



AALBORG UNIVERSITET

Semester description: Human Centered Informatics

8th Semester Spring 2014

Semester details

School: Communication, Art & Technology

Study board: Humanistisk Informatik

Study regulations: Regulations and curriculum for the master's programme in Human Centered Informatics

Semester code and study regulations code: Module 12 "Development and Design of ICT"

Semester framework theme

This semester focus on development and design of Information and Communication Technology (ICT). Building on curriculum from previous (7th) semester's work with analysis of use practices, this semester introduce the challenge of how to design with use practice. This includes teaching within the overall research area of systems design with specific emphasis on designing with the use practice through user-driven theories and methods, organisational change in relation to systems design, Interaction design and information architecture, formal models for preparing and communicating design solutions, and epistemological understandings of information with a view to reflecting on the scientific theoretical basis of design.

Semester organisation and time schedule

The semester is organised with a series of lectures presenting and discussing philosophies, theories and methods combined with exercises. This supports student's ability to build knowledge through shared readings, applications and reflections on ICT design philosophies, theories and methods.

Additionally, the semester introduces to the management and adaptation of systems for learning, knowledge and content management through module 13 and an "elective course" through module 14.

Semester coordinator and secretariat assistance

Module coordinator: Birger Larsen (birger@hum.aau.dk)

Secretary: Uni Stella Byrgesen (uni@hum.aau.dk)

Module description

Module title, ECTS credits and STADS code Module 12 "Development and Design of ICT" 20 ECTS
Location 8th semester <i>Study board</i> Humanistisk Informatik
Module coordinator Birger Larsen
Type and language Project module English
Objectives The module introduces students to systems design with specific emphasis on designing with the use practice through user-driven theories and methods, organisational change in relation to systems design, Interaction design and information architecture, formal models for preparing and communicating design solutions, and epistemological understandings of information with a view to reflecting on the scientific theoretical basis of design. Students will acquire skills in assessing and choosing strategies and methods for systems design, data collection and analysis in systems design, applying formal models for communicating systems design to peers and practitioners. Students will acquire competencies in taking an analytic, reflective and critical approach to the preconditions and approaches to systems design, engaging professionally in interdisciplinary collaboration, and identifying and structuring own learning needs in relation to the design brief.
Academic content and basis Cf. semester description
Scope and expectations The module is organised with 30 lecture hours at campus for which students are expected to prepare for a minimum of eight hours for each lecture hour. Preparations will especially be readings. Additionally, students are expected to conduct exercises related to lectures for a minimum of 100 hours. Through the semester students conduct a project within the theme 'Development and Design of ICT' independently. Since Development and Design of ICT is a discipline integrating philosophy, theory and practice students must expect to carry out fieldwork as well as theoretical studies and work on the ability to integrate theory and practice. Students must expect a workload of 200 hours for the semester project. For the semester project students receive 12 hours of supervision and examination from teachers at the semester. The semester project is concluded with a semester report consisting of no less than 15 pages and no more than 20 pages per student in a project group, and 30 pages if written individually.
Participants Students enrolled at the 8 th semester Human Centered Informatics

Prerequisites for participation

BA-level in studies accepted by the study board of Humanistisk Informatik

Module activities (course sessions etc.)

All activities are planned to take place in FKJ10A 3.152, AAU-CPH.

For all course elements slides and other resources will be available on Moodle.

Semester Introduction (Birger Larsen)

February 3 – 2 hr introduction to 8th semester

February 13 – 6 hr formation of project groups

Information theories and understandings

- *Type of teaching:* lectures and workshops.
- 2 x 2 hr lectures by **Peter Øhrstrøm** on the notion of information as seen from a conceptual and philosophical point of view. The key questions will be: "What is information?", "How can information be represented?" and "How and on which conditions should access to information be given?".
- 3 x 1 hr lectures by **Helle Karoff** on information understandings, epistemology and research methods in relation to design. The lectures are integrated with **Anne Hatting's** lectures on Systems design and user-driven development.
- 1 x 4 hr workshop on epistemology and research methods in relation to design in student projects. The purpose is to explicitly and practically integrate information theories and research methods into student projects.
- *Sample recommended readings*
 - Floridi, L.: "The Philosophy of Information", Oxford Scholarship Online 2011.

Systems design and user-driven development

- *Type of teaching:* lectures and workshops.
- 5 x 3 hr sessions on Systems design and user-driven development by **Anne Hatting**. Three of the sessions are integrated with Helle Karoff's lectures on information understandings, epistemology and research methods in relation to design. These sessions each consist on 2 hr lectures and 1 hr workshops. Two 3 hr sessions consist of lectures and workshops by **Anne Hatting**. Lectures and workshops are on the following themes: Interaction design, practice in organizations particularly focusing on ICT-related knowledge, persuasion and interaction, and different approaches to understanding the notion of users..
- *Sample recommended readings*
 - Rogers, Y., Sharp, H. & Preece, J. (2011): "Interaction Design: beyond human-computer interaction". (3rd edition). John Wiley and Sons Ltd.

Information architecture and formal models for communicating systems design

- *Type of teaching:* Lectures and workshops
- 1 x 2 hr lecture and 1 x 2 hr workshop by **Toine Bogers** on Information architecture by Toine Bogers on the following themes: the concept of information architecture and the four core elements in information architecture: Navigation, organization, labelling, and search.
- 1 x 2 hr lecture and 1 x 2 hr workshop on formal models for communicating systems design.
- *Sample recommended readings*
 - Morville & Rosenfeld (2007). Information Architecture for the World Wide Web.

Cambridge: O'Reilly. Ch. 5-8.

Semester project 'Development and Design of ICT'

- *Type of teaching:* Project supervision and examination
- Project work starts **primo March**. Project reports are to be handed in **May 22** and examinations will be held in June.
- *Lecturer(s):* Birger Larsen and Anne Hatting
- *Recommended readings:* Course readings plus scientific project specific literature.

Examination

Students are examined on the basis of the project report.

Duration of examination: 20 minutes per student and 10 minutes per group for assessment and announcement of result, although no longer than a total of two hours. 30 minutes in total for individual examinations.

Evaluation: Grading according to the 7-point scale. At oral group examinations, the examination must be conducted in such a way that individual assessment of each individual student's performance is ensured.

Module description

Module title, ECTS credits and STADS code

Module 13 "ICT for Learning, Knowledge and Content Management"
5 ECTS

Location

8th semester
Study board of Humanistisk Informatik

Module coordinator

Thorkild Hanghøj

Type and language

Study subject module
English

Objectives

The module introduces students to the management and adaptation of systems for learning, knowledge and content management in order to enable them to act independently when needing to adapt systems, implement prototypes and implement more complete solutions within various domains (business, cultural heritage and education). Students will gain knowledge of theory and methods regarding ICT systems for learning, knowledge and content management. Students will acquire skills in assessing, selecting and applying methods for learning, knowledge and content management; select and adapt ICT systems as well as communicate methods and solutions for ICT for learning, knowledge and content management. Students will acquire competences in taking an analytical, reflective and critical approach to selecting, adapting and applying ICT systems for learning, knowledge and content management.

Academic content and basis

Cf. semester description

Scope and expectations

The module is organised with 30 lecture hours at campus for which students are expected to prepare for a minimum of 3 hours for each lecture hour through readings and exercises. Real life cases will be presented as part of the module and it is expected that students engage in case work and exercises in order to work on the ability to integrate theory and practice.

Participants

Students enrolled at the 8th semester Human Centered Informatics

Prerequisites for participation

BA-level in studies accepted by the study board of Human Centered Informatics

Module activities (course sessions etc.)

The module has five sections which will alternate between lectures, hands-on and workshops. All five are co-taught by **Thorkild Hanghøj** and **Birger Larsen**. More detailed descriptions and readings will be available in Moodle.

#1: Learning, Knowledge and Content Management

- Introduction to ICT and learning
- Presentation of case
- Workshop with CMS system
- Sample recommended readings
 - Jones, A. & Isroff, K. (2007). Learning technologies. Affective and social issues. In: Conole, G. & Oliver, M. (ed). Contemporary perspectives in e-learning research. Themes, methods and impact on practice (pp. 190-202). London: Routledge.
 - Stahl, G., Koschmann, T., & Suthers, D. (2006). Computer-supported collaborative learning: An historical perspective. In R. K. Sawyer (Ed.): Cambridge Handbook of the Learning Sciences (pp. 409-426). Cambridge, UK: Cambridge University Press. Available at: http://GerryStahl.net/cscl/CSCL_English.pdf

#2: Learning, Knowledge and Content Management

- Learning perspectives on CMS
- Introduction to IA (Information Architecture)
- Workshop with IA and CMS
- Sample recommended readings
 - Dohn, N. B. & Johnsen, L. (2009). Hvad er web 2.0 og hvorfor bruge det til e-læring? E-læring på web 2.0. København: Forlaget Samfundslitteratur

#3: Learning, Knowledge and Content Management

- Understanding CMS and learning in organizational contexts
- Further presentation of case by **Lars Birch Andreason**, director of the MIL study Master in ICT and Learning)
- Preparing field work and interview guides
- Sample recommended readings
 - Orlikowski, W. J., & Gash, D. C. (1994). Technological frames - making sense of information technology in organizations. ACM Transactions on Information Systems, 12(2), 174-207.

#4: Learning, Knowledge and Content Management

- Introduction to personas
- Analyzing user data in relation to case
- Sample recommended readings
 - Panke, S., Gaiser, B. & Werner, B (2007). Evaluation as Impetus for Innovations in E-learning – Applying Personas to the Design of Community Functions. MERLOT Journal of Online Learning and Teaching, 3(2), 179-190. Link: <http://jolt.merlot.org/vol3no2/panke.pdf>

#5: Learning, Knowledge and Content Management

- Communication within digital learning environments
- Formal and informal learning contexts
- Analyzing examples of online courses
- Sample recommended readings
 - Sorensen, E. K., Takle, E. S. & Moser, H. M. (2006). Knowledge Building Quality in Online Communities of Practice: Focusing on Learning Dialogue. In D. McConnel (Ed.): Imagining learning in the 21st century: the role of e-learning. Special Issue of Studies in Continuing Education (SCE). Vol. 28. No. 3. pp. 241-257.
 - Thorhauge, A. M (2012). Communication technologies in the study environment: Institutional and personal media as a reflection of organisational structure. MedieKultur 28(53), 22-36. Link: <http://ojs.statsbiblioteket.dk/index.php/mediekultur/article/view/7288>

Examination

The module is completed through an internal, written examination in English. The examination is a seven-day take-home assignment on a set topic. On the basis of the module, students will respond to one or a number of questions and assignments within the subject area of the module. The assignment paper must not exceed ten pages, and it must be prepared individually.

Evaluation: Grading according to the 7-point scale.

The study elements on which the examination is based are equivalent to 5 ECTS.

Module description

Module title, ECTS credits and STADS code
Module 14 "Elective courses B" (joint elective courses) 5 ECTS
Elective course titles (see separate descriptions)
<ul style="list-style-type: none">• Web programming (Toine Bogers)• Collective Intelligence (Toine Bogers and Birger Larsen)