# DGTL12011 *Advanced 3D Animation*
## Term 2 - 2019

All details in this unit profile for DGTL12011 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

## General Information

### Overview

This unit builds on the foundation provided by the prerequisite unit to further develop your skills and knowledge in three-dimensional (3D) animation, particularly character animation. Using industry-standard software tools such as Autodesk Maya, you will gain an understanding of anatomy, motion, weight and timing in animation sequences. You will learn how to model and rig a 3D character with associated controls, and how to create believable character movements with walk cycles and facial animation.

### Details

Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

### Pre-requisites or Co-requisites

Prerequisite: MMST12019 3D Animation Students who have completed DGTL13004 Advanced 3D Animation and Character Development may not enrol in this unit.
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure (Higher Education Coursework)](#).

### Offerings For Term 2 - 2019

- Brisbane
- Mackay
- Online
- Rockhampton

### Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

### Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

# Class and Assessment Overview

## Recommended Student Time Commitment
Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

## Class Timetable

**Regional Campuses**

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

**Metropolitan Campuses**

Adelaide, Brisbane, Melbourne, Perth, Sydney

## Assessment Overview
1. **Practical Assessment**
Weighting: 45%
2. **Practical Assessment**
Weighting: 55%

## Assessment Grading
This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

# CQUniversity Policies

**All University policies are available on the CQUniversity Policy site.**
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure


This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

# Previous Student Feedback

## Feedback, Recommendations and Responses
Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

### Feedback from Moodle

**Feedback**
Video tutorials can currently be downloaded from the unit website. Some students have asked for video tutorials to be distributed in a streaming format through YouTube or Vimeo.

**Recommendation**
The possibility of streaming the video tutorials will be investigated.

### Feedback from Moodle

**Feedback**
Some students have requested refresher video tutorials about render settings and the use of virtual cameras, even though these topics are covered in the prerequisite course.

**Recommendation**
The possibility of providing some refresher video tutorials will be investigated.

### Feedback from Moodle

**Feedback**
Some students felt that the assignment brief did not make it clear that they could use third-party music in their videos.

**Recommendation**
The issue of using third-party music will be clarified in the assignment brief.
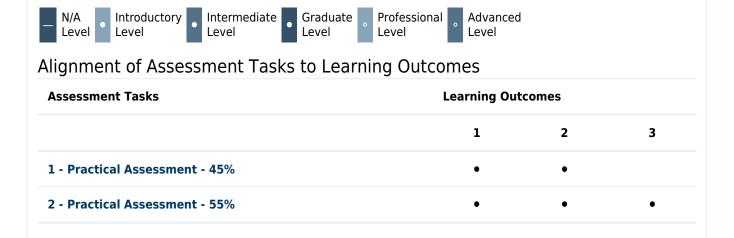
# Unit Learning Outcomes

**On successful completion of this unit, you will be able to:**

1. model and rig a 3D character with associated controls
2. apply elements of character animation such as anatomy, motion, weight and timing
3. create believable character movements with walk cycles and facial animation.

Not applicable

# Alignment of Learning Outcomes, Assessment and Graduate Attributes

| — N/A Level | ○ Introductory Level | ● Intermediate Level | ● Graduate Level | ○ Professional Level | ○ Advanced Level |

## Alignment of Assessment Tasks to Learning Outcomes

| Assessment Tasks | Learning Outcomes | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| **1 - Practical Assessment - 45%** | ● | ● | |
| **2 - Practical Assessment - 55%** | ● | ● | ● |

## Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes | Learning Outcomes | | |
|---|---|---|---|
| | **1** | **2** | **3** |
| **1 - Communication** | • | • | • |
| **2 - Problem Solving** | • | • | • |
| **3 - Critical Thinking** | • | • | • |
| **4 - Information Literacy** | • | • | • |
| **5 - Team Work** | | | |
| **6 - Information Technology Competence** | • | • | • |
| **7 - Cross Cultural Competence** | • | • | • |
| **8 - Ethical practice** | • | • | • |
| **9 - Social Innovation** | | | |
| **10 - Aboriginal and Torres Strait Islander Cultures** | | | |

## Alignment of Assessment Tasks to Graduate Attributes

| Assessment Tasks | Graduate Attributes | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| **1 - Practical Assessment - 45%** | • | • | • | • | | • | • | • | | |
| **2 - Practical Assessment - 55%** | • | • | • | • | | • | • | • | | |

# Textbooks and Resources

## Textbooks

**There are no required textbooks.**

## IT Resources

**You will need access to the following IT resources:**

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Adobe CC
- Autodesk Maya 2017 above

## Referencing Style

All submissions for this unit must use the referencing style: [Harvard (author-date)](#)
For further information, see the Assessment Tasks.

## Teaching Contacts

**Qing Huang** Unit Coordinator
[q.huang@cqu.edu.au](mailto:q.huang@cqu.edu.au)

## Schedule

**Week 1 - 15 Jul 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| Review of principles: timing and spacing Overview of Maya animation methods and tools | Bouncing ball project revisit; Graph editor, dope sheet, etc. | |

**Week 2 - 22 Jul 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| About animation production: story, plan, budget. | Nonlinear Deformation | |

**Week 3 - 29 Jul 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| Human anatomy & Character design | Modelling of whole character body | |

**Week 4 - 05 Aug 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| Character rigging and set up in Maya | Joints, IK joints, spline, joints, constrains, etc | |

**Week 5 - 12 Aug 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| Character binding and skinning | Skin; weight map, binding | |

**Vacation Week - 19 Aug 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| | | |

**Week 6 - 26 Aug 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| MEL scripting introductory | Create customer codes using MEL | **Character development** Due: Week 6 Friday (30 Aug 2019) 11:00 pm AEST |

**Week 7 - 02 Sep 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| Walking and locomotion | Walk cycle 1 | |

**Week 8 - 09 Sep 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
| --- | --- | --- |
| Walking and locomotion II | Walk cycle 2 | |

**Week 9 - 16 Sep 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Character animation: straight ahead, pose by pose. Staging. acting, secondary actions, etc. | Forward/Inverse kinematics, More acting | |

**Week 10 - 23 Sep 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Facial animation | Blending shapes | |

**Week 11 - 30 Sep 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Speech and phonemes in animation | Lip sync | |

**Week 12 - 07 Oct 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Wrap up | Staging, lighting, animating & textures, etc | **A single (or more) character animation with humanoid actions** Due: Week 12 Friday (11 Oct 2019) 11:00 pm AEST |

**Review/Exam Week - 14 Oct 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

**Exam Week - 21 Oct 2019**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|

# Assessment Tasks

## 1 Character development

**Assessment Type**
Practical Assessment

**Task Description**
Design and develop a CG (Computer Graphic) character with full body texture ready model and with FK/IK character rigging setups. The character has to be your own design with proper appearance and props if necessary. And it should be rigged and fully functional for your further intended motions.

**Assessment Due Date**
Week 6 Friday (30 Aug 2019) 11:00 pm AEST
Through Moodle course website

**Return Date to Students**
Week 8 Friday (13 Sept 2019)
Through Moodle course website

**Weighting**
45%

**Assessment Criteria**
Part A: Character development (30 marks)

Structurally appropriate (topology, anatomy, proportion) /10 points

Skeleton structure, character settings are appropriate and functional with all the tool handles necessary (FK/IK handles, customised attributes, etc.)/10 points

Character quality: personality, distinctiveness, proper clothes/props (innovation & creativity) /10 points

Part B: Written critique (15 marks)

Discussion and reflection of development process (theoretical, cultural and technical) /5 points

Appropriate, clear and proper structured story and actions for the character (storyboard, script and dialogues)/5 points

Written skills /4 points

Use of source materials/referencing /1 point

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Submission Instructions**
You must submit the following file for this assignment: a zip file containing all your Maya project folders and your report.

**Learning Outcomes Assessed**

- model and rig a 3D character with associated controls
- apply elements of character animation such as anatomy, motion, weight and timing

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

## 2 A single (or more) character animation with humanoid actions

**Assessment Type**
Practical Assessment

**Task Description**
Create a short character animation using the character designed and created in Assignment 1. The character should perform certain humanoid actions such as singing, dancing or playing sport with discernable human acting and personalities.

**Assessment Due Date**
Week 12 Friday (11 Oct 2019) 11:00 pm AEST
Through Moodle course website

**Return Date to Students**
Exam Week Friday (25 Oct 2019)
Through Moodle course website

**Weighting**
55%

**Assessment Criteria**
Production quality (title, correct video format, resolution, credits, etc.) /6 points

Smooth and convincing action of the character in terms of timing, spacing, staging and acting (including facial animation)/20 points

Secondary actions (following through, overlapping, etc.) /6 points

Story telling ability in terms of storyline, camera language and montage /10 points

Visual and audio qualities (lighting, colour, materials and effects) /8 points

Originality, style and creativity (cultural influences and X-factors) */5 points*

**Referencing Style**

- [Harvard (author-date)](#)

**Submission**
Online

**Submission Instructions**
You must submit the following files for this assignment: a zip file (.zip) containing your Maya project files and structure together with your movie file of the animation (.avi, mov, mp4, etc). The resolution should be at least HD_720 (1280x720). If your uploading video file size exceeds 100 mb limitation of Moodle, you could just upload the project zip file and upload your movie version of the animation to some public video domain site such as YouTube or Vimeo and send me the link in a text file for viewing.

**Learning Outcomes Assessed**

- model and rig a 3D character with associated controls
- apply elements of character animation such as anatomy, motion, weight and timing
- create believable character movements with walk cycles and facial animation.

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

# Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

**What is a breach of academic integrity?**
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

**Why is academic integrity important?**
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

**Where can I get assistance?**
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

**What can you do to act with integrity?**



**Be Honest**
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



**Seek Help**
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



**Produce Original Work**
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem