



ORIGINAL COURSE IMPLEMENTATION DATE: September 2022  
 REVISED COURSE IMPLEMENTATION DATE:  
 COURSE TO BE REVIEWED (six years after UEC approval): February 2028  
 Course outline form version: 06/18/2021

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------------|----|--------------------------------------------|----|--|--|--|--|--------------------|-----------|------------------------------------------------------------------------------------------------------|
| <b>Course Code and Number:</b> MEDA 370                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Number of Credits:</b> 3 <a href="#">Course credit policy (105)</a>                                                                                                                                                                                                                                                                                                                                            |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Course Full Title:</b> 3D Modeling and Animation II<br><b>Course Short Title:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Faculty:</b> Faculty of Humanities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Department (or program if no department):</b> Media Arts                                                                                                                                                                                                                                                                                                                                                       |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Calendar Description:</b><br>Students explore more advanced concepts and techniques used in digital 3D content creation. Topics include character modeling, rigging, character lighting, and character animation. Utilizing industry-standard software and techniques, students produce a fully-rigged character ready for use in a game engine, animated cartoon, or motion capture.                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Prerequisites (or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | MEDA 270.                                                                                                                                                                                                                                                                                                                                                                                                         |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Pre/corequisites (if applicable, or NONE):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Antirequisite Courses</b> <i>(Cannot be taken for additional credit.)</i><br>Former course code/number:<br>Cross-listed with:<br>Equivalent course(s):<br><i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i>                                                                                                                                                                                                                                  | <b>Course Details</b><br>Special Topics course: <b>No</b><br><i>(If yes, the course will be offered under different letter designations representing different topics.)</i><br>Directed Study course: <b>No</b><br>Grading System: <b>Letter Grades</b><br>Delivery Mode: <b>May be offered in multiple delivery modes</b><br>Expected frequency: <b>Annually</b><br>Maximum enrolment (for information only): 32 |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Typical Structure of Instructional Hours</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 80%;">Lecture/seminar</td> <td style="width: 20%; text-align: center;">15</td> </tr> <tr> <td>Tutorials/workshops</td> <td style="text-align: center;">15</td> </tr> <tr> <td>Supervised laboratory hours (computer lab)</td> <td style="text-align: center;">15</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td style="text-align: right;"><b>Total hours</b></td> <td style="text-align: center;"><b>45</b></td> </tr> </table> | Lecture/seminar                                                                                                                                                                                                                                                                                                                                                                                                   | 15 | Tutorials/workshops | 15 | Supervised laboratory hours (computer lab) | 15 |  |  |  |  | <b>Total hours</b> | <b>45</b> | <b>Prior Learning Assessment and Recognition (PLAR)</b><br><b>PLAR is available for this course.</b> |
| Lecture/seminar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15                                                                                                                                                                                                                                                                                                                                                                                                                |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| Tutorials/workshops                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 15                                                                                                                                                                                                                                                                                                                                                                                                                |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| Supervised laboratory hours (computer lab)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 15                                                                                                                                                                                                                                                                                                                                                                                                                |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Total hours</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>45</b>                                                                                                                                                                                                                                                                                                                                                                                                         |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| Labs to be scheduled independent of lecture hours: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Transfer Credit</b> <i>(See <a href="http://bctransferguide.ca">bctransferguide.ca</a>.)</i><br>Transfer credit already exists: <b>No</b><br>Submit outline for (re)articulation: <b>No</b><br><i>(If yes, fill in <a href="#">transfer credit form</a>.)</i>                                                                                                                                                  |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Department approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Date of meeting:</b> November 26, 2021                                                                                                                                                                                                                                                                                                                                                                         |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Faculty Council approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Date of meeting:</b> December 17, 2021                                                                                                                                                                                                                                                                                                                                                                         |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |
| <b>Undergraduate Education Committee (UEC) approval</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Date of meeting:</b> February 25, 2022                                                                                                                                                                                                                                                                                                                                                                         |    |                     |    |                                            |    |  |  |  |  |                    |           |                                                                                                      |

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Identify how 3D topology affects deformation in animated characters.
2. Create a rigged character suitable for animation, games, and motion capture.
3. Apply the principles of animation within character animation.
4. Use lighting and surfacing as a look development tool.
5. Recognize how 3D software is used within a larger production context.
6. Apply self-directed ideation, problem-solving, and project management skills to the creation of 3D content.

**Recommended Evaluation Methods and Weighting** (*Evaluation should align to learning outcomes.*)

|              |   |          |      |                |   |
|--------------|---|----------|------|----------------|---|
| Assignments: | % | Project: | 100% | Quizzes/tests: | % |
|              | % |          | %    |                | % |

**Details:** Project 1 (33%): Character Modeling. Project 2 (33%): Character Surfacing and Rigging. Project 3 (33%): Animation Test.

**NOTE:** The following sections may vary by instructor. Please see course syllabus available from the instructor.

**Texts and Resource Materials** (*Include online resources and Indigenous knowledge sources. [Open Educational Resources](#) (OER) should be included whenever possible. If more space is required, use the [Supplemental Texts and Resource Materials form](#).)*)

| Type               | Author or description | Title and publication/access details | Year |
|--------------------|-----------------------|--------------------------------------|------|
| 1. Online resource | Autodesk              | Maya Documentation                   | 2013 |
| 2. Online resource | Adobe                 | Substance Documentation              |      |
| 3.                 |                       |                                      |      |
| 4.                 |                       |                                      |      |

**Required Additional Supplies and Materials** (*Software, hardware, tools, specialized clothing, etc.*)

Autodesk Maya, Adobe Photoshop, Adobe Substance Painter.

**Course Content and Topics**

Unit 1: Character design and modeling.

- Introduction to character design.
- Drafting character sheets for 3D reference.
- Character modeling practices.
- Topology and polygon count.
- Modeling a face.
- Exploring different modeling techniques.
- How topology affects deformation.
- Modeling a torso, appendages, and clothing.

Unit 2: Surfacing a character

- Planning a UV map.
- UV seams and unfolding practices.
- Character Texturing
- 2D and 3D texture creation.
- UDIMs.
- Material properties.

Unit 3: Character Rigging

- Joints and skin.
- IK & FK controls.
- Rigging and controls.
- Auto rigging techniques.
- Skin Binding
- Defining skin weights.
- Facial rigging, blendshapes, and clusters.
- Animation testing.