HEARTLAND COMMUNITY COLLEGE
DMED 260- Computer Animation
Spring 2014

CREDIT HOURS: 3.0

CATALOG DESCRIPTION
Prerequisite: DMED 101 and DMED 120 or permission of instructor.

Course will cover basic aspects of animation using animation software; including modeling objects and bring them into a virtual environment for adding lighting, surfaces and motion for a completed scene. Issues of design, audience, interface and environment will be reviewed.

INSTRUCTOR INFORMATION
Phil Vandiver
Email: phil.vandiver@heartland.edu
Website: http://technology.heartland.edu/Faculty/philv/
Office: WDC 2207
Office Phone: 268-8854
Office Hours: See my website for current office hours.

TEXTBOOK
Required: TBA

STUDENT LEARNING
Students are expected to regularly attend class, do the assignments, read the texts, participate in group discussions and keep up with the class. Since this is a short, intensive course, you will need to be fairly disciplined to complete the assignments. You will not succeed if you put anything off until the last minute.
You will do much better if you do the assignments throughout the course, bring them to class, get feedback from the instructor and keep progressing at a steady pace. You, as well as all students, will benefit if you are prepared before each class.

INSTRUCTOR'S ROLE
The instructor will try to guide you through the course by providing regular lectures, giving feedback and assisting you during the project time.

ACADEMIC SUPPORT CENTER SERVICES:
Library
The Library, located in the Student Commons Buildings at the Raab Road campus, provides Heartland students with a full range of resources including books, online journal databases, videos, newspapers, periodicals, reserves, and interlibrary loan. Librarians are available to assist in locating information. For more information, please call the Library (310) 268-8200 or (310) 268-8292

Tutoring Services
Heartland Community College offers tutoring in various forms at no cost to Heartland students at the Tutoring and Testing Center in Normal and at the Pontiac and Lincoln Centers. Tutors are available at convenient times throughout the week. Study groups are also available by request. For more information about services available at each location, please call the Tutoring and Testing Center in Normal (310) at 268-8231, the Pontiac Center at (815) 842-6777, or the Lincoln Center at (217) 735-1731.
Testing Services
The Tutoring and Testing Center provides a secure testing environment for students who are enrolled in online, hybrid, and other distance learning courses; have a documented disability; or need to take a make-up exam. Testing accommodations for students having documented disabilities must be arranged by the student through the Office of Disability Services, and Testing Services will only administer make-up exams at the request of the instructor. Contact Testing Services at (310) 268-8231 for more information.

Open Computing Lab
The Open Computing Lab provides free computing for HCC students at convenient times throughout the week. The computer lab is staffed by trained Lab Assistants and offers the use of approximately 70 computers, a scanner, a laser printer, and an electric typewriter.

COURSE OBJECTIVES
After completing this course, the student should:
1. Understand animation concepts.
2. Troubleshoot animation and graphic problems.
3. Develop animations to be distributed across a number of media formats.
4. Be comfortable choosing and using various professional level development tools.
5. Collaborate on design issues.
6. Demonstrate knowledge of using color and design successfully.
8. Use animation vocabulary skillfully.
9. Effectively create an animation of product demonstration or character animation.
10. Understand legal and ethical issues involved with creating animation.
11. Know copyright guidelines for animation.

COURSE/LAB OUTLINE
1. Introduction to computer animation.
2. Basic principles of animation: keyframes, objects, surfaces, modeling, etc.
3. Polygons and points.
4. Applying surfaces to objects.
5. Modeling objects.
6. Creating layouts.
7. Making objects move.
8. Lighting a scene effectively.
10. Bump maps, image maps and elements for reality
11. Lighting and atmosphere.
12. Saving an appropriate animation file format.
14. Legal issues
15. Ethical issues.

METHOD OF EVALUATION (Tests/Exams, Grading System)
Course grades will be based on a compilation of several projects, quizzes, short assignments and in-class discussion.

GRADES
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<tr>
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<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Labs/Participation</td>
<td>30%</td>
<td>A</td>
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<tr>
<td>Project #1</td>
<td>10%</td>
<td>B</td>
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<td>Project #2</td>
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<td>Final Project</td>
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<td>Test #1</td>
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<td>Test #2</td>
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A FEW NOTES:

Maya is a complex piece of software with fairly demanding system requirements. You can download it from the Autodesk website and have a fully functioning version with a limited license. You may have varying levels of success if you try to install it on your own computer. For this reason, I would emphasize that you should plan on doing most of your work in this lab. I cannot anticipate what kinds of problems you may encounter if you try to complete the work elsewhere.

We use Macintosh computers in this class because Macintosh computers are used in a majority of production environments in the real world. If you’re serious about a career in this field, you need to know the Mac OS, just as surely as you need to know how to handle image files, sound files video files or any other media form.

Don’t count on being able to do much work from home on a Windows machine. In some cases this may be possible, however unless you are experienced with the nuances of both operating systems, plan on doing your work in the lab.

Come to class. If you miss class, it is up to you to make up the work on your own time. In some cases, the in-class labs will be impossible to make-up. It is your responsibility to contact me before class and let me know you are unable to attend. Make-up work is only possible if you contact me before your absence, so we can plan accordingly.

From time to time the course schedule may be altered. If you miss class, it is your responsibility to find out if the schedule has changed.

Tests are given the day they are scheduled. There are no make-up exams in this class.
COURSE SCHEDULE

Week One-
1/14/14 Tuesday- Review of Syllabus. Basics of 3-D Animation.
1/16/14 Thursday- Polygonal Modeling- Introduction

Week Two-
1/21/14 Tuesday- Polygonal Modeling- Boolean Tools – Point by Point Creation

Week Three-
1/28/14 Tuesday- Polygonal Modeling- Creating a Smooth Proxy
1/30/14 Thursday- NURBS Modeling

Week Four-
2/4/14 Tuesday- Modeling
2/6/14 Thursday- Project #1 Work Day

Week Five-
2/11/14 Tuesday- Project #1 Work Day
2/13/14 Thursday- Test #1

Week Six-
2/18/14 Tuesday- Materials and Textures- Basic Material Types and Rendering
2/20/14 Thursday- Materials and Textures- Image Mapping (Projection)

Week Seven-
2/25/14 Tuesday- Materials and Textures- Editing UV’s and Texture Mapping
2/27/14 Thursday- Lighting and Shadows

Week Eight-
3/4/14 Tuesday- Project #2 Work Day
3/6/14 Thursday- Project #2 Work Day

Week Nine-
3/11/14 Tuesday- Spring Break- No Class
3/13/14 Thursday- Spring Break- No Class

Week Ten-
3/18/14 Tuesday- Project #2 Work Day
3/20/14 Thursday- Character Rigging

Joints and Skins

Project#2- Due
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<tr>
<th>Week</th>
<th>Date</th>
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<th>Topic</th>
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<tbody>
<tr>
<td>Eleven</td>
<td>3/25/14</td>
<td>Tuesday</td>
<td>Character Rigging</td>
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<td>IK Handles and Blend Shapes</td>
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<td>Character Rigging</td>
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<td>Non-Linear Deformers and Finalizing</td>
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<td>Twelve</td>
<td>4/1/14</td>
<td>Tuesday</td>
<td>Animation Basics- Keyframing and the Graph Editor</td>
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<td>4/3/14</td>
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<td>Animation Basics- Driven Keys</td>
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<td>Thirteen</td>
<td>4/8/14</td>
<td>Tuesday</td>
<td>Animation Basics- Cycles and Path Animation</td>
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<td>4/10/14</td>
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<td>Cameras and Rendering</td>
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<td>5/8/14</td>
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