SYLLABUS

Mobile applications 7.5 credits M7019E

Mobil applikationsutveckling

Course syllabus admitted: Spring 2024 Sp 3 - Present

DECISION DATE
2023-06-16

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LULEÅ TEKNISKA UNIVERSITET

Mobile applications 7.5 credits M7019E

Mobil applikationsutveckling

Second cycle, M7019E

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Mobila system	Computer Technology

Main field of study

Computer Science and Engineering

Entry requirements

The course requires knowledge corresponding to:
M0009M discrete mathematics 7.5 credits, D0037D programming 7.5 credits and D0041D data structures and algorithms 7.5 credits.

Good knowledge in English equivalent to English 6.

Selection

The selection is based on 30-285 credits

Course Aim

The purpose of the course on mobile applications is to give students an overall understanding of how to build applications for mobile platforms, such as smartphones and tablets. Topics covered include building user interfaces, interacting with the mobile platform (human-computer interaction for mobile platforms), navigating, talking to other mobile platform apps, interacting with an API server, and storing data using a database on the mobile platform.

Knowledge and understanding:

- Demonstrate a good understanding of mobile application development's fundamental concepts and components, including user interfaces, event handling, and data storage/retrieval.
- Understand and explain the architecture and structure of mobile applications, including the interaction between apps and the Internet.
- Understand and explain the lifecycle of a mobile application, including installation, execution, background processing, termination, and different states of a mobile application.
- Demonstrate proficiency in storing and retrieving data with a mobile application. Such as interacting with external API servers, including the ability to process the data sent from API servers and send data to API servers.

Competence and skills:

- Demonstrate the ability to design and develop mobile applications using appropriate development frameworks, languages, and tools.
- Demonstrate the ability to apply user interface design principles for mobile applications to create interfaces for different screen sizes.
- Demonstrate the ability to integrate data storage mechanisms, such as local databases or cloud services, to store and retrieve data within the mobile applications.
- Demonstrate the ability to test, analyze, and debug mobile applications to identify and fix logical/functional errors.

Judgment and approach:

- Demonstrate the ability to analyze user requirements and translate them into mobile application features and functionality.
- Evaluate and select appropriate libraries, frameworks, and APIs to enhance mobile application functionality and user experience, such as user authentication.
- Demonstrate the ability to reason/judge the impact of your mobile application towards ethical and sustainable challenges of society.
- Demonstrate the ability to independently research and learn new mobile technologies and development practices to adapt to evolving mobile platforms.

Contents

In the mobile application development course, students will gain knowledge and understanding of fundamental concepts and components of mobile application development and the application lifecycle, focusing on basic and key principles. They will develop competence and skills in designing and developing mobile applications, incorporating user interface design, event handling, and data storage integration. Students will also learn and demonstrate how to test and debug mobile applications effectively. They will develop skills emphasizing the importance of analyzing user requirements and evaluating tools and frameworks in mobile application development. Additionally, students will demonstrate adaptability and a proactive approach to continuous learning in the rapidly evolving mobile application development field. The course also highlights the importance of addressing societal challenges such as designing for sustainability (equality and equity, inclusivity, and accessibility). Collaboration, research skills, and project management are also emphasized throughout the course.

Realization

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

The education consists of lectures and laboratory work. The laboratories are presented orally and may be provided with a deadline for submission. There are no elective course elements. Unapproved students must retake the unsuccessful examination moment next time the course is given.

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.

Continuous examination with the seminar, laboratory work and mini-projects that give a number of points. The grade in the course is based on how many points you have accumulated.

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
0002	Seminar	U G#	1.5	Mandatory	A12	
0003	Laboratory work	U G#	3	Mandatory	A12	
0005	Mini-project	G U 3 4 5	3	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.

Last revised

by Robert Brännström 2023-06-16

Syllabus established

by Jonny Johansson, HUL SRT 2012-03-14