CIS*4820 – Game Programming
Course Outline – Winter 2021

Instructor: David Calvert
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Timetable
Lectures will be prerecorded and posted to Courselink.
Discussions with the instructor and teaching assistants will be online and managed through Courselink. These will be used to answer questions, discuss assignments, and for regrading assignments. Meeting times with the instructor will be scheduled during the first week of classes. Advising times for the teaching assistant will be posted on Courselink. Updates regarding discussion times and topics will appear on the announcements page for this course on Courselink.

Course Web Page: All course material will be posted to Courselink.

`https://courselink.uoguelph.ca`

Marking Scheme

Programming

- Assignments: 5x20%

Notes:

- You must be able to compile and run the game engine on your computer. This may involve installing libraries such as OpenGL and GLUT on your computer. It may involve making changes to the game engine which will make it run on your computer. The game engine has been used for many years and has successfully been run on Windows, MacOS, and Linux. These changes normally require changing the header files and the makefile to indicate where the libraries and header files are located on your computer. If you cannot make the game engine run on a computer which you can use to develop the assignments for this course then you will not be able to complete the assignments in the course. It is your responsibility to make the game engine run on your system. The TA and the instructor are not responsible for making this software run on your computer.

- If your assignment runs differently only your computer and the machine which the TA grades the assignments then you may be required to either make changes to your assignment so it will run on the TA's computer or to meet with the TA to demonstrate your code running on your computer.

- All assignments will be developed using using C/OpenGL.

- Assignments are cumulative so if you don't complete an assignment then you will likely need to implement part or all of the missed assignment before you can complete later assignments.

- Assignments will mostly involve programming, and creating content for a game.

- There is no group work in this course. Any work which is the product of more than one person's efforts is grounds for academic misconduct. All submitted code will be checked for copying. All parties involved will be reported to the Director of SOCS as participants in academic misconduct. See Academic Misconduct in Section VIII of the Undergraduate Calendar. The penalties for academic misconduct are described in the University of Guelph Undergraduate Calendar.

- Code which is submitted and does not compile or execute will be given a mark of zero.

- Failure to submit assignments correctly using DropBox on Courselink will result in a substantial loss of marks.

- Remarking of assignments will occur in the advising times for the teaching assistant. Requests for remarking will be considered for only one week after the assignment has been returned.

- Assignments may be handed in up to two days after the due date listed on the assignment with no penalty. **No other extensions will be granted.**

- No extensions will be granted after the assignment due date that is listed on the course outline.

Lecture Topics

1. Graphics and Animation, Algorithms and Tools

2. Artificial Intelligence Methods

3. Interacting with the Environment

4. Game Design

5. Networking Techniques

6. Audio for Games

Semester Schedule

- Assignment 1 due Friday, Jan. 29

- Assignment 2 due Friday, Feb. 12

- Assignment 3 due Friday, Mar. 5

- Assignment 4 due Friday, Mar. 19

- Assignment 5 due Friday, Apr. 2

Calendar Description

This course will focus on the components found in modern 3-D game engines. It will emphasize the algorithms and data structures required to create real-time computer graphics, sound and network communications. Offering(s): Offered in odd-numbered years.
Prerequisite(s): CIS*3110, (CIS*3750 or CIS*3760)

E-mail Communication

As per university regulations, all students are required to check their ¡mail.uoguelph.ca¿ e-mail account regularly: e-mail is the official route of communication between the University and its students.

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id number, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic Consideration.

Drop Date

Courses that are one semester long must be dropped by the end of the fortieth class day; two semester courses must be dropped by the last day of the add period in the second semester. The regulations and procedures for Dropping Courses are available in the Undergraduate Calendar.

Copies of out-of-class assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required, however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance, and not later than the 40th Class Day. More information: www.uoguelph.ca/sas

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students

– to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it.

Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar.

Recording of Materials

Presentations which are made in relation to course work—including lectures cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

Online Learning

Do not redistribute recorded interactive discussions that involve your classmates. This includes advising times with teaching assistants and question and answer sessions with the instructor.

Online activities such as advising times, question and answer sessions, and interactive lectures may be recorded by the instructor or TAs and posted to Courselink. By taking this course you are agreeing that your participation in these activities can be used in this manner. If you do not wish to have your image or voice recorded as part of these activities then either do not take this course or do not ask verbal questions during these activities.

A reliable internet connection that is sufficient for online learning is necessary for this course. If you do not have a sufficiently fast and reliable internet connection then you may not be able to view or download lectures or other course material. It may also not be possible to attend online advising with teaching assistants or the instructor.

This course is offered in the eastern standard time zone (EST). While taking this course then you may be required to attend online activities such as advising times or labs between 9:00 and 4:30 EST.

Keep copies of assignments which you have submitted. You may be asked to resubmit assignments at a later time.