interaction to design projects where they develop: "a dynamic simulation of a natural or artificial ecosystem", a dynamic 3D virtual environment in which users interact with agents.

**School** Eng, Design & Built Env

**Discipline** Other Engineering And Related Technologies

**Student Contribution Band** HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 2 subject

**Pre-requisite(s)** ENGR 2012

**Equivalent Subjects** ENGR 3018 - Industrial Graphics 4 Surface

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Apply the principles and theories of human computer interaction in both designing and evaluating virtual worlds and 3D environments.
2. Make an informed choice from a range of different software platforms to create interactive 3D environments.
3. Construct dynamic simulations of natural or artificial ecosystems.
4. Create 3D virtual environments in which users interact with digital agents.
5. Use algorithmic and parametric modelling software to simulate static and dynamic 3D structures.

## Subject Content

3D environments and 3D models  
 Software tools to create 3D models  
 Application Areas of 3D environments  
 User Perception Aspects of 3D environments  
 Components and structure of 3D environments in relation to Computer Graphics  
 Algorithmic Modelling  
 Game Development

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Assessment 1a - Initial Representation of 3D environment	Submitted project files and code (1000 lines)	15	N	Individual
Assessment 1b - Demo presentation of 3D environment including interactions	10 minutes presentation and project files/code submitted (2000 lines)	30	N	Individual
Assessment 2 - Weekly Tutorial/Lab activities	Set of exercises (5 exercises, 90 minutes each)	40	N	Individual
Assessment 3 - In class Quizzes X 2	1 hour each	15	N	Individual

Teaching Periods