PELLISSIPPI STATE COMMUNITY COLLEGE
MASTER SYLLABUS

3D MODELING & ANIMATION
CGT 2160

Class Hours: 3.0   Credit Hours: 3.0
Laboratory Hours: 0.0   Date Revised: Fall 2012

Catalog Course Description:

A study of advanced three-dimensional design and animation. Virtual modeling techniques and the basics of 3D motion will be emphasized.

Entry Level Standards:

Student is expected to be able to read on a college level, write using correct spelling and grammar, and have basic Macintosh computer proficiency with graphic design industry standard software. Student should have sufficient manual dexterity to be able to use a graphic design industry standard keyboard and mouse simultaneously. Visual acuity, and correctable vision are also required.

Prerequisites:

CGT 1105 and 2040; or consent of program coordinator

Textbook(s) and Other Course Materials:


*Reference* – *The Cinema 4D Reference Manual* and the *User Manual*. Both these manuals are available in the Cinema 4D folder on each Macintosh loaded with the software.

*Materials* – At least five CD-R discs, matboard as specified by instructor.

Recommended – 4GB or larger USB flash/thumb drive.

I. Week/Unit/Topic Basis:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Introductions and expectations, materials; Introduction to 3D Modeling; Introduction to the Cinema 4D application: the menus, the palettes, and other features.</td>
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<tr>
<td>2</td>
<td>Cinema 4D Menus: File Menu, Edit Menu, Selection Menu, Modeling Menu, Rendering Menu, Windows Menu;</td>
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<td>4</td>
<td><strong>Quiz #1: Menus, Palettes, and Buttons:</strong> Cinema 4D Windows: Modeling Window, Project Window, Camera Window, Spotlight Window, Shape Window, Rendering Window, Image Window; Managing Files: Creating New Models, Loading Models, Saving Models.</td>
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Managing Projects; Modeling Fundamentals; Refining Your Objects; Using Tools and Modelers.


Cinema 4D Textures: Texture Tab Basics, Making and Editing Textures, Texture Tutorial 1 (Melting Ooze), Texture Exercise 2 (Wine Bottle);
Project #1 Assignment.

Project #1 development.
Cinema 4D Lighting: Basic Lighting Tutorial, Using Spotlights and Point Lights;

Cinema 4D Effects: The FX Tab, Fog, Haze, Mist;

Cinema 4D Rendering: Environmental Effects, Cameras, Rendering the Image, Choosing the Right Renderer, Rendering Windows, QTVR.
Quiz #2: Shapes, Textures, Lighting.

Cinema 4D Animation: Animation Fundamentals, Convert to Path, Dropping a Curve, Align to Path, Cycling Animations, Using Event Markers, Boolean Rendering.
Project #2 Assignment. Project #2 development.

Project #2 development.

Project #3 Assignment. Project #3 development.

Project #3 development. Final Exam review

Final Exam – written and practical

II. Course Goals*

The course will:

A. Enable the student to acquire basic knowledge in the use of 3D modeling software in creating, editing, rendering, and animating 3D objects.

B. Enhance the student’s working knowledge of techniques used to managing 3D projects.

C. Guide the students toward developing basic knowledge in the use of shapes, textures, effects, and lighting to create realistic 3D models.

D. Direct the student to understand the use of cameras within the software to control 3D model views.

E. Enable the student to acquire basic knowledge in the use of paths and curves and event markers to animate a 3D model.

F. Guide the students toward developing basic knowledge in the use of renderers in creating realistic 3D models.

G. Expand the student’s understanding of model presentation techniques.

*Roman numerals after course objectives reference goals of the Media Technologies — Communication Graphics program.
III. Expected Student Learning Outcomes*:

Students will be able to:

1. Understand the functioning of 3D software menus, windows, palettes, and tools and be able to apply these to the creation of 3D models. A,B,C,D,E,F,G

2. Select, research, illustrate, model, and render a consumer product using 3D modeling software. A,B,C,D,F

3. Manage 3D modeling files. A, B

4. Use 3D modeling software to digitally fabricate, model, and render a tool or device with external moving parts.

5. Use the 3D modeling software tools to draw 3D objects. A, C, G

6. Apply textures, lighting, and effects to a 3D object. A, C, D

7. Select the appropriate renderer, and render a 3D model. A, F

8. Create a motion graphics sequence involving the animation of a digitally modeled item. A,E,D,G

9. Prepare a short demonstration of a 3D modeling software skill to teach to the class. A,B,C,D,E,F,G

* Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

IV. Evaluation:

A. Testing Procedures: 40% of grade

Two Quizzes (10% each) 20%
Final written/practical exam 20%

Students will be tested on material from reading assignments, lectures, class handouts, etc. (Missed tests and quizzes may not be made up without instructor approval.)

B. Laboratory Expectations:

Students will find it necessary to spend additional time in the Macintosh lab in order to successfully complete assignments.

C. Field Work:

None

D. Other Evaluation Methods: 60% of grade

Project Portfolio .................................................. 50%
Attendance/Participation ........................................ 10%
(Refer to V Policies, CGT Program)

E. Grading Scale:

The final grade will be calculated from the factors as mentioned above and will be evaluated on
a standard scale.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>92–100</td>
</tr>
<tr>
<td>B+</td>
<td>89–91</td>
</tr>
<tr>
<td>B</td>
<td>82–88</td>
</tr>
<tr>
<td>C+</td>
<td>79–81</td>
</tr>
<tr>
<td>C</td>
<td>72–78</td>
</tr>
<tr>
<td>D</td>
<td>65–71</td>
</tr>
<tr>
<td>F</td>
<td>Below 65</td>
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V. Policies:

A. Attendance Policy:

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic Affairs, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of Academic Affairs.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:

- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one’s own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

C. Accommodations for disabilities:

Students who need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at [http://www.pstcc.edu/sswd/](http://www.pstcc.edu/sswd/).

D. Other Policies:

**CGT Program:**

1. **Roll** - Roll will be taken at the beginning of the class period. Three tardies will count as one
absence. In the event that you are late, be sure to have the instructor mark you present. Leaving class early without prior approval from the instructor is not acceptable.

2. **Make-up Work** - In the event of an absence, students must use their own initiative to secure lecture notes, assignments, and other information that might have been covered during the class period.

3. **Cell Phones** - Please make sure all cell phone ringers are turned off during class periods. Taking or making calls during scheduled class time is not appropriate unless the instructor has prior knowledge of a critical or sensitive situation that may warrant an immediate response.

4. **Internet** - Checking e-mail or surfing the web during class is not an appropriate use of scheduled instructional time unless it relates to a specific assignment for this class.

5. **Music/MP3 players** - Listening to music or any recorded material not specifically related to subject matter being taught in this class is not appropriate during scheduled class time.

6. **Lab Usage** - Please remember that the Pellissippi State’s policy states NO FOOD OR DRINK in classrooms. That policy is especially important in computer labs. Our Mac labs are the best in the region—keep them clean!