AALBORG UNIVERSITY
DENMARK

Study Board of
Communication and Digital Media
Fall 2016

Semester description 7th semester Information Architecture, Aalborg

Semester details

School: School of Communication, Art and Technology (CAT)
Study Board: Storyboard for Communication and Digital Media
Study Regulation: Regulations and curriculum for the master's programme in information architecture, september 2016:
http://www.fak.hum.aau.dk/digitalAssets/153/153850_ma_informationsarchitecture_2016_hum_aau.dk.pdf

Semester framework theme

This project module focuses on design of information architecture (IA) for communication and human-computer interaction at web sites, social network, portals, online communities, intranets, e-learning systems. User-centred design that takes into account the users as well as technology.
The students will build on communication theory from the bachelor education regarding genres, metaphors and patterns, and will learn to observe, analyse and interpret Information Architecture across media and organizational boundaries, and to understand why and how categorizing and knowledge organization has formatting impact on information handling and knowledge sharing.

Semester organisation and time schedule

This semester consists of three overall courses; Categorization, Concept and Cognition (5 ECTS), Information Architecture, Rhetoric and Persuasive Design (15 ECTS), and Web Technology and Databases (10 ECTS). Categorization represents the theoretical perspective of categorization and cognition, whereas IA rhetoric presents core elements in designing information architecture. Lastly, Web Technology and Databases represents the technological angle on IA.

Semester coordinator and secretariat assistance

Semester coordinator: Tanja Svarre.
Course coordinator: Ann Bygholm (Categorization, concepts and cognition), Tanja Svarre (Information architecture, rhetorics and persuasive design), Pär-Ola Zander (Web technology and databases).
Secretariat assistance provider: Pia Knudsen piak@hum.aau.dk

Study module: “Categorization, concepts, and cognition”
5 ECTS

Location
7th semester
Study board Communication and Digital Media

Module coordinator
Ann Bygholm

Type and language
Study module
English

Objectives
The module will introduce the students to theories on the ontology and structure of concepts, based on an understanding of human cognition. Concepts and categories play important and invisible roles in shaping the world and our lives. In this course we will examine different understanding of categorization and discuss how these understanding can inform the discipline of Information Architecture. Thus the activities on the course will revolve around a theoretical examinations of understandings of categorization on the one hand and the application of these understandings in an ongoing case (topic to be selected by the students) at the other hand. Students will engage in lectures, presentations and casework.

In the module the students will acquire
knowledge of:

- The notion of concept and ontology
- Theories of categorisation
- Theories of cognition

skills in:

- detecting the needs for concept formation and categorisation as part of an information architecture design process
- observing and analysing problems relation to concept formation and categorisation

competences:

- taking an analytical, reflective and critical approach to the use of the notion of concepts and categorisation
- engaging in an interdisciplinary collaboration on concept formation and categorisation problems in a specific context
- identifying own learning needs and structuring own learning in relation to the use of the notion of concepts and categorisation

Academic content and basis
Cf. semester description

Scope and expectations
The module equals 5 ECTS points corresponding to a student workload of app. 137,5 working hours.

Required literature
The textbook for the course is:

Lakoff, G. (1987) Women, Fire, and Dangerous Things. The University of Chicago Press.

Additional literature appears from the description of the individual course sessions.

Module activities (course sessions etc.)

The importance of categorization

Introduction to the course**,** the participants and initial discussion and selection of care. Students choose chapter from the text book to present during the next four sessions

Literature

	Mandatory lit. no of p.	Sec. lit. no of p.	Dig. upload
Lakoff, George (1987) *Women, Fire, and Dangerous Things*: Preface + chapter 1	19		
Bowker G.C. & Star S.L. (1999) Sorting Things out – Classifications and its Consequences Chapter 1 (can be accessed here)	50		
Lakoff, G & Johnson, M. (1980) *Metaphors we live by*. The University of Chicago Press. Chapter 1-10 (p.3-51)	49		

The nature of human cognition I

Examinations of different understandings of categories – and assignment work

Literature

	Mandatory lit. no of p.	Sec. lit. no of p.	Dig. upload
Lakoff, George (1987) *Women, Fire, and Dangerous Things*: Chapter 2,3,4 & 5 (s. 12-90)	79		
Eleanor Rosch: Principles of Categorization. In Rosh, E. & Lloyd, B.B. (eds) Cognition and Categorization 27-48. Hillsdale, NJ: Lawrence Erlbaum		21	
Kaptelinin, V., Nardi, B, Macaulay, C. (1999) The activity checklist: a tool for representing the “space” of context. In Interaction. Volume 6 Issue 4, (p. 27-39) doi>10.1145/306412.306431	13		

The nature of human cognition II

Continuing our examinations of different understandings of categories – and assignment work

Literature

	Mandatory lit. no of p..	Sec. lit. no of p.	Dig. upload
Lakoff, George (1987) *Women, Fire, and Dangerous Things*: Chapter 6, 7, 8, 9 &10 (s. 91-154)	63		
P. Whitney (2001) Schemas, Frames, and Scripts in Cognitive Psychology. In International Encyclopedia of the Social & Behavioral Sciences. (p.13522–13526)	6		

doi:10.1016/B0-08-043076-7/01491-1			

The nature of human cognition III

Philosophical implications of different understandings of categories - and assignment work

Literature

	Mandatory lit. no of p..	Sec. lit. no of p.	Dig. upload
Lakoff, George (1987) *Women, Fire, and Dangerous Things*: Chapter 11,12 &13 (s. 157-218)	62		

The nature of human cognition IV

Literature

	Mandatory lit. no of p.	Sec. lit. no of p.	Dig. upload
Lakoff, George (1987) *Women, Fire, and Dangerous Things*: Chapter 16, 17 (p. 260-303) + chapter 19 (p.338-352)	59		

Why Categorizations matters

Literature

	Mandatory lit. no of p.	Sec. lit. no of p.	Dig. upload
Lakoff, George (1987) *Women, Fire, and Dangerous Things*: Chapter 21 (p. 370-374)	4		
Bowker G.C. & Star S.L. (1999) Sorting Things out – Classifications and its Consequences Chapter 2 (p.51-106) & 10 (319-326) (can be accessed here)	64		
Bowker. G.C & Star S.L.: Invisible mediators of action: Classification and the ubiquity of Standards. Mind, Cluture, and Activity, 7:1-2, 147-163		18	

Examination 2

An internal and individual written test in: Categorisation, Concepts, and Cognition
The test should be carried out within 3 days. The student should produce a report on a given categorisation problem. The report may not exceed 10 pages. Alternatively, it could take the form of a digital presentation.

Literature foundation: 500 standard pages supervisor approved, self-selected literature related to the project.

Evaluation: pass/fail

In the evaluation of the examination performance, the assessment of 'pass' will be awarded to students who demonstrate that they have fulfilled the above objectives to a satisfactory extent.

The assignment paper will be evaluated by the examiner; in case of a fail grade, the assignment paper will also be evaluated by another internal examiner.

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

Substitution

Xxx

Project module: Information Architecture, Rhetoric and Persuasive Design of Information Architecture

15 ECTS

Location

7th semester
Study board Communication and Digital Media

Module coordinator

Tanja Svarre (module coordinator), Marianne Lykke, Sandra Burri

Type and language

Project module
English

The module will introduce the students to key elements of Information Architecture, including experiential, rhetorical and persuasive design principles. During the course module, the students will engage in lectures and discussions on information architecture, knowledge organisation, rhetoric, persuasive and experience design.

Objectives

In the module the students will acquire
knowledge of:

- Information Architecture
- Rhetoric
- Persuasive design
- Experience design
- Knowledge organisation
- Knowledge of how information architectures participate in an interplay with usability, experiences and learning.

skills in:

- observing, analysing and interpreting information architectures irrespective of medial and organisational boundaries,
- evaluating the use of rhetoric in ICT systems
- analysing the conceptual control and consistency in information architectures, their communicative effects and potential for further development

competences in:

- taking an analytical, reflective and critical approach to the use of information architecture, rhetoric, persuasive and experience design
- engaging in an interdisciplinary collaboration on information architectures, rhetoric, persuasive and experience design in a specific context
- identifying own learning needs and structuring own learning in relation to the use of information architecture, rhetoric, persuasive and experience design in a specific context.

Academic content and basis

Cf. semester description

Scope and expectations

The module equals 15 ECTS points corresponding to a student workload of app. 412, 5 working hours.

Participants
7th semester IA students

Prerequisites for participation
BA-level in studies accepted by the study board of Communication and Digital Media

Module activities (course sessions etc.)

Semester introduction and introduction to information architecture
Apart from an introduction to the semester, the courses and the project module, today you will be introduced to the notion of information architecture, the four information architecture components and their relation, and cross/multi/omni channel information architectures.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Benyon, D. (2012). Presence in blended spaces. *Interacting with Computers, 24*(4), 219-226. Available here.	8		
Rosenfeld, L., Morville, P. & Arango, J. **(**2015). *Information Architecture for the Web and Beyond.* Sebastopol: O'Reilly. Ch. 6-9. Available here.	171		
Fischer, J., Norris, S. & Buie, E. (2012). Sense-making in cross-channel design. *Journal of Information Architecture, 4*(1-2). Available here.		24	
Rosenfeld, L., Morville, P. & Arango, J. (2015). *Information Architecture for the Web and Beyond.* Sebastopol: O'Reilly. Ch. 1-3. Available here.		49	
Russel-Rose, T. & Tate, T. (2013). *Designing the Search Experience: The Information Architecture of Discovery*. Waltham: Morgan Kaufmann. Ch. 10. Available here.		?	

User practice and interaction
Understanding users information practice is a prerequisite for designing good information architecture. The lecture introduces the notion of information seeking to provide a framework for understanding users interaction with information. Core models and theories of seeking practice will be used as the point of departure. Also we will discuss the concept of interaction.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Dourish, P. (2003). The appropriation of interactive technologies: Some lessons from placeless documents. *Computer Supported Cooperative Work, 12*(4), 465-490. Available here.	35		
Wilson, T.D. (1999). Models in information behavior research. *Journal of documentation, 55*(3), 249-270. Available here.	21		
Dourish, P. (2001). *Where the Action is: The Foundations of Embodies Interaction.* Boston: MIT. Ch. 1. Available in the lecture folder.		23	
Kim, K. (2001). Information-seeking on the web: Effects of user and task variables. *Library & Information Science Research, 23*(3), 233-255. Available here.		22	
Kuhlthau, C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science, 42*(5), 361-371. Available here.		10	
Russel-Rose, T. & Tate, T. (2013). *Designing the Search Experience: The Information Architecture of Discovery*. Waltham: Morgan Kaufmann. Ch. 1-3. Available here.		?	

Knowledge organizion (KO)

The lecture will introduce to the field of knowledge organization (KO) – how to represent, describe and organize knowledge in digital systems. The lecture will focus on the role of knowledge organization and on tools and techniques. Concerning tools we will concentrate on metadata and taxonomies, their specific role and conceptual characteristics, including advantages and challenges.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Gilliland, AJ (2000). Setting the stage. In: Baca, M (ed.). Metadata. Pathways to digital information. Online edition, version 2.1. Getty Information Institute. Available here.	?		
Rosenfeld, L., Morville, P. & Arango, J. (2015). Information Architecture. For the Web and Beyond. Sebastobol (CA): O'reilly. 269 – 309 (Chapter 10)	40		
Zeng, M L (2008). Knowledge organization systems (KOS). Knowledge Organization, 35(2/3). 160-182.	22		

Search and navigation

The lecture will present the concepts of search and navigation from a user *and* a design perspective.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Tunkelang, D. (2009). *Faceted search.* San Rafael: Morgan Claypool. (Synthesis Lectures on Information Concepts, Retrieval, and Services, 5). Available here. Pp. 1-26.	26		
Wilson, M.L. (2012).*Search User Interface Design*. San Rafael: Morgan Claypool. (Synthesis Lectures on Information Concepts, Retrieval, and Services, 20). Available here. Pp. 1-80.	80		
Kalbach, J. (2007). *Designing web navigation*. Sebastopol: O'Reilly. Available here. Pp. 2-118		116	
Russel-Rose, T. & Tate, T. (2013). *Designing the Search Experience*. Waltham: Morgan Kaufman. Available here. Ch. 5-7.		?	
Rosenfeld, L., Morville, P. & Arango, J. (2015). *Information Architecture for the Web and Beyond.* Sebastopol: O'Reilly. Ch. 8-9. Available here.		93	

Mobile information architecture

The lecture concerns the specific characteristics of mobile platforms. The topic is adresses from a user perspective as regards user practice on mobile platforms, and from a design perspective as regards the specific considerations to make in designing for mobile platforms.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Yu, N. & Kong, J. (2016). User experience with web browsing on small screens: Experimental investigations of mobile-page interface design and homepage design for news websites. *Information Sciences, 330,* 427-443. Available here.	16		
Ding, W. & Lin, X. (2010). *Information Architecture: The Design and Integration of Information spaces.* San Rafael, Calif.: Morgan & Claypool Publishers. U.S. Available here. Ch 9		?	
Falaki, H. et al. (2010). Diversity in smartphone usage. *Proceedings of the 8th international conference on Mobile systems, applications, and*		15	

services (*Mobisys ´10)*. New York: ACM. Pp. 179-194. Available here.			
Hoober, S. & Berkman, E. ((2011). *Designing Mobile Interfaces.* Sebastopol: O' Reilly. Available here. Ch. 1-2		?	
Nielsen, J. & Budiu, R. (2013). *Mobile Usability*. Berkeley: New Riders. Available here. Ch. 2-5	?		
Tossell, C. et al. (2012). Characterizing web use on smartphones. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12)*. New York: ACM. Pp. 2769-2778. Available here.		9	

Design and evaluation of IA

The lecture concentrates on methodologies for the analysis and evaluation of information architectures. The lecture will present approaches to and types of evaluation – the why, what, where, and when. The DECIDE framework is presented as a tool to plan and guide evaluation, and a set of evaluation methods, qualitative as well as quantitative oriented methods, will be introduced.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Rogers, Y., Sharp, H. & Preece, J. (2011). Interaction design, beyond human-computer interaction. Chichester: Wiley. 433-530. Available here.	97		
Kelly, D. (2009). Methods for evaluating interactive information retrieval systems with users. *Foundations and Trends in Information Retrieval, 3*(1-2), 1-224. Available here.	224		

Persuasive technology

In this lecture, the notion of persuasive technology is introduced and discussed in relation to behaviour design in general.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Lykke, M. (2009). Persuasive design strategies: means to improve the use of information organisation and search features in web site information architechture? ASIST Special Interest Group on Classification Research 20th Workshop. Vancouver.	10		
Fogg, BJ. (1998) Persuasive computers: perspectives and research directions, CHI98, ACM. Available here.	8		

Rhetorics

Whilst classical rhetoric is most often considered in relation to communication, rhetorical concepts also hold potential in relation to digital design. Digital design can in some extent be considered a particular type of communication, as the design facilitates the users understanding of the intended use.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Hasle, P and Christensen, A. K. (2007). Classical Rhetoric and a Limit to Persuasion. Persuasive Technology, Palo Alto, Springer.	4		

Ethics

This lecture introduces some of the key perspectives of applied ethics, such as utilitarianism, deontology and ontology. Apart from a general introduction to these diverse approaches to ethics, the lecture will address ways to include ethics in the development and evaluation information systems.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Albrechtslund, A. (2007). "Ethics and Technology Design." Ethics and Information Technology **9**(1): 63-72.	10		
Gram-Hansen, S. B. (2009). Towards an Approach to Ethics and HCI Development, based on Løgstrup's Ideas. Interact, Uppsala, Springer.	?		
Davis, J. (2009). Design methods for ethical persuasive computing. Proceedings of the 4th International Conference on Persuasive Technology. Claremont, California, ACM.	8		

Evaluation workshop

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload

Persuasive design

This lecture bridges from persuasive technology to persuasive design, emphasising how rhetorics, ethics and learning in combination constitutes an apporach to designs for continuous behaviour change.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Gram-Hansen, S. B. and T. Ryberg (2013). "Persuasion, Learning and Context Adaptation." Special Issue of the International Journal on Conceptual Structures and Smart Applications.	10		
Redström, J. (2006). Persuasive Design: Fringes and Foundations. Persuasive Technology 2006. Eindhoven, Springer.	11		
Fogg, B. (1998). Persuasive Computers, Perspectives and research directions. CHI, ACM Press.	8		

Design exercise and closing the course

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload

Examination 1

An internal oral test in: Information Architecture, Rhetoric, Persuasive Design, and Experience Design. The test takes its point of departure in a project report that may not exceed 15 pages per student in the group, and may not exceed 20 pages for individual projects.

Literature foundation: 1500 standard pages supervisor approved, self-selected literature related to the project.

Evaluation: Grading according to the 7-point scale.
The study elements on which the evaluation is based are equivalent to 15 ECTS.
In the evaluation of the examination performance, the grade 12 will only be awarded to students who give an excellent performance and demonstrate that they have fulfilled the above objectives exhaustively or with only a few insignificant omissions.

Study Module: Web Tecnology and Databases

5 ECTS

Location

7th semester
Studyboard for Communication and Digital Media

Module coordinator

Pär-Ola Zander

Type and language

Study module
English

Objectives

In the module the students will acquire

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Skills in:
- Web technologies and their use in knowledge organization
- Databases and their use in knowledge organization
- Search engines
- Selecting, adapting and evaluating web technologies for knowledge organization
- Construction of databases and search tools
- Carrying out data modeling, for instance by means of UML or ERD's

Competences in:
- Taking an analytical, reflective and critical approach to applying web technologies, databases for knowledge organization
- Reflecting on own practice and documentation hereof
- Identifying own learning needs and structuring own learning in relation to applying web technologies, databases for knowledge organization

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Academic content and basis

Cf. semester description

Scope and expectations

The module equals 10 ECTS points corresponding to a student workload of app. 275 working hours.

Participants

7th semester IA students

Prerequisites for participation

Relevant bachelor's degree

Module activities (course sessions etc.)

Lecture 1: Kick-off for the course (v. Pär-Ola Zander)
Describe main course objectives. Explain the main learning approach. Explain the first-order skills that you will develop as students. Explain the second-order capabilities that you will develop.
Lecture 2: basics of web technologies (v. Pär-Ola Zander)

Examples: HTML, clients,web servers. Internet-based APIs for accessing data. Various classes of high-layer technologies (e.g. CMSs).

Lecture 3: Databases, practicals (v. Tanja Svarre & Pär-Ola Zander)
Introduction to Databases. Practical examples in web development. Example of editing a script. Example of putting up a file on the web ("low-level"). Example of accessing an API.

Technology Evaluation
Students will try out different web and database technologies in small groups, and report the difficulties to class. Different groups will work with different technologies. They will be supervised in the process - not necessarily shown the correct solution, but how to systematically address the challenge, We assume that some students have very little experience with such technologies, and that others are more experienced. The process will ensure that both categories have a stimulating and challenging learning experiences. (technologies to be tried are web servers, data visualization technologies and search prototyping technologies).

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Connolly & Hoar (2015). Fundamentals of Web Development (global edition). Harlow: Pearson. (main literature)	Full book		
Janssens, J. (2014). Data science at the command line. O'Reilly, Sebastopol, CA.			
Lemay, L., Kyrnin, J., & Colburn, R. (2011). Sams Teach Yourself HTML, CSS & JavaScript Web Publishing in One Hour a Day.			
http://www.w3schools.com/			
Johnson, S. B. (2003). Systems integration and the social solution of technical problems in complex systems. The Business of Systems Integration, 35–56.			

Note: we have not specified the pages for all literature, since, it makes little sense to specifiy pages in technical literature of this kind, as much of it is used for referencing rather than for interpretation.

Examination (Examination 7)

An internal written individual test in: Web technology and databases. The test takes the form of a set take-home assignment to be handed in after 3 days. In the test, the student completes a designated task within the subjects covered by the course. The assignment paper must demonstrate that the student fulfills the objectives for the module stated above.

Literature foundation: 1000 standard pages supervisor approved, self-selected literature related to the project.

Evaluation: Grading according to the 7-point scale.

The study elements on which the examination is based is equivalent to 10 ECTS. In the evaluation of the examination performance, the grade 12 will only be awarded to students who give an excellent performance

and demonstrate that they have fulfilled the above objectives exhaustively or with only few insignificant omissions.

Voluntary Module: Doing academic projects

Location
7th semester
Studyboard for Communication and Digital Media

Module coordinator
Tanja Svarre & Ann Bygholm

Type and language
Voluntary module
English

Objectives
In the module the students will acquire knowledge on various aspects of the academic project work.

Academic content and basis
The course contains elements regarding literature searching (library introduction, theory of science, problem based learning, theory of science, and various research methods.

Participants
7th semester IA and IS students

Prerequisites for participation
Relevant bachelor's degree

Module activities (course sessions etc.)

The university library for new AAU-students
This lecture introduces the students to the university library, including remote access, databases, and the library catalogue.

Introduction to PBL
In this session we introduce to the Aalborg PBL model, which is the problem and project pedagogy that is used across AAU. This model for learning entails that you as students are encouraged to work together in a group over the entire semester. You will work on a problem, research question or challenge you find particularly interesting and collaboratively write up a project report critically discussing e.g. how you have addressed your problem, which theories and methods you have chosen and applied, your analysis, data collection, your design etc. In the session we introduce and discuss both the theory and practice of the Aalborg PBL model.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
AAU's booklet on PBL. Available here.		?	
Kolmos, A., & Graaff, E. D. (2003). Characteristics of Problem-Based Learning. International Journal Of Engineering Education, 2003(19), 657–662. Available here.		6	

Theory of sciences in the humanities

This is an introduction to the role of philosophy of science – or meta-theory – in humanities research. Different approaches will be discussed and related to the project work, but there will be particular focus on hermeneutics and its perspective on interpretation and analysis.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Rosenberg, A. (2005). *Philosophy of Science: A Contemporary Introduction*. Psychology Press. (available at AUB or in parts here)		?	
Holm, A. B. (2013). *Philosophy of Science: An Introduction for Future Knowledge Workers*. Samfundslitteratur. (available at AUB or in parts here)		?	
Jahnke, M. (2012). Revisiting Design as a Hermeneutic Practice: An Investigation of Paul Ricoeur's Critical Hermeneutics. *Design Issues*, 28(2), 30–40. (available here)		11	

Project work

This lecture provides a practical introduction to project work at AAU, explaining the dynamics of group formation, and providing input with regards to project management, collaboration tools and practical considerations for the group work process.

Quantitative research methods

The lecture concerns quantitative research methods, data collection and analysis and emphasizes, how quantitative research methods can add to humanistic studies, projects and research.

Literature

	Pri. lit. no of p.	Sec. lit. no of p.	Dig. upload
Bryman, A. (2015). *Social research methods*. Oxford University Press. Ch. 7, 8, 11, 15.		?	

Qualitative research methods

This lecture provides an introduction to research methodologies with a distinct focus on qualitative apporaches to research.

Project workshop – information searching