

New Master education: Mandatory course - IT-architecture and user driven software design (BUITA)

Om kurset

Utdannelse	Informatik
Sted	Teorirum 08.2
Kurstype	Obligatorisk kurs
Undervisningssprog	English
Kursus starter	01-02-2016
Kursus slutter	15-04-2016

The course revolves around describing and redesigning an IT Systems Architecture. The purpose of this is to: "You must have an across-the-board understanding of technology at a high level and of the real-world issues and problems the system is required to solve. You should have real experience with designing and building systems, although it may not always be possible to have direct, practical knowledge of the specific technologies you plan to use.

[...] People skills are very important, such as the ability to build consensus, facilitate change, and rapidly learn about unfamiliar business areas and technologies." – Rozanski and Woods, 2014, pp. 66-67

The course will place IT systems architecture within four core areas of Informatics:

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- Systems Development and Design (SDD)
- Evaluation of IT usage (EIT)
- Implementation and Change Management (ICM)
- IT security (ITS)

The first 8 classes will revolve around the main course book of acting as an IT systems architect and describing the IT systems architecture (Rozanski & Woods, 2014) and will be held twice a week. The remaining 8 classes will revolve around the four aforementioned core areas and will be supported by minimum two state-of-the-art articles relating to that core area.

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Knowledge Have knowledge of central theories linked to the core areas: - Systems Development and Design: Core concepts of the systems architecture definition process, Organizational Systems Development, Paradigms of systems development, Soft Systems Methodology.

- Evaluation of IT: Architecture evaluation, Cognitive Engineering, Technochange prototyping, summative and formative evaluation.

- Implementation and Change Management: Nexus of Change management, Knowledge management systems, Computer-supported Collaborative Work, Diffusion of innovations.
- IT security: Privacy By Design, Information Security Management Systems, Identity Management Systems.

Skills Know and be able to choose and use appropriate methods and techniques within the core areas to analyse complex use situations:

- Systems Development and Design: CATWOE, Rich pictures, IT architecture development, including stakeholder analysis, Architecture Viewpoints and Perspectives, and Architecture Skeleton Construction.
- Evaluation of IT: Lifecycle evaluation, Architecture evaluation, Stakeholder evaluation, Cognitive Walkthrough, Pilot implementations, Phased implementation.
- Implementation and Change management: Organizational structure assessment, mitigation of technology-derived challenges.
- IT security: Privacy Impact Assessment, Risk analysis, Security Planning.

Know and be able to choose and use appropriate methods and techniques within the core areas for designing innovative IT usage tailor made for the users' needs and competencies:

- Systems Development and Design: Low- and high-fidelity prototyping, Evolutionary Development, Architecture Scenario Design.
- Evaluation of IT: Designing for IS Success from task benefits to organizational benefits.
- Implementation and Change management: Counter-counter implementation, Implementation types derived from technochange.
- IT security: Privacy By Design, Security By Design.

Competencies, to be able to:

- Work with IT related problems individually and with a team:
- Account for, identify and analyze challenges related to IT architecture.
- Use tools and techniques for locating and retrieving contemporary IS literature research.
- Critically discuss and reflect on the quality and usefulness of contemporary IS research literature.

Research Articles to be found online using Roskilde University Library's tools.

Kursusdage Tuesday and Thursday mornings until 12.45.
In March and April the classes will take place only on Tuesday mornings.

Undervisningsform Lectures of two hours and exercises for the remaining two.

Eksamensform 30 min. individual oral examination including grading.
External examiner and 7 step scale.

Eksamenstidspunkt Friday 24 June 2016

Reksamensform 30 min. individual oral examination including grading.
External examiner and 7 step scale.

reksamenstidspunkt Before end of August 2016.

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kandidat 1. modul

STADS	belastning : 10 ECTS	aktivitetskode : U40321 /	
stamdata		U40403	
	prøveform : mundtlig	bedømmelse : 7-trinsskala	censur : Ekstern censur