



DDES9904 Models, Systems and Solution Design

Term T3, 2020

Course Information

Units of Credit: 6

Course Overview

Course Description

Fully Online Delivery Term 3 2020

Some adjustments have been made to this course to allow for fully online delivery during the COVID-19 situation. Please refer to the Resources section at the back of this document for more information about materials and resources required to complete this course online.

Models form the basis for how we represent the world and design solutions. While they are used differently across domains to analyse, test hypotheses, inform decisions and make predictions, model and systems thinking offers an important perspective to help us understand and shape our environment.

Answering the question 'what is a model?', this course will give you a holistic perspective of models and systems examining how, why and when it is appropriate to model. In particular you will consider how models can be used to help problem-solve and design solutions in industrial and creative contexts. Different modelling and systems paradigms will also be examined with a specific focus on their application in visualisation, simulation and immersive design.

You will evaluate case studies across a diverse range of industries to better understand conceptual questions arising from discrete modelling approaches and undertake practical exercises to test the utility of model and systems thinking in designing solution spaces.

Particular emphasis will be given to how we can interpret and evaluate modelling frameworks in order to apprehend any underlying assumptions and biases.

This course is designed to be low-residency. It is conducted online with up to 3 face-to-face intensive meetups per term conducted on Fridays and weekends on campus or at our industry partner facilities. Students will also have full access to all on-campus facilities throughout each term. Students may incur additional travel and accommodation costs.

Course Learning Outcomes

On completion of this course, the student should be able to:

1. Conceptualise the use of modelling by examining techniques used in different industries.
2. Integrate social, technical, and human perspectives into modelling and simulation design using a systems approach.
3. Evaluate modelling paradigms and their fitness for purpose in visualisation, simulation and immersive design.

Teaching and Learning in this Course

This courses uses a variety of teaching approaches:

Blended/online

- Review – Assessment / Feedback Tool
- Collaborate Ultra in Moodle – Virtual Classroom
- Zoom - Video and Audio Conferencing, Chat, and Webinars
- The Box - Media Repository
- Moodle - Learning Management System

Assessment

	TITLE	WEIGHTING	ASSESSMENT TYPE
Assessment Task 1	Scope a Model	30%	Formal Presentation
Assessment Task 2	Create a Model	50%	Project
Assessment Task 3	Portfolio Professional Reflection	20%	Portfolio

Resources

You will be introduced to a range of resources and some tools, which will be outlined in your Moodle course.