

ATEC 4349.501 Advanced 3D Lighting and Composition
Peter McCord
Term: Spring 2013
Meeting Time: W 7:00pm-9:45pm

Contact Info Email: pam062000@utdallas.edu
Office Hours: By appointment

Course Description:

An in-depth examination of Advanced Lighting and Compositing techniques for use in computer generated art. Areas of study include digital compositing, global illumination, Mental Ray, Renderman for Maya and more. All models will be supplied for the course.

Course Requirements:

Students must have completed the ATEC 3317 and 3327 courses.

Course Structure:

This class will consist of lectures, demonstrations, constructive critiques and class discussions.

Textbooks: None

Digital tutors will be provided

Course Materials:

Pen/Pencil
Notebook/Sketchbook
Archive materials (cd, dvd, flash drive, etc..)

Grading Policy:

Students must demonstrate satisfactory achievement of course objectives through fulfillment of course assignments and by contributing to class discussions and critiques. Course assignments will require students to use software and equipment available at the ATEC computer labs. Course evaluation will be based upon the following.

Points Required for Grade (End Grade will include plus/minus):

- A 108 - 120
- B 96 - 107
- C 84 - 95
- D 72 - 83
- F Below 72 is failing

Assignment Point Values:

- Assignment 1, 2, 3, 4 : 10 points each
- Assignment 5: 20 points
- Assignment 6: 20 points
- Final Project: 40 points
- Total: 120 points

Course Schedule

Week 1 (Jan. 16): Intro, Syllabus, Render Engines, Linear Workflow, Scene Size, and Color Palletes

- Assignment 1: Light interior scene using techniques discussed in class. 10pts
- Digital Tutors tutorial: [Linear Workflow Rendering Strategies in Maya](#)

Week 2 (Jan. 23): Advanced Mental Ray: GI, FG, IP, HDRI, IBL, Physical Sun and Sky, and Procedural Shading

- Assignment 2: Build on interior scene using advanced mental ray techniques and procedural shading techniques learned in class and online. 10pts
- Digital Tutors tutorial: [Rendering Interiors with Mental Ray and Maya Lessons 1-6](#)
- Digital Tutors tutorial: [Using HDRI for 3D](#)
- Digital Tutors tutorial: [Rendering Interiors with Mental Ray and Maya Lessons 7-19](#)
- Digital Tutors tutorial: [Mental Ray Materials, All Lessons](#)

Week 3 (Jan. 30): Intro to Nuke and EXRs: Breakdown of Cabin Fever Comp

- Assignment 3: Light an exterior day or night scene and composite the scene with Nuke. 10pts
- Digital Tutors tutorial: [Beginners Guide to Nuke](#)
- Digital Tutors tutorial: [Advanced Compositing Workflows in Maya and Nuke](#)
- Digital Tutors tutorial: [Guerilla Lighting and Rendering](#)
- Digital Tutors tutorial: [Character Lighting and Nuke](#)

Week 4 (Feb. 6): Renderman for Maya 3.0 and some 4.0

- Assignment 4: Light a simple day and night scene using Renderman for Maya and composite in Nuke. 10pts
- Digital Tutors tutorial: [Intro to Renderman for Maya](#)

Week 5 (Feb. 13): Renderman for Maya 3.0 and 4.0 Continued, Halloween Project Introduction

- Assignment 5: 3 week assignment, 20pts

Week 6 (Feb. 20): Halloween Project workday

- Assignment 5: 3 week assignment

Week 7 (Feb. 27): Halloween Project - Review Session

- Assignment 5: 3 week assignment

Week 8 (Mar. 6): Science Fiction Project

- Assignment 6: 3 week project, 20pts

Week 9 (Mar. 13): Spring Break

- Spring Break

Week 10 (Mar. 20): Science Fiction Project

- Assignment 6: 3 week project

Week 11 (Mar. 27): Science Fiction Project- Review Session

- Assignment 6: 3 week project

Week 12 (April 3): Final Assignment - Lego Project

- Final Assignment Given - Lego Project, 40 points

Week 13 (April 10): Final Work Day

- Final Assignment - work day

Week 14 (April 17): Final Work Day

- Final Assignment - work day

Week 15 (April 24): Final Work Day

- Final Assignment - work day

Week 16 (May 1): Final Project Presentations

- Final Assignment Presentations

Make-up Exams: Makeup exams are available only to students who have a legitimate excuse for missing an exam, such as illness, scheduled job interview out of town, athletic team event out of town, death in the immediate family, etc. If you know in advance that you must miss an exam, give a written notice to the instructor in advance, and bring documentation to support your anticipated absence. If you miss an exam unexpectedly because of last minute illness or accident, submit a note to the instructor when you return to campus (or as e-mail attachment if you will be away for some time) with documentation of your situation.

Second Chance: There *may* be opportunities for students to resubmit improved work for extra consideration. In order to be eligible the student must have turned in the completed assignment on its original due date and fulfilling all specified requirements. Revisions should be based upon class critique feedback.

Class Attendance: All students are required to be on time and in attendance for each and every class. Two (2) absences are allowed as personal or sick leave for this semester. Students will receive one letter grade reduction for three (3) absences. Students who accumulate four (4) absences or more should withdraw from the course due to four (4) absences resulting in a failing grade ("F ") for the course.

Punctuality: It is important to attend class on time. Persistent and reoccurring tardiness is disrespectful to the instructor and to your peers. Arriving to class more than 15 minutes late twice will be counted as one (1) absence. Every additional late arrival will result in one (1) absence. Students may leave early with instructor's permission; however, such occurrences should be very infrequent.

Late Assignments: Adherence to deadlines is expected. It is the individual student's responsibility to keep track of the goals and deadlines and to present the work to the class and instructor on the specified dates. Late assignments will have one letter grade deducted for each class period. Students will be expected to make a formal presentation of their progress on dates specified by the course timeline.

Class Participation and Classroom Citizenship:

- Cell phones and pagers must be powered off during formal class hours.
- Do not talk when others (the instructor, guests, and fellow students) are talking.
- Students will not use the computers for personal reasons (e.g, check personal email, surf web) during class time.
- Participate in critique sessions and class discussions. You can learn a great deal from critique on other students' work as well on yours.

While the instructor or a guest is lecturing or demonstrating, you should be listening to the lecture or observing the demonstration, instead of emailing or web surfing. Not paying attention to lectures or demonstrations will affect your grade directly or indirectly.

Student Conduct and Discipline:

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, A to Z Guide, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3, and in Title V, Rules on Student Services and Activities of the university's Handbook of Operating Procedures. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings. Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Copyright Violations:

It is a federal crime to reproduce copyrighted software. Anyone caught reproducing software from the UTD labs will be subject to disciplinary action. In addition, anyone caught reproducing outside software in the lab will automatically lose all lab privileges and will be subject to other disciplinary action as deemed necessary.

Email Use:

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class:

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures:

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's Handbook of Operating Procedures.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grades:

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

Disability Services:

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m. The contact information for the Office of Disability Services is:

The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Religious Holidays:

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

Off Campus Instruction and Course Activities:

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean.

These descriptions and timelines are subject to change at the discretion of the instructor.