Course Outline

Code: DES308
Title: Augmented Reality Design

School: Communication & Creative Industries
Teaching Session: Semester 1
Year: 2019
Course Coordinator: Dr Ian White, iwhite@usc.edu.au
Course Moderator: Associate Professor Sandy O'Sullivan, sandy.osullivan@usc.edu.au

Please go to the USC website for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1 Description
To design and work effectively with Augmented/Mixed Reality (AR) interfaces, you will need to understand fundamental principles of the medium and practice applying them to designs. Beginning with a historical overview of AR development, you will learn about display technologies, tracking methods, interaction types and design paradigms. You will create your first augmented reality app on day one and learn to create and design several more of increasing complexity throughout the course.

1.2 Field trips, WIL placements or activities required by professional accreditation

<table>
<thead>
<tr>
<th>Activity</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>Nil</td>
</tr>
</tbody>
</table>

2. What level is this course?

300 level Graduate - Independent application of graduate knowledge and skills. Meets AQF and professional requirements. May require pre-requisites and developing level knowledge/skills. Normally taken in the 3rd or 4th year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

<table>
<thead>
<tr>
<th>Specific Learning Outcomes</th>
<th>Assessment tasks</th>
<th>Graduate Qualities or Professional Standards mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>On successful completion of this course, you should be able to:</td>
<td>You will be assessed on the learning outcomes in task/s:</td>
<td>Completing these tasks successfully will contribute to:</td>
</tr>
<tr>
<td>Demonstrate a critical understanding of the history of Mixed Reality AR/VR/MR</td>
<td>1</td>
<td>Knowledgeable.</td>
</tr>
<tr>
<td>Identify fundamental building blocks of MR applications</td>
<td>1, 2</td>
<td>Knowledgeable.</td>
</tr>
<tr>
<td>Deconstruct an Augmented Reality application</td>
<td>2</td>
<td>Knowledgeable.</td>
</tr>
</tbody>
</table>
Specific Learning Outcomes

<table>
<thead>
<tr>
<th>Assessment tasks</th>
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</thead>
<tbody>
<tr>
<td>On successful completion of this course, you should be able to:</td>
<td>Completing these tasks successfully will contribute to:</td>
</tr>
<tr>
<td>Develop a professional specification document to summarise client requirements for an AR/VR/MR project</td>
<td>Empowered.</td>
</tr>
<tr>
<td>Justify estimates of time and material requirements for an AR/VR/MR project</td>
<td>Empowered.</td>
</tr>
<tr>
<td>Demonstrate proficiency Zapworks and web frameworks (A-Frame/AR.js)</td>
<td>Empowered.</td>
</tr>
<tr>
<td>Produce a working prototype AR/VR/MR app</td>
<td>Engaged.</td>
</tr>
</tbody>
</table>

5. **Am I eligible to enrol in this course?**

Refer to the [USC Glossary of terms](https://www.usc.edu.au/glossary) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1 **Enrolment restrictions**
Nil

5.2 **Pre-requisites**
DES222

5.3 **Co-requisites**
Nil

5.4 **Anti-requisites**
Nil

5.5 **Specific assumed prior knowledge and skills (where applicable)**
Not applicable

6. **How am I going to be assessed?**

6.1 **Grading scale**
Standard – High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL)

6.2 **Details of early feedback on progress**
Formative Feedback: discussion in tutorial Week 1 to Week 3

6.3 **Assessment tasks**

<table>
<thead>
<tr>
<th>Task No.</th>
<th>Assessment Product</th>
<th>Individual or Group</th>
<th>Weighting %</th>
<th>What is the duration / length?</th>
<th>When should I submit?</th>
<th>Where should I submit it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Essay</td>
<td>Individual</td>
<td>25%</td>
<td>1000 words</td>
<td>Friday Week 4</td>
<td>Online Assignment Submission</td>
</tr>
<tr>
<td>2</td>
<td>Report</td>
<td>Individual</td>
<td>25%</td>
<td>1000 words</td>
<td>Friday Week 9</td>
<td>Online Assignment Submission</td>
</tr>
</tbody>
</table>
Assessment 1: The History and Future of AR

**Goal:** You will develop an in-depth critical understanding of the historical roots of AR/VR/MR design and where the industry is heading in the future.

**Product:** Essay

**Format:**
- **Academic Format**
- 1000 words
- This is a short and sharp essay demonstrating your ability to critically evaluate historical trends in AR and the evolution of these trends into modern day applications.

**Criteria:**
- Critical understanding of AR/VR/MR
- Analysis of AR/VR/MR development – historical perspective
- Identification of AR/VR/MR building blocks
- Communication

Assessment Task 2: Industry Report

**Goal:** You will learn how to list and evaluate AR/VR display technologies, tracking methodologies and creation tools in order to bring a project to market.

**Product:** Report

**Format:**
- **Professional/Industry Format**
- 1000-word report in two sections.
- Choose an AR/VR implementation (with instructor approval). The first section is targeted towards developers/engineers to describe the technical requirements to be met. The second section is targeted towards management, listing the software and hardware requirements as well as the benefits to clients.

More information on the format of this report is available on Blackboard.

**Criteria:**
- Identification of functional requirements
- Deconstruction – list of AR/VR interactions and benefits
- Development of specification documents
- Justify time and material requirements
- Professional communication

Assessment Task 3: Project and Post-Project Evaluation Report

**Goal:** Implement an AR/VR advertising campaign or software product using the technologies learned in class. Choose any of the introduced software suites to produce a useable product. This assessment has two parts, a project proposal to be approved by the instructor, and the actual final assessable project artefact.

**Product:** Artefact - Creative, and Written Piece

**Format:**
- **Professional/Industry Format**
- 2 elements
  - Project proposal
  - Software product or advertisement (Choose from Layar, Zapworks or Unity)

**Criteria:**
- Project proposal:
  - Professional specification document to summarise client requirements
  - Use of appropriate software
Working prototype:
- Visual quality
- Creativity
- Detail
- Demonstration of design principles.

7. Directed study hours

The directed study hours listed here are a portion of the workload for this course. A 12 unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Directed study hours may vary by location. Student workload is calculated at 12.5 learning hours per one unit.

<table>
<thead>
<tr>
<th>Location:</th>
<th>Directed study hours for location:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sippy Downs</td>
<td>Computer workshop: 3 hours</td>
</tr>
</tbody>
</table>

8. What resources do I need to undertake this course?

Please note that course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Blackboard site. Please log in as soon as possible.

8.1 Prescribed text(s) or course reader
Nil

8.2 Specific requirements
Nil

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low.

It is your responsibility as a student to review course material, search online, discuss with lecturers and peers, and understand the health and safety risks associated with your specific course of study. It is also your responsibility to familiarise yourself with the University’s general health and safety principles by reviewing the online Health Safety and Wellbeing training module for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1 Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.
10.2 Assessment: Additional requirements

Eligibility for Supplementary Assessment
Your eligibility for supplementary assessment in a course is dependent on the following conditions applying:

a) The final mark is in the percentage range 47% to 49.4%
b) The course is graded using the Standard Grading scale
c) You have not failed an assessment task in the course due to academic misconduct

10.3 Assessment: Submission penalties

Late submission of assessment tasks will be penalised at the following maximum rate:

- 5% (of the assessment task’s identified value) per day for the first two days from the date identified as the
due date for the assessment task.
- 10% (of the assessment task’s identified value) for the third day
- 20% (of the assessment task’s identified value) for the fourth day and subsequent days up to and
including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as
the due date for the assessment task.

Weekdays and weekends are included in the calculation of days late.

To request an extension, you must contact your Course Coordinator and supply the required documentation to
negotiate an outcome.

10.4 Study help

In the first instance, you should contact your tutor, then the Course Coordinator. Additional assistance is provided
to all students through Academic Skills Advisers. To book an appointment or find a drop-in session go to
Student Hub.

Contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au

10.5 Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website:
http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.6 General Enquiries

In person:

- USC Sunshine Coast - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- USC SouthBank - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- USC Gympie - Student Central, 71 Cartwright Road, Gympie
- USC Fraser Coast - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- USC Caboolture - Student Central, Level 1 Building J,Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890
Email: studentcentral@usc.edu.au