



COURSE SYLLABUS **iOS Development, 9 credits**

iOS-utveckling, 9 högskolepoäng

Course Code: TISN15	Education Cycle: First-cycle level
Confirmed by: Dean Feb 9, 2015	Disciplinary domain: Technology (95%) and social sciences (5%)
Revised by: Director of Education Oct 4, 2017	Subject group: DT1
Valid From: Aug 1, 2017	Specialised in: G2F
Version: 3	Main field of study: Computer Engineering
Reg number: JTH 2017/3792-313	

Intended Learning Outcomes (ILO)

On completion of the course, the student should:

Knowledge and understanding

- display an understanding of iOS architecture
- display an understanding of the consequences that limitations in hardware capacity has on mobile applications' design

Skills and abilities

- display the ability to use the iOS SDK, toolchain, and corresponding programming languages to create high quality iOS apps
- display the ability to apply established design patterns in development of iOS apps
- display the ability to use GPS and other sensor systems through iOS APIs
- display the ability to, when writing a business plan, correctly calculate costs, prices, investments, and realistic profitability estimates for services developed using iOS
- display the ability to make use of other commonly accessed iOS APIs

Judgement and approach

- display insight into the economic opportunities, risks, and ethical considerations associated with working within a centralised and controlled economical eco-system such as the one represented by Apple's App Store.

Contents

The purpose of the course is to give an introduction to and experience of iOS-programming, from start to finished and published app. The course includes the following topics:

- iOS architecture
- XCode, Objective-C, and Swift
- Memory management in Cocoa
- Limitations and possibilities of mobile devices
- Design patterns in the iOS APIs
- GUI development with iOS (CoreGraphics, UIKit)

- Sensors (gyroscope, GPS, camera)
- Network communication in iOS
- Other key APIs
- Publishing on the App Store
- Estimating costs, prices, investments, and profitability of app development

Type of instruction

The course will consist of lectures, lab work and project work.

The teaching is conducted in English.

Prerequisites

General entry requirements and completed courses 60 credits in first cycle including completed courses Network Programming 6 credits, GUI Programming 6 credits, Operating System Theory 6 credits and Data Structures and Algorithms 9 credits (or the equivalent) (or the equivalent).

Examination and grades

The course is graded 5,4,3 or Fail.

Registration of examination:

Name of the Test	Value	Grading
Project ¹	5 credits	5/4/3/U
Assignment 1	1 credit	U/G
Assignment 2	1 credit	U/G
Laboratory work	2 credits	U/G

¹ Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

Literature

Please note that the course will make extensive use of online resources and that while purchasing the course literature is recommended, it is not mandatory to participate in the course. Please also note that the course literature may be accessed digitally for free via the Safari Books Online service, accessible through the JU library.

Title: iOS 10 Programming Fundamentals with Swift

Author: Matt Neuburg

Publisher: O'Reilly Media, Inc

ISBN: 9781491970072

Course literature will be decided one month prior to course start.