



Middlesex Community College New Media Studies Center Initiative

Course: DGA*256 3D Animation Foundations
*The following New Media course was developed as part of
the New Media Studies Center Initiative TAACCCT Grant*

July 27, 2015

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DGA-F256- 1938 –Spring 2015-3D Animation Foundations

Spring
2015

Middlesex Community College

3D Animation Foundations - DGA-F110-1938
Monday/Wednesday 11:00 PM– 12:20 PM
Location: MxCC Chapman Hall Rm.610

Instructor: Kelly Carrington

Email -

kcarrington@MxCC.comnet.edu

Office Hours: Tuesday: 12:00-3:00PM
Snow Hall, Room 414 Thursday: 4:30-6:30PM

Office Phone: 860-343-5827

Tutoring Hours: Monday: 12:30-1:30PM
Lab Location: TBD Wednesday: 12:30-1:30PM

Course Description & Objectives

An introduction to the creative and technical processes involved in the production of 3-dimensional modeling and animation. Through theories, instructions, visual examples, and hands-on production students will learn the fundamental principles of modeling and animating virtual objects and environments using industry-leading software and hardware. Students' experience will include the production of various modeled and animated project to further enhance their production portfolios. Prerequisite: DGA*110 Computer Graphics or DGA*101 Introduction to Digital Arts or permission of the instructor.

- An introduction to basic 3D terminology and the functionality of the 3D application interface.
 - The utilization and manipulation of 3D graphics and primitives.
 - The creation, usage and manipulation of 3D models.
 - The creation, application and modification of surface materials.
 - The application and modification of multiple lighting effects in the 3D environment.
 - An introduction to camera properties and effects on rendered output.
 - The application and modification of basic image rendering mechanics.
 - The application of core 3D animation principles and manipulation of associated properties.
- Demonstration and application of the 3D animation production process through fully developed animated projects.

Course Significance to the Digital Arts/ Multimedia Program

The purpose of DGA 256 3D Animation Foundations is to provide the student with basic production skills and experience to understand how to design and produce 3-dimensional models and animation. The skills taught in this course are fundamental and applicable to all Digital Arts courses offered in the Multimedia Program.

Multimedia Program Objectives Contained in DGA256 3D Animation

The creative and technical processes behind the production of animated image sequences, this includes 3-dimensional modeling techniques; basic animation techniques; compositing; basic editing aesthetics; and portfolio production.

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Course Requirements

USB-Flash Drive

Grading Philosophy

The purpose of this course is to provide the student with a solid foundation of computer graphic design skills. The course structure includes a combination of lectures, demonstrations, critiques, hands-on classwork, homework, reading assignments, quizzes, and a final project. Class time will be allocated for assignments; however outside-of-class time is absolutely necessary for practice and to complete projects. Attendance is a crucial aspect of the student’s final grade due to the amount of material that will be covered each class in addition to the in-class exercises. Each student will have varying levels of computing experience, with this in mind, the assigned in-class projects will be suitable for beginners, as well as, allow those with more experience the room to explore beyond the avenues that they may already be familiar. Projects will be graded first, on the completion of the required task and then on the amount of creative effort that the finished pieces convey.

Grade Breakdown

| | | | |
|----------|-----------|---|--------------|
| Progress | Checks | - | Exams |
| 20% | Creative | | Projects |
| 60% | Portfolio | | Presentation |
| 20% | | | |

Assignments (creative projects) will be graded throughout the semester. These grades, along with the attendance, and progress checks (mid-term/final) grades will be averaged, combined and will result in a final grade for the course.

The grading scheme will be:

A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F

Attendance

Attendance is mandatory as set forth in the college catalog. Because this course is based on experiential learning, attendance is extremely important. Please email me if you miss a class or know of a possible absence in advance.

ADA Accommodations Statement

Students with physical or learning disabilities who may require accommodations are encouraged to contact the Counseling Office. After disclosing the nature of the disability, students are urged to discuss their needs with individual instructors. This should be done at the beginning of each semester. Instructors, in conjunction with appropriate college officials, will provide assistance and/or accommodations only to those students who have completed this process.

Note: Off campus, sites are ultimately subject to the cancellation policy of the school in which MxCC holds

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classes. Of extreme weather only in the Meriden area and the Middletown campus determines to hold classes, the decision to cancel classes at the Meriden Center will be determined by the MxCC Meriden Center Director and the Dean of Finance & Administration.

Academic Accommodations Statement

At Middlesex Community-Technical College, we expect the highest standards of academic honesty. Academic dishonesty is prohibited in accordance with the Board of Trustees' Proscribed Conduct Policy in Section 5.2.1 of the Board of Trustees' Policy Manual. This policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism, and other proscribed activities. Plagiarism is defined as the use of another's idea(s) or phrase(s) and representing that/those idea(s) as your own, either intentionally or unintentionally. (Board of Trustees' Policy 5.2.1)

Religious Accommodations Statement

If your religious obligations conflict with the course calendar requirements, and if you wish to request an accommodation, you must make your request in writing prior to the date of the assessment or activity you will miss and preferably at the beginning of the semester. When requesting a make-up quiz, test, exam, assignment, or activity, state the reason for your request and the date(s) on which your religious obligation(s) will conflict with the course calendar requirements. Also, if your religious obligation/holiday is unfamiliar to your instructor, you may be asked to provide a calendar which shows the published date(s) of your religious observance(s) or holiday(s).

Inclement Weather Statement

In the event of inclement weather either before the start of a day when classes are in session or during the school day, you may check for information on delayed openings, college closings, class cancellations, etc. by listening to the radio and television stations listed below. Additionally, a message will be posted on the MxCC website at www.mxcc.commnet.edu and an announcement made on the college's main phone number, (860) 343-5800. (When calling the main phone number, be sure to choose option 1 from the menu for school closings) If classes are already in session, everyone on campus will be notified of any changes. Decisions to cancel classes or close the college early will be made as soon as practicable.

Learning Outcomes and Course Calendar

Students participating in Computer Graphics will learn the following:

1. (week 1 & 2) **3D Development Process**
 - Identify core 3D terminology and basic 3D production processes.
 - Identify and distinguish common 3D application interface elements.
 - Describe specific components of the 3D model and animation construction process including modeling, surfacing materials, basic camera, lighting and rendering concepts.

2. (week 3 & 4) **3D Modeling Process**
 - Manipulate 3D graphics and primitives.
 - Create, utilize and manipulate custom shapes.
 - Edit 3D objects utilizing common 3D shaping techniques including extrusion, Boolean, beveling, lathe/revolving, lofting and skinning.

3. (week 5 & 6) **Surfacing & Materials**
 - Create, apply and edit model surface color.
 - Create, apply and edit model textures.
 - Create, apply and edit procedural surfaces.
 - Create, apply and edit UV Maps.

4. (week 7 & 8) **Lighting & Camera**
 - Create and edit basic lighting effects including 3-point lighting techniques.
 - Utilize and manipulate 3D lighting sources including global, directional, spot and point to create shadow and shading effects.
 - Modify and manipulate camera views to create various staging and visual effects.

5. (week 9 & 10) **Rendering**
 - Identify the mechanics of the 3D image rendering process.
 - Utilize various rendering settings including ray-tracing.
 - Identify and utilize common file types, resolutions and output conventions.

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6. (week 11 & 12) 3D Animation Mechanics

- Create, utilize and edit frame rates, keyframing concepts, motion paths, and animation cycles.
- Demonstrate and understanding and utilization of basic timeline editing concepts.
- Demonstrate a basic understanding of pivot/origin points and basic kinematic constraint techniques.

7. (week 13 & 14) Animation Production Process

- Demonstrate an understanding of the preproduction and storyboarding process.
- Demonstrate an understanding of the scene blocking process.
- Demonstrate an understanding of the modeling, mapping, texturing breakdown of an animated production.
- Demonstrate an understanding of the lighting, animating and rendering requirements of an animated production.
- Demonstrate and understanding of basic compositing and production finishing techniques.

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Please see next page for Important College Policies -

IMPORTANT COLLEGE POLICIES!! PLEASE READ CAREFULLY!

For information about the college's policies and procedures regarding academic accessibility/disability services, attendance, audio-recording in the classroom, appeals, plagiarism, religious accommodations, weather and emergency closings, please go to the following website: www.mxcc.edu/catalog/syllabus-policies/ or QR code with your smart phone. Also, please become familiar with the policies nondiscrimination, sexual misconduct, and general student conduct at the following website: www.mxcc.edu/nondiscrimination/.



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NON-DISCRIMINATION STATEMENT

Middlesex Community College does not discriminate on the basis of race, color, religious creed, age, sex, national origin, marital status, ancestry, present or past history of mental disorder, learning disability or physical disability, sexual orientation, gender identity and expression or genetic information in its programs and activities. In addition, the College does not discriminate in employment on the additional basis of veteran status or criminal record.

The following people have been designated to handle inquiries or complaints regarding non-discrimination policies and practices:

- Primary Title IX Coordinator
Dr. Adrienne Maslin
Dean of Students/Title IX and Section 504/ADA Coordinator
amaslin@mxcc.edu; 860-343-5759; Founders Hall Room 123|
- Secondary Title IX Coordinator
Ms. Mary Lou Phillips
Director of Human Resources, Middlesex Community College
mphilips@mxcc.edu; 860-343-5751; Founders Hall Room 115
- Secondary Title IX Coordinator
Ms. Queen Fordham
Coordinator of the Meriden Center Welcome Desk
qfordham@mxcc.edu; 203-608-3011