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# COLLEGE OF IMAGING ARTS & SCIENCES

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## -----TOPIC OUTLINE FORM-----

**Shell courses have very flexible course outlines that allow instructors to develop a specific focus and content for their particular Topic offered within the Shell.**

In order for a new Topic within a Shell course to be scheduled, a completed, approved digital version of this form must be submitted to the Scheduling Officer by the scheduling deadline date for the term in which the topic will be offered. **No late submissions will be accepted.**

**Procedure for proposing a new Topic:**

1. Faculty proposing to offer a new Topic will complete this form and forward electronically to the Program Chairperson or Graduate Director for electronic approval.
2. The Program Chairperson or Graduate Director then secures the electronic approval of the school's Administrative Chair.
3. The Administrative Chair electronically forwards the form to the CIAS Curriculum Committee Chair (CIAS CCC) for review.
4. If electronically approved by the chair of the CIAS CCC this form will be forwarded electronically to the CIAS Scheduling Officer for processing. The Scheduling Officer will send an electronic copy to the school's representative on the appropriate CIAS College Curriculum Committee.

**COURSE # and TITLE: TOPIC: ILLM-550 Topics in Medical Illustration – 3D Advanced Modeling**

**Proposing faculty:** Craig Foster/Glen Hintz **Date:** 02/01/16

**School:** School of Art **Program:** Medical Illustration ILLM

**1st term offered** 2161 Online  
**NO Repeat for Credit** Times

**1.0 Course Designations and Approval**

Required course approval	Electronic Signature	Approval Granted Date
Program Chair/Graduate Director	Glen Hintz	02/01/16
School Administrative Chair	Glen Hintz	02/01/16
College Curriculum Committee Chair	Robin Cass	2.2.16

**2.0 Course information:**

<b>Topic title:</b>	3D Advanced Modeling
<b>Topic proposed by:</b>	Craig Foster/Glen Hintz
<b>Effective term scheduled:</b>	2161

*In the sections that follow, please use sub-numbering as appropriate (eg. 3.1, 3.2, etc.)*

**3.0 Goals of the TOPIC:**

- 3.1 Incorporate current three-dimensional sculpting applications into modeling pipeline
- 3.2 Utilize dynamic simulation techniques to animate anatomic, physiologic, and histologic subject in support of allied health instruction.
- 3.3 Utilize dynamic simulation techniques to animate movement of cells, organelles, viruses, proteins, and small molecules in a manner consistent with contemporary theory

**4.0 Course description** (course title includes topic)

**Course number:** ILLM-550

**Name of Course & Topic – Long Title:** Studio Topics in Medical Illus: 3D Advanced Modeling

**Name of Course & Topic – Short Title** (33 characters): S T M e d I l l u s : 3 D A d v M o d e l i n g

This course will allow students to integrate virtual sculpting (Mudbox, Zbrush) and imaging (Osirix) tools into the workflow when creating three-dimensional models. In addition, the class will introduce students to the application of dynamic simulations in animations of virtual subjects and environments. Both the models and animations will be designed to support allied health instruction and/or marketing.

**5.0 Possible resources** (texts, references, computer packages, etc.)

- 5.1 Online tutorials via RIT Library
  - 5.11 Lynda.com
  - 5.12 Digital Tutorial.
- 5.2 Maya 2016
- 5.3 Mudbox 2016
- 5.4 Zbrush

**6.0 Topics (outline):**

- 6.1 Defining instructional objectives
- 6.2 Generating UV texture maps
- 6.3 Retopologizing polygon models
- 6.4 Application of virtual three-dimensional sculpting tool
- 6.5 Movement in microscopic and molecular environments
- 6.5 Application of dynamic simulation in instructional animations

**7.0 Intended course learning outcomes and associated assessment methods of those outcomes**

(please include as many Course Learning Outcomes as appropriate, one outcome and assessment method per row).

Course Learning Outcome	Assessment Method
7.1 Minimize polygon count	Submission of Maya Binary (mb) or Maya ASCII (ma) file
7.2 Minimize polygon count, while maintaining color and textural detail	Submission of rendered models and animations intended for online and print media
7.3 Construct polygon reference models from DICOM image libraries	Printed and online renders, mb/ma submitted files
7.4 Automate and expedite UV polygon mapping	Submission of Maya Binary (mb) or Maya ASCII (ma) file

**8.0 Program outcomes and/or goals supported by this course**

- 8.1 Visualize scientific structures, processes, and concepts,
- 8.2 Visualize objects in 2- and 3-dimensions, perspective, transverse-section, cut- away, sequence, and/or from different viewpoints,
- 8.3 Create visual images from verbal or written description,
- 8.4 Demonstrate sophisticated visual problem solving and conceptualization through concept sketches
- 8.5 Solve visual communication problems using illustrative conventions and symbolism

**10.0 Required Resources** - Identify all resources needed to effectively teach this class and what students will need to complete the assignments. (Please provide detailed list of equipment, software, computer lab, data storage/retrieval requirements, special classroom, studio, shop, wet lab, work space or media requirements)

Classroom 3520 and access to 3500 School of Art Lab

**Approval request date:** This is the date that the college curriculum committee forwards this course to the appropriate optional course designation curriculum committee for review. The chair of the college curriculum committee is responsible to fill in this date.

**Approval granted date:** This is the date the optional course designation curriculum committee approves a course for the requested optional course

designation. The chair of the appropriate optional course designation curriculum committee is responsible to fill in this date.