

**SYLLABUS**

# **Complementary course for the Bachelor Programme in Computer Graphics for Games and Film 45 credits W0033E**

**Kompletterande kurs för kandidatexamen i datorgrafik för spel och film**

**Course syllabus admitted: Autumn 2023 Sp 1 - Present**

**DECISION DATE**

**2023-02-15**

# Complementary course for the Bachelor Programme in Computer Graphics for Games and Film 45 credits W0033E

## Kompletterande kurs för kandidatexamen i datorgrafik för spel och film

### First cycle, W0033E

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G#	Medieteknik	Computer Technology

## Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and achieved at least 105 credits of the compulsory courses in year 1 and 2 for the program THDGG, Computer Graphics for game and film, and started W0018E Degree Project in Computer Graphics, 7.5 credits.

## Selection

The selection is based on 1-165 credits.

## Course Aim

This course is divided into three sections  
On completing this course the student shall be able to:

- Production processes

- Within given time frames, plan and implement a given project in a group.
- Actively participate and collaborate as a project member under production-like conditions.
- Plan, motivate and present your own work in relation to the needs of the group and production.

- Applied computer graphics technologies

- Demonstrate basic knowledge of mathematical concepts relevant to computer graphics production
- Use and apply mathematical concepts to solve practical tasks
- Demonstrate basic knowledge of programming languages and processes
- Construct simple production tools to assist in everyday tasks within computer graphics
- Show understanding of problem-solving through programming for computer graphics production.

- Specialization project

- Demonstrate in-depth skills and knowledge within the area of specialization through practical production.
- Professionally deliver and communicate artistic vision, production method and finished result according to set goals.
- Analyze and evaluate your production against industry standards and your own previous results within the education.

## Contents

The course discusses the following subject areas:

- Production processes
  - Students apply the knowledge and skills they have acquired during previous courses in a project with given technical and narrative frameworks.
  - The focus of the course is the production process:
  - Pre-production involves concept work, preliminary investigations and production planning.
  - Production means implementation of the production planning as well as regular check-ins of the project's progress and the group's dynamics.
  - Post-production means archiving, reflecting on and presenting the project.
- Applied computer graphics technologies
  - Basic programming concepts
  - Introduction to scripting in production tools (e.g. Maya and Nuke)
  - Programming processes for structuring code and user experience
  - Basic mathematical concepts for computer graphics, such as vectors, matrices, randomness
  - The implementation of mathematics in computer graphics (e.g. compositing mathematics and shading models)
  - Using math to solve practical tasks, in production tools such as Maya and Houdini.
- Specialization project
  - The course's content, parts and literature are largely determined by the chosen specialization. The elective specializations will be announced at the latest one study period before the start of the course by the course supervisor.

## Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The course material is in English and you are expected to have good oral, written and information-seeking knowledge in that language.

The teaching is mostly based on independent work individually and in groups with practical tasks, and self-study of the specified material. You are expected to be able to search for information on your own to solve tasks. This is then dealt with through seminars (both internal and external), essays and other activities.

Throughout the course, you will have access to a workspace including an appropriate computer and screen. But throughout your studies you will work on your drawing skills, digital painting and photography, therefore you need to acquire a suitable digital tablet and a system camera.

## Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.

Formative assessments and feedback are given regularly in the course's activities. The course objectives are examined in various forms organized in test modules defined in the syllabus. The examination takes place both individually and in groups.

Each test module can in itself consist of several tasks, which appear in the study guide for the course. For all assignments, there are detailed descriptions in the course's learning platform that clarify how the assignment is to be performed and examined.

## Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term “unauthorized aids” refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

## Course offered by

Department of Computer Science, Electrical and Space Engineering

## Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Laboratory A	U G#	5	Mandatory	A23	
0002	Laboratory B	U G#	5	Mandatory	A23	
0003	Written exam A	U G#	2.5	Mandatory	A23	
0004	Written exam B	U G#	2.5	Mandatory	A23	
0005	Production 1	U G#	15	Mandatory	A23	
0006	Production 2	U G#	15	Mandatory	A23	

## Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

## Syllabus established

by Robert Brännström 2023-02-15