COURSE SYLLABUS

Corporate IT I (Information Structures)

ECTS 4 (2 credit hours) Language of instruction: English

Summer Term 2014 (PI 4183) Instructor: Dr. rer. pol. Helena Lovasz-Bukvova

Programs: Bachelor's programs, all versions (BaWiSo, BaWiRe)

COURSE CONTENTS

Description

The collection and management of data plays an important role in today's organisations. Increasingly, the importance of management of information and knowledge are also recognised. The understanding of mechanisms and ideas behind data and information management is an important skill in nearly all professions, as it helps to increase the personal as well as the organisational efficiency. This course aim is to furnish an in-depth understanding of the principles behind data and information collection, structuring, and retrieval, together with knowledge of their practical application.

Course design

The aim of this course is not only to provide you with relevant theoretical knowledge, but also to enable you to put what you have learned into practical use. The design of the course reflects this, combining phases of knowledge acquisition with exercises and practical application. The instructor takes a part of a mentor, rather than a teacher; hence the course is driven by your active participation.

The course consist of (1) a preparatory, information session, (2) four core session, (3) self-organised, autonomous study periods, (4) self-organised project work in groups, and (5) a final exam and a project review. In the beginning of the course, there is a one-hour information session, where you can get information about the course format, course aims as well as all relevant deadlines. This session is followed by four 4.5-hour sessions, each focused on selected topics. In preparation of these core sessions, you will be required to engage in self-organised, autonomous study of the topics. As a result of your autonomous study phase, you will be required to hand in a graded assignment. In the sessions themselves, we will then concentrate on applying what you have learned, making sure that you are able to use your knowledge in practice. Your skill will be put to a test in a group project as well as in a final exam. As a part of your preparation and follow-up of the units, you will be encouraged to take written notes in the provided course note-book. You will be allowed to use the course notebook and all your handwritten notes in it as an aid in the exam.

Prerequisites

Registration in the LPIS, background knowledge of relation databases

LEARNING OUTCOMES

After attending this course, you will be able to understand, describe and judge key approaches to data and information management.

Subject-related skills

- know the role of data, information, and knowledge in information
- know relevant terms and be able to describe essential information retrieval concepts
- understand the basic principles of information structures
- be able to transform raw data into information structures like XML, SQL etc.
- be able to analyse and reflect on the applicability of different information structure concepts

Transferable skills

- ability to autonomously collect, filter, and structure information on a previously unknown subject
- ability to take concise, target-oriented notes
- ability to present a topic to a target audience
- ability to coordinate a group project

UNITS

Unit 0 – Course structure and course tasks (1 hour)

Unit 1 – From data to information
- data, information, and knowledge in organisations
- graphs and binary search trees
- relational databases and SQL
- information retrieval

Unit 2 – Information structuring (4,5 hours)
- formatting documents using HTML and CSS
- structuring information using XML and DTD

Unit 3 – Information structuring and transformation (4,5 hours)
- using XSD and XML namespaces
- identifying information with XPath
- transforming information with XSLT

Unit 4 – Semantic web, repetition (4,5 hours)
- the idea of semantic web
- technologies related to semantic web
- repetition of covered topics

Unit 5 – Exam, project reviews (4,5 hours)

Unit Structure (units 1-4)

- 15 min repetition/summary
- 240min exercises and activities (including 3 breaks)
- 15 min summary/tasks

TEAM PROJECT

As a participant, you will take part in a team project. Together with 2-3 other participants, you will create web pages on a given topic, for a selected target audience. You will be required to specify the objective of the web pages, find suitable context, design and create web pages and include structured information using technologies covered in the course.

GRADING

There are three types of deliverables:

- 30% Home assignments based on autonomous learning
- 20% Project results50% Final exam (K.O. criterion)

As a part of your preparation and follow-up of the units, you will be encouraged to take written notes in the provided course note-book. You will be allowed to use the course notebook and all your handwritten notes in it as an aid in the exam.

Grading system

- 87% - 100% = "Sehr gut" (Excellent)
- 74% - 86.99% = "Gut" (Good)
- 61% - 73.99% = "Befriedigend" (Satisfactory)
- 50% - 60,99% = "Genügend" (Sufficient)
- Below 50% = "Nicht Genügend" (Fail)

PARTICIPATION

Standard PI (=”prüfungsimmanent” - continuous assessment of course work) attendance policy applies: In general, attendance is mandatory. A maximum of 4 hours (or 20%) absence is acceptable. Please check back with the instructor per E-Mail if you have any questions regarding attendance.

FEEDBACK

Different feedback opportunities are integrated into the course, giving you, as a participant, the opportunity to discuss your experience in this course with the instructor and thus help improve the course.

ACADEMIC DISHONESTY

Academic misconduct (plagiarism, cheating, etc.) will be prosecuted in accordance with the university’s policies and regulations.