

ENGR 2029 SIMULATION IN VIRTUAL AND AUGMENTED REALITIES

Credit Points 10

Legacy Code 301306

Coordinator James Berry (<https://directory.westernsydney.edu.au/search/name/James Berry/>)

Description Simulation in three-dimensional (3D) environments provide valuable insights to human-centred perspectives. Whilst investigating the fundamentals of Virtual Reality (VR) and Augmented Reality (AR), students will analyse aspects of functionality, user interfaces, spatial relationships in built environments, sustainability, efficient resource management, instructional support for safety and training, and accelerated design conceptualisation in detailed new product, service or environmental innovation. Students' experiences will equip them for future employment as VR and AR experience designers, interactive experience producers, or creative technologists.

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/) page.

Level Undergraduate Level 2 subject

Assumed Knowledge

Possession of 2D or 3D modelling skills is desirable but not essential.

Learning Outcomes

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

1. Identify opportunities to accelerate new product of service development with VR and AR technology strategies
2. Design a 3D model within a virtual reality environment that engages a VR audience
3. Apply VR or AR process steps in developing a new product model for use in a 3D environment
4. Simulate a design for an interactive VR or AR proposal
5. Present a design for an interactive VR or AR proposal that engages an audience in a collaborative discussion around the sustainable simulation benefits of a VR or AR approach

Subject Content

1. Introduction to interactive media namely Virtual Reality (VR) and Augmented Reality (AR)
2. Explore interactive computing and emergent VR and AR applications
3. Discover enabling capabilities for VR and AR
4. Experience VR and AR
5. Designing with VR and for AR
6. Present a design proposal for a 3D environment using interactive media

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.

Type	Length	Percent	Threshold	Individual/Group Task
Case Study	800 word visual report	30	N	Individual
Proposal	2:00 minute video	25	N	Individual
Presentation	5 minute presentation of working prototype	45	N	Individual

Teaching Periods

Spring (2022)

Parramatta - Victoria Rd

Day

Subject Contact James Berry (<https://directory.westernsydney.edu.au/search/name/James Berry/>)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=ENGR2029_22-SPR_PS_D#subjects)

Spring (2023)

Parramatta City - Macquarie St

On-site

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View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=ENGR2029_23-SPR_PC_1#subjects)