SYLLABUS

3D modelling and rendering 15 credits W0014E

3D modellering och rendering

Course syllabus admitted: Spring 2022 Sp 3 - Present

DECISION DATE
2021-02-17

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3D modellering och rendering

First cycle, W0014E

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 Basic knowledge and skills in computer-generated 2D and 3D graphics and basic knowledge in methodologies, design and creative processes for visual problem solving , e.g. W0012E Introduction to Computer Graphics and W0013E Design processes and methods for Computer Graphics or equivalent

Selection

The selection is based on 1-165 credits.

Examiner

Arash Källmark

Course Aim

After course completion the student should be able to:

1. Describe how techniques and methods in 3D modeling and rendering relate to reality-based phenomena
2. Independently plan and create believable 3D-rendered artifacts, environments and images based on principles of visual design
3. Organize their workflow and deliver finished products under given requirement and structures
4. Analyze and evaluate one's own and others' visual results based on principles for image design and the course literature in the subject
5. Make reasonable user and design decisions about different approaches depending on the requirements in production in the subject

Contents

The course discusses the following subject areas:

- Techniques and processes for producing digital artifacts, including modeling, texturing, and look development
- Techniques and processes for creating 3D rendered environments, such as set dressing, lighting and rendering

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Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
The teaching takes place in the form of lectures and independent studies of course literature and distributed material, mainly in English. Furthermore, you are expected to show a high degree of independence in your own search for information.

Computer graphics is a craft that requires experience-based skills in combination with theoretical knowledge and problem-solving ability, both technical, artistic and production-related. A large part of the work in the course therefore consists of practical assignments in the subject which are solved mainly independently, with some support from the instructors. Through the university, you will have access to workstations with all the necessary materials, but you should also acquire your own work computer, digital tablet and system camera.

The ability to analyze, assess and improve one's work in a professional manner is a key characteristic of the subject. Formative feedback is often given on assignments, from supervisors, other students, as well as external participants, which gives you the opportunity to further develop your results and process.

The course also includes mandatory volume exercises as well as oral and written seminars and presentations to both internal and external audiences. Individual work is interspersed with group work in all forms of tasks. The course also has a major production phase, where you will collaborate with others in a predetermined process. Finally, the course has a practical exam that tests your ability to perform an applied task under a limited time.

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.
The modules are related to the course objectives as follows:

1. Essays (2.5HP): outcome 1
2. Exercises (5.0HP): outcome 4, 5- examination through active participation, individual practical/visual performance and written/oral presentation.
3. Project work (5.0HP): outcome 2, 3- examination through active participation in group-work.
4. Practical exam (2.5HP): outcome 2, 3- examination through individual practical/visual performance withing given timeframe and written/oral presentation.

Literature. Valid from Spring 2022 Sp 3

The course literature will be determined no later than 10 weeks before the start of the course.

Course offered by

Department of Computer Science, Electrical and Space Engineering

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Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Essays	U G#	2.5	Mandatory	S22	
0002	Exercises	U G#	5	Mandatory	S22	
0003	Project work	U G#	5	Mandatory	S22	
0004	Practical exam	U G#	2.5	Mandatory	S22	

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 Jonny Johansson, HUL SRT 2021-02-17

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