

Syllabus for
MMC 322—Advanced 3D and Animation
3 Credit Hours
Spring 2009

I. COURSE DESCRIPTION

Provides an advanced overview of principles related to animation and 3-D computer graphics. Improves student ability to model, texture, and animate objects as they learn advanced techniques related to topics such as layout customization, lighting, hypervoxels, surfacing, skelgons and other issues.

Prerequisite: Introduction to 3D Animation.
Course fee: \$0.

The software product Lightwave 3D will be the main tool for achieving the desired effects. The student will also use After Effects and Photoshop to create composite images. Guest speakers will offer insights regarding varying topics.

II. COURSE GOALS

This course is designed to help the students gain a fundamental understanding of the following:

- A. Aspects of media production including:
 - 1. computer-generated imagery
 - 2. special effects
 - 3. animation
- B. Techniques using industry-standard tools:
 - 1. Lightwave 3D
 - 2. After Effects
 - 3. Photoshop
- C. How to impact the viewer using:
 - 1. color
 - 2. light
 - 3. texture
 - 4. shape
 - 5. motion

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

Upon successful completion of this course, the student will be able to do the following:

- A. Understand key terms and concepts related to computer graphics and special effects.
- B. Create a computer-generated scene from start to finish.
- C. Model real-world objects.

Last revision: Spring 2009

- D. Texture objects from photos and digital artwork.

- E. Animate in accordance with physical laws.
- F. Light cinematically.
- G. Match lighting and color for compositions.
- H. Use time-saving techniques.

IV. TEXTBOOKS

- A. Required Textbook
None.
- B. Optional Textbooks and/or Reading Material
None.
- C. Other Materials
DVDs available in the MPS lab.

V. POLICIES AND PROCEDURES

- A. University policies and Procedures
 - 1. Attendance at each class or laboratory is mandatory at Oral Roberts University. Excessive absences can reduce a student's grade or deny credit for the course.
 - 2. Students taking a late exam because of an unauthorized absence are charged a late exam fee.
 - 3. Students and faculty at Oral Roberts University must adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, video, multimedia, or computer software. By submitting an assignment in any form, the student gives permission for the assignment to be checked for plagiarism, either by submitting the work for electronic verification or by other means.
 - 4. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.
 - 5. Students are to be in compliance with University, school, and departmental policies regarding ePortfolio requirements. Students should consult the ePortfolio handbooks for requirements regarding general education and the students' majors.
 - a. The penalty for not submitting electronically or for incorrectly submitting an ePortfolio artifact is a zero for that assignment.
 - b. By submitting an assignment, the student gives permission for the assignment to be assessed electronically.
- B. Department Policies and Procedures
 - 1. **Attendance**—At Oral Roberts University, students are expected to attend all classes. Understanding that there are sometimes unavoidable circumstances that prevent perfect attendance, each student is allowed to miss class the number of times per week a class meets. This allowance is for illness, personal business, and personal emergency. Students may consider these personal days or sick leave. If a student has absences in excess of this number, the earned grade for the course will be reduced one letter grade for each hour's absence above those

allowed. A student missing class due to illness must take an unexcused absence. Extended illnesses are handled on an individual basis and require a doctor's excuse.

2. **Administratively Excused Absences**—Students who must miss class for University sponsored activities must follow these procedures:
 - a. inform the professor before the event.
 - b. arrange to complete missed work within one week.
 - c. not commit to class performances (oral reports, speeches, television tapings, group presentations, etc.) on a date the student will be gone. Makeup work is not permitted if the student voluntarily commits to a performance on the date of an administratively excused absence.
 - d. present an excuse, signed by the Dean of Arts and Sciences, the day the student returns.
3. **Tardies**—Tardies are an inconvenience to the other class members and the professor, and they prevent the late student from obtaining maximum value from the class. Therefore, tardies are calculated in the attendance provision for this course. Three tardies equal one absence and are included in the absences when determining the course grade. It is to the student's advantage to make sure that the professor is informed immediately following the close of the class that the student was tardy and not absent. It is not the professor's responsibility to stop the class to mark the student late; the student is the one responsible to convey that information following that class. Students should not expect to be credible the following class session concerning a late arrival on a previous day.
4. **Late Work**—The student is responsible for obtaining class assignments and material covered during an absence. All work must be completed as scheduled. An absence is not an excuse for turning in late work or for being unprepared with assignments for the class following the absence. If late work is accepted, a substantial penalty will be assessed.
5. **Literacy**—The Communication Arts Department does not accept for credit any written assignment that contains more than an average of three grammatical and/or typographical errors per page.
6. **ePortfolio**—Refer to the Communication Arts ePortfolio handbook for ePortfolio policies at (<http://oru.edu>), click on **Academics**, then **ePortfolio**, then **Department Resources**, then **Communication Arts Handbook HTML**.

C. Course Policies and Procedures

1. Evaluation Procedures

Grading procedure	
Exams	20%
Lab Assignments	30%
Final projects	40%
Outside assignments, lectures, and demonstrations	10%
2. ePortfolio Requirements: students are responsible for including these portfolio items.
3. Artifacts not submitted electronically or incorrectly submitted receive a zero for that assignment.

VI. COURSE CALENDAR

Weeks 1 & 2

Unit 1

1. Review basic techniques.
2. Expand modeling techniques.

Weeks 3 & 4

Unit 2

1. Expand modeling techniques.
2. Expand texturing techniques.
3. Explore texturing with Photoshop images.
4. Explore texturing with photos.

Weeks 5 & 6

Unit 3

1. Review lights.
2. Work on classical lighting scenarios.

Weeks 7 & 8

Unit 4

1. Explore animation tools.
2. Create physically accurate animations.

Weeks 9 & 10

Unit 5

1. Composite within Lightwave.
2. Composite within After Effects and Photoshop.

Weeks 11 & 12

Unit 6

Study and evaluate student projects and react to problems.

Weeks 13 & 14

Unit 7

Complete projects and burn to a master CD ROM or DVD.

Weeks 15 & 16

Unit 8

Review for final written exam, turn in projects and showcase best products.

Course Inventory for ORU's Student Learning Outcomes

**MMC 322—Advanced 3D and Animation
Spring 2009**

This course contributes to the ORU student learning outcomes as indicated below:

Significant Contribution – Addresses the outcome directly and includes targeted assessment.

Moderate Contribution – Addresses the outcome directly or indirectly and includes some assessment.

Minimal Contribution – Addresses the outcome indirectly and includes little or no assessment.

No Contribution – Does not address the outcome.

The Student Learning Glossary at <http://ir.oru.edu/doc/glossary.pdf> defines each outcome and each of the proficiencies/capacities.

OUTCOMES & Proficiencies/Capacities		Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
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1	Outcome #1 – Spiritually Alive Proficiencies/Capacities				
1A	Biblical knowledge				X
1B	Sensitivity to the Holy Spirit			X	
1C	Evangelistic capability			X	
1D	Ethical behavior		X		

2	Outcome #2 – Intellectually Alert Proficiencies/Capacities				
2A	Critical thinking	X			
2B	Information literacy		X		
2C	Global & historical perspectives		X		
2D	Aesthetic appreciation	X			
2E	Intellectual creativity	X			

3	Outcome #3 – Physically Disciplined Proficiencies/Capacities				
3A	Healthy lifestyle			X	
3B	Physically disciplined lifestyle				X

4	Outcome #4 – Socially Adept Proficiencies/Capacities				
4A	Communication skills	X			
4B	Interpersonal skills		X		
4C	Appreciation of cultural & linguistic differences		X		
4D	Responsible citizenship			X	
4E	Leadership capacity			X	