

COMPUTER ENGINEERING (LM55)

(Lecce - Università degli Studi)

Teaching VIRTUAL AND AUGMENTED REALITY

GenCod A006451

Owner professor Francesco DE PAOLIS

Reference professor for teaching Lucio Tommaso DE PAOLIS

Teaching in italian VIRTUAL AND AUGMENTED REALITY

Teaching VIRTUAL AND AUGMENTED REALITY

SSD code ING-INF/05

Reference course COMPUTER ENGINEERING

Course type Laurea Magistrale

Credits 9.0

Teaching hours Front activity hours: 81.0

For enrolled in 2021/2022

Taught in 2022/2023

Course year 2

Language ENGLISH

Curriculum AUTOMATION FOR INDUSTRIAL & HEALTH-CARE

Location Lecce

Semester First Semester

Exam type Oral

Assessment Final grade

Course timetable
<https://easyroom.unisalento.it/Orario>

BRIEF COURSE DESCRIPTION

The course presents a review of current Virtual Reality (VR) and Augmented Reality (AR) technologies and provides a detailed analysis of the scientific and functional aspects of VR systems. The course also will introduce to the 3D modelling and the building of VR/AR applications.

REQUIREMENTS

no requirements

COURSE AIMS

Students will be acquired knowledge in the main application of VR and AR technologies in cultural heritage, medicine and education.

TEACHING METHODOLOGY

The teaching consists of theoretical and practical lectures.

ASSESSMENT TYPE

The final exam consists in the discussion on the project developed by the student.

FULL SYLLABUS

- Introduction to the Virtual Reality technology
- Visualization devices
- Interaction in the virtual environment
- Introduction to the Augmented Reality technology
- Marker-based and markerless augmented reality applications
- Virtual and Augmented Reality in Cultural Heritage
- Virtual and Augmented Reality in Medicine
- Virtual and Augmented Reality in Education
- 3D modeling - Blender
- Unity 3D
- Spatial augmented reality (video mapping)
- Practical lectures in laboratory

REFERENCE TEXT BOOKS

Schmalstieg D., Hollerer T. - *Augmented Reality*, Addison Wesley, 2016

De Giorgis G. - *Unity*, Apogeo, 2021

Maniello D. - *Realtà aumentata in spazi pubblici. Tecniche base di video mapping*, Le Penseur, 2014

Maniello D. - *Augmented Heritage: dall'oggetto esposto all'oggetto narrato*, Edizioni Le Penseur

SIDDI F. - *Grafica 3D con Blender*, Apogeo, 2009