General Information

Class Time: 9:30-10:20 a.m. MWF

Class Location: Felgar Hall 336

Prerequisites: CS 2413 Data Structures and (CS 2813 Discrete Structures or Math 2513 Discrete Mathematics) and Math 3333 Linear Algebra.

Instructor: Dr. D. A. Trytten

Office: Devon 234
Office Phone: 405-325-4299 (voice mail is available, but email is preferred)
URL for class: http://learn.ou.edu
Personal URL: http://www.cs.ou.edu/~trytten
Email: dtrytten@ou.edu
Office Hours: Monday 3-4 p.m.
           Wednesday 11 a.m. – 12 p.m.
           Thursday 4-5 p.m.

Additional appointments for office hours are scheduled through email.

Office hours are subject to change during the semester. Current office hours will always be available on the course web site, and on my door.

Teaching Assistant: Micaiah Chisholm

Office: Devon 115
Email: Michaiah@ou.edu
Office Hours: Tuesday 2-3 p.m., Friday 2-3 p.m.

Required Materials:

We will use OpenGL, GLU, and GLUT.

Useful Material: There are two useful reference books available. We will be using only the fixed pipeline in OpenGL during the semester, so older versions of books are useful. Reference materials for OpenGL are also commonly available over the internet.


**ABET Outcomes:** This course allows students to develop:

A: An ability to apply knowledge of computing and mathematics appropriate to the discipline.

C: An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

H: Recognition of the need for and an ability to engage in continuing professional development.

I: An ability to use current techniques, skills, and tools necessary for computing practice.

J: An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.

K: An ability to apply design and development principles in the construction of software systems of varying complexity.

**Topical Coverage**
Topical coverage includes: OpenGL, 2D viewing pipeline, 3D representations, affine transformations, polygonal mesh, particle systems, 3D viewing pipeline, rendering facets, aliasing and antialiasing, curves and surfaces, color, ray tracing.

**Course Policies**

**Class Attendance:** Class attendance is important because we will discuss concepts and examples that are not in the text book. You are responsible for everything that is announced in class, independent of whether you choose to attend or not.

**Class Web Page:** This class will use Desire2Learn software for our web page. The URL for the home page is [http://learn.ou.edu](http://learn.ou.edu). Login with your 4+4 (first four letters of your last name followed by the last four digits of your student number), using your standard OU password. If you have difficulty logging in, email web-courses@ou.edu. This software provides a number of useful features, including a list of assignments and announcements, an electronic mailing list, newsgroups, and grade book. I update this web site several times a week. You should check the site daily. When I update the site, I will post news telling you what has been added and where it is located. You are responsible for things posted on the site with a 24 hour delay.

**Class Email Alias:** Urgent announcements will be sent through email. It is your responsibility to:
• Have your university supplied email account properly forwarded to the location where you read email.
• Make sure that your email address in Desire2Learn is correct, and that your university email account is forwarded to the place where you read it. I’ll send out a test message during the first week of class. If you do not receive this message, it is your responsibility to get the problem resolved immediately.
• Have your email program set up properly so that replying to your email will work correctly the first time. You can send email to yourself and reply to yourself to test this. I will not make any attempt to get bounced email messages delivered.
• If you need assistance in accomplishing any of these tasks, contact 325-HELP.

Twitter: I have a twitter account that I will use to inform students of document postings. @Deborah Trytten #oucs4053 #oucs5053. These postings will also be placed on the home page of learn, so you won’t miss anything if you prefer not to use Twitter.

Examinations: There will be one midterm examination and a final examination. The midterm examination will be given during the evening at a time arranged through a doodle poll. If you cannot attend at the time selected, you will need to take the examination before the scheduled exam. During examinations students may be expected to sit in randomly assigned seats. Missing an examination without a previously approved excuse will result in a grade of zero for that examination. If an examination is missed for a verifiable, documented, and approved reason the percentage of the grade coming from the final examination will be increased to 50%. Makeup examinations are never available, except as required by university policy.

Final Examination: The final examination is from Monday, December 10 from 8-10 a.m. The final is comprehensive, as required by College of Engineering policy. No final examinations can be given early, except as required by University policy. Do not make travel plans for Winter Break assuming that you can take this examination early. You cannot.

Newsgroups and Email: The newsgroup on Desire2Learn should be the primary method of communication outside of class. This allows everyone in the class to benefit from the answer to your question. Matters of personal interest should be directed to email instead of to the newsgroup, e.g. informing me of an extended personal illness. Posting guidelines for the newsgroup are available on Desire2Learn under Information.

Academic Misconduct: All work submitted for an individual grade, including homework and projects, represents the understanding and expression of a single individual, and not their friends, and not their tutor.

• Do not show another student a copy of your projects or homework before the submission deadline. The penalties for permitting your work to be copied are the same as the penalties for copying someone else’s work.
• Make sure that your computer account is properly protected. Use a good password, and do not give your friends access to your account or your computer system.
• Do not leave printouts or thumb drives around a laboratory where others might access them, even in the recycle bin.
• Programming projects will be checked by software designed to detect collaboration. This software is extremely effective and has withstood repeated reviews by the campus judicial processes.
• Upon the first documented occurrence of collaborative work, I will report the academic misconduct to the Campus Judicial Coordinator. The procedure to be followed is documented in the University of Oklahoma Academic Misconduct Code (http://www.ou.edu/studentcode). In the unlikely event that I elect to admonish the student, the appeals process is described in http://www.ou.edu/provost/integrity-rights/.

Incompletes: The grade of I is intended for the rare circumstance when a student who has been successful in a class has an unexpected event occur shortly before the end of the class. I will not consider giving a student a grade of I unless the following three conditions have been met.

• It is within two weeks of the end of the semester.
• The student has a grade of C or better in the class.
• The reason that the student cannot complete the class is properly documented and compelling.

Accommodation of Disabilities: The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.

Cancelled Classes: Classes are cancelled on the following days for the following reasons.

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Reason</th>
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</thead>
<tbody>
<tr>
<td>Monday</td>
<td>September 3</td>
<td>Labor Day</td>
</tr>
<tr>
<td>Friday</td>
<td>October 12</td>
<td>OU/Texas Holiday</td>
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<tr>
<td>Friday</td>
<td>November 2</td>
<td>Engineering Open House</td>
</tr>
<tr>
<td>Wednesday-Friday</td>
<td>November 21-23</td>
<td>Thanksgiving</td>
</tr>
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Classroom Conduct: Disruptions of class will not be permitted. Examples of disruptive behavior include:

• Allowing a cell phone or pager to repeatedly beep audibly.
• Playing music or computer games during class in such a way that they are visible or audible to other class members.
• Exhibiting erratic or irrational behavior.
• Behavior that distracts the class from the subject matter or discussion.
• Making physical or verbal threats to a faculty member, teaching assistant, or class member.
• Refusal to comply with faculty direction.

In the case of disruptive behavior, I may ask that you leave the classroom and may charge you with a violation of the Student Code of Responsibilities and Conduct.

Projects, Homework, and Literature Summaries

Language: We will be using the C++ programming language and the OpenGL library. I recommend that you use a full featured IDE for programming projects in this class.
**Get Out of Jail Free (GOOJF):** You may submit one homework, project, or literature summary up to 48 hours late without penalty. This exception is designed to handle all of the legitimate reasons why work cannot be submitted in a timely fashion, including broken alarm clocks, non-functioning cars, broken computers, personal illness, sick children, and work related travel. Choose wisely. Submitting the early assignments late is generally not wise.

If you choose not to use your GOOJF during the semester, you will receive 20 extra points on your project grade (without truncation at 100%).

**Homework:** Homework that is assigned is to be word processed when feasible. For example, it is not necessary to word process lengthy mathematical equations (although you might find it convenient—I do).

**Literature Summaries (Graduate Students Only):** All classes that are offered in a combined undergraduate/graduate format (like this one) are required to have additional assigned work for graduate students not done by undergraduate students. In this course this work will be summaries of articles from the original literature. The summaries will be in a specified format and must be word processed. Plagiarism, either from the author of the paper or your colleagues, will not be tolerated. Specifically, it is not acceptable to take sentences out of the paper directly. It is also not acceptable to take sentences from the paper and reword them a little. It is also not acceptable to turn in only sentences form the original paper in quotes with references (although this is not plagiarism). OU has a good website explaining plagiarism here: [http://integrity.ou.edu/files/nine_things_you_should_know.pdf](http://integrity.ou.edu/files/nine_things_you_should_know.pdf). I’ve also linked this on learn. Plagiarism is a common form of academic misconduct. The process for handling academic misconduct is given earlier in this document.

**Project Strategy:** The grades for projects are determined by how well the material presented meets the objectives stated on the project handout. If you have to turn in an incomplete project, the way to maximize the points received is to meet as many objectives as possible. One effective strategy is to meet objectives one at a time. If you save a copy of your work to a separate project each time an objective is met, this can prevent many problems. Projects that do not compile or execute will receive no credit.

**Project Submission:** Projects are due by 11:59 p.m. on the selected due date by uploading the project files to the digital dropbox in Desire2Learn. Late projects are not accepted except through GOOJF.

**Backup Copies of Projects:** It is each student’s responsibility to backup their files appropriately. No extensions to deadlines will be given as a result of lost files, unless there is a massive, network wide problem which affects the entire class. Do not rely on anyone else to backup your important files. Buy a jump drive and make backing up your work a routine part of computer usage. I frequently use dropbox to store backups of documents. It is particularly important to save a backup copy of any project that is submitted. This backup version should not be opened or edited after submission in case there is a submission problem. The most common submission problem is to forget that files have to be both uploaded to learn and then submitted afterwards. I will forgive this mistake only once for each person (and yes, I do keep track).
**Homework/Literature Summary Submission**: Homework assignments and literature summaries (for graduate students) are submitted at the beginning of class on the due date or on the digital dropbox. Items that are submitted after class has started are considered to be late and will not be accepted, except through GOOJF.

**Evaluation**

**Grade Summary**: Desire2Learn has a grade book that is used to store the data that is used to calculate your course grade. It is the responsibility of each student in this class to check their grades after each project or homework is returned. If an error is found, bring the grading document to me or the TA, and we will correct it. The summary grades shown by D2L are not correctly computed. Ignore them and use the weights below to determine your grade.

**Grading Undergraduate Students**: There are 4 components to the course grade. They are weighted as follows.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Homework</td>
<td>25</td>
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<tr>
<td>Projects</td>
<td>25</td>
</tr>
<tr>
<td>Midterm</td>
<td>25</td>
</tr>
<tr>
<td>Final</td>
<td>25</td>
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</tbody>
</table>

**Grading Graduate Students**: There are 5 components to the course grade. They are weighted as follows.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Homework</td>
<td>25</td>
</tr>
<tr>
<td>Projects</td>
<td>20</td>
</tr>
<tr>
<td>Literature Summaries</td>
<td>5</td>
</tr>
<tr>
<td>Midterm</td>
<td>25</td>
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<tr>
<td>Final</td>
<td>25</td>
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**Grading Scale**: The grading scale will be no higher than the following. It may be lower at the discretion of the instructor.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90+</td>
</tr>
<tr>
<td>B</td>
<td>80-89</td>
</tr>
<tr>
<td>C</td>
<td>70-79</td>
</tr>
<tr>
<td>D</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>Otherwise</td>
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</tbody>
</table>
**Borderline Grade Decisions:** Although it would be preferable that all grades are cleanly decided, it is usually the case that a few final course grades are decided by only a few points. I have an algorithm for determining grades in these difficult cases.

A grade is a borderline grade if it is within two points of the next higher grade. Therefore, grades like 69 and 78 are borderline grades, but grades like 81 and 92 are not. The grade on the final examination will be used to determine borderline grades. If the grade on the final is below the threshold for the higher grade, the lower grade will be given. If the grade on the final is above the threshold for the higher grade, the higher grade will be given.