Lecture 0 - Course Overview

Author: Jacco Bikker

TL;DR

These documents contain an overview of the topics discussed in the lectures. There will be one of these for each 'theory' lecture. In terms of graphics theory, the content of these documents is all you need to know for the exam. This also means that reading these may be a viable alternative for visiting the lectures. Do note that attending a lecture is generally more effective than reading a document, but now at least you have a choice.

Lecture 0 is a somewhat brief introduction lecture in which I discussed the course goals and formalities. These are also available from the website and the lecture slides.

Graphics

Graphics is games. Games feature complex virtual worlds these days in terms of geometric detail, but also when it comes to interaction of light with the scene.

This course is an introduction to the field of computer graphics. We need things to visualize: geometry, materials, textures. And something to visualize to: a computer screen, with pixels, which have a color. We need algorithms: at a high level rasterization for real-time graphics, and ray tracing for offline graphics. These algorithms make heavy use of mathematics, both for describing geometry, and for operating on it.

The Course

Graphics is taught in English, because we have some exchange students. We expect you to be proficient in C# at the start of the course. If programming is hard for you, you will struggle with the assignments. We use a book titled "Fundamentals of Computer Graphics". This is mostly a backup resource; if some of our explanations do not make sense to you, you can read up on the topic in the book. These *NeedToKnow* documents provide pointers to relevant sections in the book. The course consists of about 15 lectures, plus math tutorials and working lectures.

We split the course in two chunks of math lectures and two blocks of graphics theory. Both are needed for assignments and exams. See the schedule for details.

Exams

We have scheduled two regular exams for this course. These focus on the mathematics: expect about 75% math problems and 25% graphics theory questions.

The first exam is on May 16th. This is sooner than in other courses. This is an experiment.

The final exam is at the end of the block, on June 27th.

The exams contribute to your final grade with different weights: the midterm exam has a weight of 0.3, the final exam 0.7.

Assignments

For this course there are three assignments. The first one must be completed individually. For the other assignments you may work with another student, or alone, if you prefer that. There is no penalty for working alone this year; this is also an experiment.

The three assignments contribute to your final grade with different weights. The first one has a weight of 0.2, the other two a weight of 0.4 each.

Assignment 1 is available right now. It is mostly a tutorial, although some parts may need a bit of effort. Handing in all the required materials gets you a 10 relatively easily.

Assignment 2 is being designed as we speak and revolves around ray tracing.

Assignment 3 is also being redesigned and deals with rasterization.

Assignment details can be found on the website (once they become available). Please use the UU SUBMIT system to hand in your work: http://www.cs.uu.nl/docs/submit.

We have updated assignments this year. You can therefore not reuse your grades from last year.
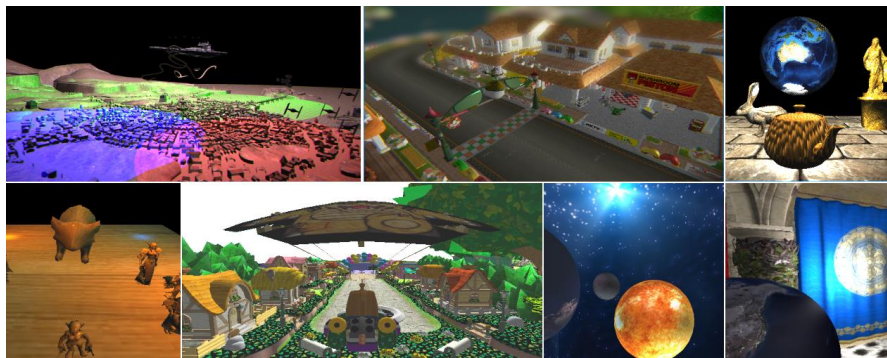
*Things people made last year. We expect you to do better.*

Grading

Your final grade is the average of the exam result and the assignment result. Additionally, both your exam result and assignment result must be at least 5.0 (before rounding) to pass the course. If you fail the course, and scored at least 4.0 (before rounding), you may take a retake exam or assignment.

Comms

To keep you informed about the course we have a carefully crafted website, with a detailed course overview, material downloads and a frequently updated news section.

There is also a Slack channel, where you can ask questions and get them answered by peers or lecturers. Please make use of this; in previous years it worked really well.
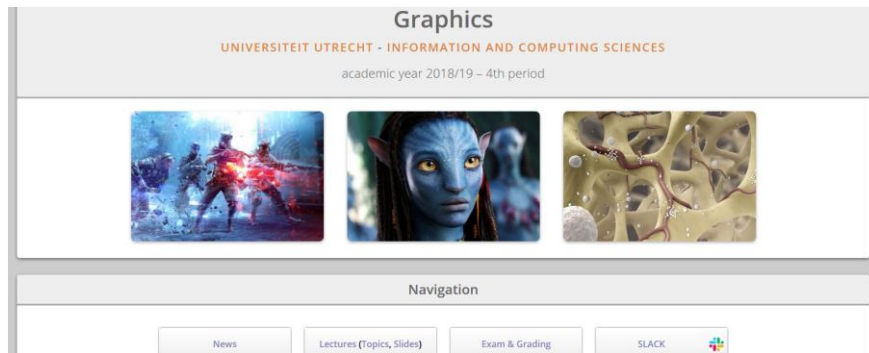
*Course website. It's awesome.*

Talking to People

This course has quite some personnel. First there are the two lecturers, Jacco Bikker and Debrabata Panja. In the break or after the lecture is a good time to talk to us. You may also find us in our rooms: Deb occupies BBG 5.11, Jacco 4.24. You can also mail us: d.panja@uu.nl and j.bikker@uu.nl. But perhaps the quickest way to get hold of us outside the lectures is via Slack.

We also have our friendly student assistants. Two of them are specialized in maths: Frederico D'Ambrosio and Mark Dekker. The other guys should be able to help you with your programming questions. They typically occupy the 'working college' rooms, which sadly are all over the campus this year.

Getting Started

The first things to do now are:

- Join us in the math tutorial. Check the schedule on the website for rooms.
- Start working on the programming tutorial. Details are on the website.
- Join us on Thursday for the second lecture on mathematics.
- Pick up the next NeedToKnow document just before the first 'theory' lecture on May 7.
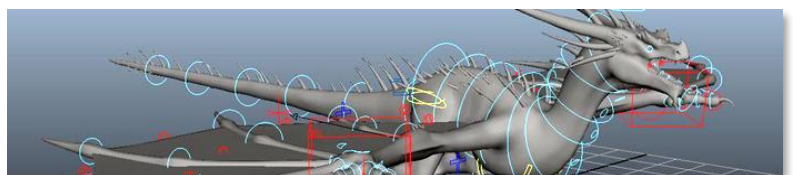
THE END

That's it; if anything is unclear please contact us!