



## Undergraduate Course Syllabus

### IT 430: 3D Modeling and Animation

Center: Online

#### Course Prerequisites

None

#### Course Description

In this course students are introduced to a multitude of techniques in 3D graphics and animation as they master the many tools of 3D Studio Max. This hands-on computer course includes modifying primitives (simple, predefined geometry) and modeling new geometry with splines and mesh editing. Topics include creating and applying textures with ray tracing (reflections) and bump maps to 3D geometry. In addition, students learn how to animate geometry and textures. Virtual lights and cameras will be created by students to increase the realism and style of the created models. Students will learn how to add 3D animations and images to web pages, videos and printed documents. Students will also learn how to create virtual objects and figures for use in 3D games.

#### Course Outcomes

- Differentiate among various functionalities of 3ds Max for use in the creation of realistic 3D objects
- Evaluate the characteristics of a realistic, effective rendering of a 3D object for use in various applications
- Apply ray tracing and bump map techniques for creating textures that improve the realism and style of 3D models
- Apply virtual lighting techniques for improving the realism and style of 3D models
- Apply spline and mesh editing techniques for developing new and modifying existing 3D objects
- Apply strategies for animating images for use in webpages, videos, and printed documents

#### Required Materials

Using your learning resources is critical to your success in this course. Please purchase directly through SNHU's online bookstore, [MBS Direct](#), rather than any other vendor. Purchasing directly from the bookstore ensures that you will obtain the correct materials and that the Help Desk, your advisor, and the instructor can provide you with support if you have problems.

*Tradigital 3Ds Max: A CG Animator's Guide to Applying the Classic Principles of Animation*

Lapidus, Richard

Focal Press, Inc.

1<sup>st</sup> Edition

2012

ISBN: 978-0-240-81730-9

**Software**

3ds Max (free for students, registration required)

Autodesk

<http://usa.autodesk.com/adsk/servlet/pc/index?siteID=123112&id=17355216>

**Instructor Availability and Response Time**

Your class interaction with the instructor and your classmates will take place in Blackboard on a regular, ongoing basis. Your instructor will be actively engaged within the course throughout the week. You will normally communicate with your instructor in the weekly discussions or the General Questions forum in Blackboard so that your questions and the instructor's answers benefit the entire class. You should feel free, however, to communicate with your instructor via SNHU email at any time, particularly when you want to discuss something of a personal or sensitive nature. Your instructor will generally provide a response within 24 hours.

**Grade Distribution**

Assignment Category	Number of Graded Items	Point Value per Item	Total Points
Discussions	11	20	220
Script Idea	1	40	40
3D Assignments	4	40	160
Final Project	Summative	380	380
Course Blog	Summative	200	200
		<b>Total Course Points:</b>	1,000

This course may also contain practice activities. The purpose of these non-graded activities is to assist you in mastering the learning outcomes in the graded activity items listed above.

## University Grading System: Undergraduate

<b>Grade</b>	<b>Numerical Equivalent</b>	<i>Total Points. 1,000</i>		
		<b>Points</b>	<b>Points Equivalent</b>	
			<i>Lower</i>	<i>Upper</i>
A	93-100	4	930	1000
A-	90-92	3.67	900	929
B+	87-89	3.33	870	899
B	83-86	3	830	869
B-	80-82	2.67	800	829
C+	77-79	2.33	770	799
C	73-76	2	730	769
C-	70-72	1.67	700	729
D+	67-69	1.33	670	699
D	60-66	1	600	669
F	0-59	0	0	599
I	Incomplete			
IF	Incomplete/Failure*			
IP	In Progress (past end of term)			
W	Withdrawn			

\*Please refer to the [policy page](#) for information on the incomplete grade process.

### Grading Guides

Specific activity directions, grading guides, posting requirements, and additional deadlines can be found in the Course Information area in the Assignment Guidelines and Rubrics folder.

### Weekly Assignment Schedule

The Learning Modules area in Blackboard contains one module folder for each week of the course. All reading and assignment information can be found in the folders. Assignments and discussion board posts during the first week of each term are due by 11:59 p.m. Eastern Time. Assignments and discussion posts for the remainder of the term are due by 11:59 p.m. of the student's local time zone.

In addition to the textbook readings that are listed, there may be additional required resources within each module in Blackboard.

<b>Module</b>	<b>Topics and Assignments</b>
1	Introduction to 3D Modeling 1-1 Discussion: Concepts and Terminology 1-2 Assignment: Install 3ds Max 1-3 Script Idea 1-4 Final Project: Review

2	<p>Basic Animation Concepts</p> <p>Reading: <i>Tradigital 3Ds Max</i>, Chapter 1</p> <p>2-1 Discussion: Script Discussion</p> <p>2-2 Discussion: Storyboards</p> <p>2-3 Blog: Script Changes</p> <p>2-4 Final Project Milestone No. 1: Storyboard Proposal</p> <p>2-5 3D Assignment: Still Life</p>
3	<p>3ds Max Interface</p> <p>Reading: <i>Tradigital 3Ds Max</i>, Chapter 2</p> <p>3-1 Discussion: 3ds Max Interface</p> <p>3-2 Discussion: Final Project: Preproduction Process</p> <p>3-3 Blog: 3ds Max Interface</p> <p>3-4 Activity: Explore 3ds Max</p> <p>3-5 Final Project Milestone No. 2: Preproduction Process</p>
4	<p>Creating Objects</p> <p>Reading: <i>Tradigital 3Ds Max</i>, Chapter 4</p> <p>4-1 Discussion: Object Ideas</p> <p>4-2 Blog: Creating Objects</p> <p>4-3 Final Project: Continue Work</p> <p>4-4 3D Assignment: Boat or House</p>
5	<p>Modifying Objects</p> <p>Reading: <i>Tradigital 3Ds Max</i>, Chapters 3 and 10</p> <p>5-1 Discussion: Challenges With Organic Models</p> <p>5-2 Blog: Creating a Character</p> <p>5-3 Final Project: Continue Work</p> <p>5-4 3D Assignment: Toy Train</p>
6	<p>Working With Materials and Maps</p> <p>Reading: <i>Tradigital 3Ds Max</i>, Chapters 4 and 7</p> <p>6-1 Discussion: Materials and Maps</p> <p>6-2 Blog: Materials and Maps</p> <p>6-3 Final Project: Continue Work</p> <p>6-4 3D Assignment: Room Animation</p>
7	<p>Working With Cameras</p> <p>Reading: <i>Tradigital 3Ds Max</i>, Chapter 11</p> <p>7-1 Discussion: Clipping Planes</p> <p>7-2 Blog: Cameras</p> <p>7-3 Final Project Milestone No. 3: Animation</p>
8	<p>Wrapping Up</p> <p>8-1 Discussion: Wrapping Up</p> <p>8-2 Discussion: Review Course Outcomes</p>

**Attendance Policy**

Online students are required to submit a graded assignment/discussion to Blackboard during the first week of class. If a student does not submit a posting to the graded assignment/discussion during the first week of class, the student is automatically withdrawn from the course for non-participation. Review the [full attendance policy](#).

**Late Assignments Policy**

Meeting assigned due dates is critical for demonstrating progress and ensuring appropriate time for instructor feedback on assignments. Students are expected to submit their assignments on or before the due date. Review the [full late assignment policy](#).

**SNHU College of Online and Continuing Education Student Handbook**

Review the [student handbook](#).

**ADA/504 Compliance Statement**

Southern New Hampshire University is dedicated to providing equal access to individuals with disabilities, including intellectual disabilities, in accordance with Section 504 of the Rehabilitation Act of 1973, Title III of the Americans with Disabilities Act (ADA) of 1990, and the ADA Amendments Act of 2008. The university prohibits unlawful discrimination on the basis of disability and takes action to prevent such discrimination by providing reasonable accommodations to eligible individuals with disabilities.

As soon as you become aware of a disability, we encourage you to contact the Online Accessibility Center (OAC) to discuss accommodations for which you may be qualified. Reasonable accommodations are established through an interactive process between the student and the OAC. Note that accommodations are not retroactive and that disability accommodations are not provided until an accommodation letter has been processed.

**Contact Information:**

Online Accessibility Center

Phone: 866-305-9430

Email: [oac@snhu.edu](mailto:oac@snhu.edu)

For questions concerning support services, documentation guidelines, or general disability issues, visit the [Online Accessibility Center](#) website.

If you feel you have been denied appropriate disability-related accommodations, including appropriate auxiliary aids and services, you may file a grievance as described in the ADA/504 Grievance Policy found on the [Disability Services](#) webpage.

**Academic Honesty Policy**

Southern New Hampshire University requires all students to adhere to high standards of integrity in their academic work. Activities such as plagiarism and cheating are not condoned by the university. Review the [full academic honesty policy](#).

**Copyright Policy**

Southern New Hampshire University abides by the provisions of United States Copyright Act (Title 17 of the United States Code). Any person who infringes the copyright law is liable. Review the [full copyright policy](#).

**SNHU College of Online and Continuing Education Withdrawal Policy**

Review the [full withdrawal policy](#).

**Southern New Hampshire University Policies**

More information about SNHU policies can be found on the [policy page](#).

**Assessment Calibration and Student Work Samples**

For the purpose of continuous improvement of our educational training, Southern New Hampshire University's College of Online and Continuing Education may, on occasion, utilize anonymous student work samples for internal professional development and staff training. If you have any questions or concerns, contact your advisor. If you would like to withdraw permission for use of your work, please contact the assessment calibration administrator at [assessmentcalibration@snhu.edu](mailto:assessmentcalibration@snhu.edu). See [this document](#) for more information.