

# 2AVRMP21 VR/AR on Mobile Platforms

Emnekode: 2AVRMP21

Studiepoeng: 5

## Semester

Høst

## Språk

English

## Krav til forkunnskaper

Recommended previous knowledge: 2IAVRP21-Introduction to VR/AR Production, 2DAVRP21-Development to VR/AR Production and 2CCAVR21-Content Creation for VR/AR

## Læringsutbytte

### Learning outcome

On successful completion of the course, the student has acquired the following learning outcome:

### Knowledge

The student

- has knowledge of technical specifications requirements for development for available mobile platforms
- has knowledge of Augmented Reality solutions available for mobile platforms and practically test them
- has knowledge of how to analyze and apply various type of mobile interaction techniques focused on VR and AR experiences

- has knowledge of the mobile development process with tools like Android SDK, and iOS SDK
- has knowledge of how to develop and deploy applications for mobile devices based on 2 most popular mobile operating systems
- has knowledge of how to identify and adjust a mobile application requirements
- has knowledge of how to utilize the head mounted display (HMD) for developing interactive applications for various disciplines incl. commercial and educational purposes

## Skills

The student

- can develop applications for different mobile platforms
- can script, program and debug applications for mobile platforms
- can develop applications specialised for certain platforms based on their limitations and abilities.

## General competence

The student

- master to give professional reasons for the decisions made during the development process both in writing and orally
- can exploit mobile platforms and peripherals to create VR and AR applications suitable for a range of different purposes, including education, simulation and entertainment.
- can disseminate comprehensive independent and team work and master the discipline of expression

## Innhold

### Contents

- Installation and understanding of different mobile platform's SDK
- Basics of Android Studio and Xcode for two most popular mobile platforms development
- Use nodes and prototypes optimized for mobile solutions
- Build interaction and UI based functionality for mobile
- Deploy final application on release platform
- Review of typical use of AR in industry to educational, commercial and

“edutainment” type applications

- Review of most popular AR engines that can be used in development the functionality on mobile platforms
- Creation and configuration of developer profile for AR applications
- Scripting, programming and debugging applications for mobile platform
- Role of VR mode in the process of mobile application development
- Understand different types of mobile devices and their limitations
- Elements of interactions that are available for Mobile VR platform
- Predefined rendering functions and setup for VR stereo / mono mode
- Head Mounted Display systems available for mobile platforms - review and development

## Arbeids- og undervisningsformer

### Organisation and teaching Methods

The course is organised as a combination of lectures, practical exercises, weekly hand-ins, self-study and supervision.

Teaching in plenary sessions and individual work/individual assignments.

## Obligatoriske krav som må være godkjent før eksamen kan avlegges

Course requirements that must be approved before being eligible to sit the examination

- 2-4 individual assignments
- 80% attendance

## Eksamen

### Examination

- 6 hour individual practical and written exam

Graded letter marks are used, from A – F, where E is the lowest pass grade.

The examination can be given in Norwegian.

## Ansvarlig fakultet

Fakultet for audiovisuelle medier og kreativ teknologi