Project in Computer Graphics Programming - Course Outline

CGRA 402: 2016 Trimester 1

This document sets out the workload and assessment requirements for CGRA 402. It also provides contact information for staff involved in the course. If the contents of this document are altered during the course, you will be advised of the change by an announcement in lectures and/or on the course web site. A printed copy of this document is held in the School Office.

Prescription

This course will develop programming and collaboration skills in the context of computer graphics. Students will program each stage of a computer graphics pipeline and integrate the results into a complete graphics application.

Objectives

On completing this course, you should be able to:

1. utilize script and programming languages (e.g, Python, C++) for constructing plug-in programs for 3D computer graphics tool such as Maya (BSc COMP 1)
2. efficiently address and implement solutions to technically challenging problems in 3D computer graphics (BE 3(a); BE 3(b); BE 3(f); BSc COMP 1; BSc COMP 2; BSc COMP 3);
3. justify a solution through effective written and oral communication, and practical demonstration (BE 2(a); BE 2(b);BE 3(d))
4. collaborate with other programmers and integrate multiple contributions into a complete software program (BSc COMP 5)

The course is based on the belief that Computer Graphics is best learned by doing. Implementing programs is a significant component of the course because many of the subtleties and difficulties encountered in Computer Graphics only become apparent when one actually tries to write programs and show the results on the display.

CGRA 402 consists of individual and group tasks for a project to design, implement, and evaluate a solution to complex computer graphics problems. In particular, students will survey technical issues and problems of the domain, design solutions to solve the problems, and implement a software program to evaluate the solution. The lectures will mainly consist of student presentations and discussion among students under the guidance of academic staff(s). The final results will be presented through a final project, an oral presentation and where appropriate, a practical demonstration.

Textbook

There is no set textbook for CGRA 402. Appropriate reading will be guided in the class.

Lectures, Tutorials, Laboratories, and Practical work

A schedule of lecture topics, readings, and assignment due dates is available online

Lectures for CGRA 402 will be held Thursday 9:00 – 10:50 in Von Zedilitz (Kelburn) 104.

CGRA 402 is a trimester 1 course. The trimester starts on 29 Mar. The examination period at the end of the course is 6 – 29 June.

Assignments and Projects

The course consists of individual and group tasks for a project to design, implement, and evaluate solutions using computer graphics programming. The process will be assessed by technical presentations, a project proposal, progress reports, and a project report including an oral presentation and a practical software demonstration. Any work for marking should be submitted electronically using the ECS Submission System. The details will be provided in the lectures.

Workload

In order to maintain satisfactory progress in CGRA 402, you should plan to spend an average of at least *10* hours per week on this paper. A plausible and approximate breakdown for these hours would be:

- Lectures/presentations: 2 hours
- Reading: 3 hours
- Projects: 5 hours

School of Engineering and Computer Science

The School office is located on level three of the Cotton Building (Cotton 358).

Staff

The course organiser for CGRA 402 is Taehyun Rhee. The contact details are:

Taehyun Rhee:
- Cotton 330
- +64 4 463 5233 x7088
- taehyun.rhee@ecs.vuw.ac.nz

The class representative is: TBA

Announcements and Communication

The main means of communication outside of lectures will be the CGRA 402 web area at http://ecs.victoria.ac.nz/Courses/CGRA402_2016T1/. There you will find, among other things, this document, the lecture schedule and assignment handouts, and the CGRA 402 Forum. The forum is a web-based bulletin board system. Questions, answers, and comments can be posted to the forum. We highly recommend using it for student discussion.

Assessment

Your grade for CGRA 402 will be determined based on the following assessment weightings:

Item	Weight	Week Due
Presentation 1	10%	Week 2
Presentation 2	10%	Week 3
Proposal	10%	Week 4
Progress Report 1	15%	Week 7
Progress Report 2	15%	Week 9
Final Project	40%	Week 12

The due date will be at the lecture time in the specified week. Any change will be announced in lectures and/or on the course web site.

The project will be group work in groups of 2~5 students. The number of group member depends on the total number of enrolled students and the project topic. The proposal and a part of the final project will be done and marked as group. Therefore, we strongly encourage student discussion. Well collaborated and integrated project will receive more marks. However, most of the assessment will be based on individual contributions. The group marks will not be more than 15% and be limited to the proposal (10%), and a part of the final project (5%); the other 35% of the final project will be assessed individually.

All the projects contribute to learning objectives 1,2, and 4. The presentations and reports contribute to learning objective 3.

Submission and Late Penalties

Any work for marking should be submitted electronically using the ECS Submission System. Other methods (e.g. email) are not accepted. Marked results will be available at lectures, or from the School Office (Cotton 358). All slides, reports, and materials related to the project must be submitted on time. Any late submission after the due date will be penalized by 20 marks per day; each assignment will be marked out of 100. Approval to submit assignments late without penalty will only be granted in exceptional circumstances; arrangements should be made as early as possible. Any medical excuse must be accompanied by a doctor's certificate.

Mandatory Requirements

- *Achieve at least 40% in final project*

Passing CGRA 402

To pass CGRA 402, a student must satisfy the mandatory requirements and gain at least a **C-** grade overall.

Plagiarism

Working Together and Plagiarism

We encourage you to discuss the principles of the course with other students, to help and seek help with programming details, problems involving the lab machines. However, any work you hand in must be your own work.

The School policy on Plagiarism (claiming other people's work as your own) is available from the course home page. Please read it. We will penalise anyone we find plagiarising, whether from students currently doing the course, or from other sources. Students who knowingly allow other students to copy their work may also be penalised. If you have had help from someone else (other than a tutor), it is always safe to state the help that you got. For example, if you had help from someone else in writing a component of your code, it is not plagiarism as long as you state (eg, as a comment in the code) who helped you in writing the method.

Withdrawal

The last date for withdrawal from CGRA 402 with entitlement to a refund of tuition fees is Friday 11 March 2016. The last date for withdrawal without being regarded as having failed the course is Friday 13 May 2016 -- though later withdrawals may be approved by the Dean in special circumstances.

Rules & Policies

Find key dates, explanations of grades and other useful information at http://www.victoria.ac.nz/home/study.

Find out about academic progress and restricted enrolment at http://www.victoria.ac.nz/home/study/academic-progress.

The University's statutes and policies are available at http://www.victoria.ac.nz/home/about/policy, except qualification statutes, which are available via the Calendar webpage at http://www.victoria.ac.nz/home/study/calendar (See Section C).

Further information about the University's academic processes can be found on the website of the Assistant Vice-Chancellor (Academic) at http://www.victoria.ac.nz/home/about/avcacademic

All students are expected to be familiar with the following regulations and policies, which are available from the school web site:

Grievances
Student and Staff Conduct
Meeting the Needs of Students with Disabilities
Student Support
Academic Integrity and Plagiarism
Dates and Deadlines including Withdrawal dates
School Laboratory Hours and Rules
Printing Allocations
Expectations of Students in ECS courses

The School of Engineering and Computer Science strives to anticipate all problems associated with its courses, laboratories and equipment. We hope you will find that your courses meet your expectations of a quality learning experience.

If you think we have overlooked something or would like to make a suggestion feel free to talk to your course organiser or lecturer.

Course Outline as PDF