



*Course syllabus*

# Virtual Reality i teori och praktik Virtual Reality in Theory and Practice

**MAMF45, 7,5 credits, G2 (First Cycle)**

**Valid for:** 2023/24

**Faculty:** Faculty of Engineering, LTH

**Decided by:** PLED C/D

**Date of Decision:** 2023-04-18

## General Information

**Main field:** Virtual Reality and Augmented Reality.

**Compulsory for:** MVAR1

**Elective for:** C4-da, D4-bg, E4, F4

**Language of instruction:** The course will be given in English

## Aim

The student will gain practical and theoretical knowledge about Virtual Reality. Not only from a technical perspective, but also with an understanding of the complex interplay between human cognition and the technology.

## Learning outcomes

### *Knowledge and understanding*

For a passing grade the student must

Gain knowledge in relating the human's cognitive and perceptual abilities, to the technological possibilities and limits of today's Virtual Reality systems.

### *Competences and skills*

For a passing grade the student must

Be able to produce 3D models and environments, as well as authoring interactive simulations.

### *Judgement and approach*

For a passing grade the student must

Have knowledge about the advantages and limitations about various VR-interfaces.

## Contents

Lectures, workshops, and a project.

In particular, the participants will learn about:

- Virtual Environment (VE) Software and Hardware
- Requirements imposed by various VEs on system design
- Design approaches and Implementation Strategies
- Health and Safety Issues
- Evaluation (including usability and presence)
- Various Application areas.

## Examination details

**Grading scale:** TH - (U,3,4,5) - (Fail, Three, Four, Five)

**Assessment:** Project assignment in combination with a written test. Fulfill all mandatory assignments. Project finished and presented. Passed in written test.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

## Admission

**The number of participants is limited to:** 40

**Selection:** Admission guaranteed for students in the Master programme in Virtual Reality and Augmented Reality. Selection rules for the remaining places: Completed university credits within the programme. Priority is given to students enrolled on programmes that include the course in their curriculum.

## Reading list

- Compendium and web-materials.
- Web-materials. Extra reading (non-mandatory): The Handbook of Virtual Reality, Kay Stanney (ed), Lawrence Erlbaum Associates, ISBN: 0-8058-3270-X.

## Contact and other information

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**Course homepage:** <http://www.eat.lth.se>