

# 37C00200

## *Information Systems Development (6cr)*

### **SYLLABUS**

Version (13 Feb 2018)

Instructor's contact information	Course information
Riitta Hekkala; <a href="mailto:riitta.hekkala@aalto.fi">riitta.hekkala@aalto.fi</a> Office: Riitta G5.05 at Chydenia Office Hours: by appointment Instructor's Webpage: <a href="http://people.aalto.fi/riitta_hekkala">http://people.aalto.fi/riitta_hekkala</a>	Status of the course Academic Year, Period 2018, 2 Location: U6/U149 (lectures on Tue); U7/U135a (lectures on Thu); U351 (exercises) Language of Instruction: English Course Website: <a href="https://mycourses.aalto.fi/course/view.php?id=16409">https://mycourses.aalto.fi/course/view.php?id=16409</a> Teaching Assistants: –

#### 1. OVERVIEW

This course introduces the information system development process to the students. During the course the students will learn about the main development frameworks (waterfall, agile), defining of system requirements, and modeling of data, architecture and components' interactions an information system. The course has some guest speakers who will provide in-depth information about specific aspects of IS design. There will be five exercises in the course, to be completed in teams, and an exam.

#### 2. PREREQUISITES

None

#### 3. LEARNING OUTCOMES

After the course, the students can describe the main tasks of an information systems development process. They can evaluate the pros and cons of different IS development process models. They can use the basic system development modeling techniques that are common in multi-disciplinary software projects. These contents will be concretized in the exercises.

#### 4. ASSESSMENT AND GRADING

1. Lectures 22 hours – participation is optional.
2. Exercise lectures 10 hours – participation is optional.
3. 5 assignments – 4/5 must be passed.

Grading: Assignments + exam. Each assignment will be graded as passed/ not passed. In order to pass the course, the student must have a minimum of 50% points from the exam to pass the course. Maximum score from the exam is 30/30 points.

## 5. ASSIGNMENTS

There are five assignments that reflect the contents of the lectures.

1. The teacher will provide the necessary instructional content for the exercises in advance through the MyCourses page.
2. The exercises are completed, in teams of 2 or 3 people, outside of the teaching hours. Teams cannot be changed during the course.
3. The exercise lectures on Thursdays are intended for clarifications and advice.

The groups deliver their assignments electronically through MyCourses.

Timing of each assignment:

- The teacher will publish the weekly assignments on Tuesdays. The instructional material may be available already earlier.
- Exercise lecture on Thursday is for those who want to ask for advice and clarifications.
- Assignment must be returned electronically as a PDF document on Sunday 23:59.

## 6. READINGS

- Avison, D. and Fitzgerald, G.: Information systems development. Methodologies, techniques & tools. 2006 (4<sup>th</sup> ed)
- Hoffer, J.A., George, J.F. and Valacich, J.S., Modern Systems Analysis and Design, 4. edition, 2005; 5. edition 2008; 6. 2011; Pearson Prentice-Hall.

**Note:** The chapter numbers in the table (see below) may be different depending on the textbooks' editions.

The teacher will also provide some online material in connection with assignments. These contents will also be helpful in the exam.

## 7. PRELIMINARY SCHEDULE

Session	Date	Topic	Readings	Assignment Due Date
<b>Lecture 1</b>	22 Feb 2018	Introduction & Organization of the course		
<b>Lecture 2</b>	27 Feb 2018	Software engineering processes: Waterfall model and iterative development models	Hoffer et al. ch. 1 & Avison et al. ch. 3	
<b>Lecture 3</b>	01 March 2018	Determining system requirements/ Use Cases	Hoffer et al. ch. 6 and p. 225–9	
<i>Exercise lecture 1</i>	01 March 2018	Use Cases	Will be published 27 Feb at latest	4 March 2018
<b>Lecture 4</b>	6 March 2018	Entity-relationship (ER) model	Hoffer et al. ch. 9	

Session	Date	Topic	Readings	Assignment Due Date
<b>Lecture 5</b>	8 March 2018	Understanding obstacles in enterprise architecture development	TBA	
<i>Exercise lecture 2</i>	8 March 2018	ER-model	Will be published 6 March at latest	11 March 2018
<b>Lecture 6</b>	13 March 2018	Object oriented analysis (OOA)	Data flows: Hoffer et al. ch 7; OOA: Avison et al. ch. 13 & 22	
<b>Lecture 7</b>	15 March 2018	Leadership/ management of software development in virtual teams	Hoffer et al. ch.1; ch. 3	
<i>Exercise lecture 3</i>	15 March 2018	Object oriented-based architecture	Will be published 13 March at latest	18 March 2018
<b>Lecture 8</b>	20 March 2018	Relational model + Normalization	Hoffer et al. ch. 10	
<b>Lecture 9</b>	22 March 2018	Alternative approaches to 'data federation' and their theoretical basis	TBA	
<i>Exercise lecture 4</i>	22 March 2018	From ER-model to relational model / Normalization	Will be published 20 March at latest	25 March 2018
<b>Lecture 10</b>	27 March 2018	Agile way of working in an information system project	Avison et al. ch. 7 & Hoffer et al. ch. 13 (p. 456–458)	
<b>Lecture 11</b>	29 March 2018	Final notes		
<i>Exercise lecture 5</i>	29 March 2018	Planning an information system development project	Will be published 27 March at latest	8 April 2018

## 8. COURSE WORKLOAD

Classroom hours (lectures)	22h
Exercise lectures	10h
Assignments	80h
Preparing for exam	44h
Exam	4h
<b>Total</b>	<b>160h (6 op)</b>

## 9. ETHICAL RULES

Aalto University Code of Academic Integrity and Handling Thereof:  
<https://into.aalto.fi/pages/viewpage.action?pageId=3772443>

## 10. OTHER ISSUES

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