Msci 444 - Information Systems Analysis and Design
Winter 2018

Lectures: Monday 10:30AM-12:20PM (CPH-3681), Wednesday 10:30AM-11:20AM (CPH-3681)

Tutorials: Friday 10:30AM - 11:20PM (RCH-305)

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TA office hour: TBD

Course description: The course is intended to provide students with the knowledge of the theory and practice of information systems development stages, techniques and methodologies. Course topics may include: requirements analysis, structured and object-oriented design techniques and system implementation strategies.

Course learning outcomes:

By the end of the course, students should be able to:

1. Identify the key principles, philosophies, and practices behind methodologies (e.g. structured and agile).
2. Explain the advantages and disadvantages of information system design techniques and methodologies.
3. Apply systems analysis methodology techniques for addressing the identified problem.
4. Identify inefficiencies in how an organization performs tasks.
5. Identify the nature and scope of a suitable problem.
6. Gather and analyze information pertaining to user requirements.
7. Demonstrate ability to apply techniques to gather required information to address the problem.
8. Apply appropriate systems design techniques in order to design solutions that would address an organization's needs.
9. Use software tools to implement and document design (e.g. Astah Professional).
10. Create clear and concise design documentation including the problem statement, constraints, scope, and appropriate graphical representations (e.g. diagrams).
11. Demonstrate the functionality of a proposed model through a succinct oral presentation.

Required textbook: Hoffer J., George J., and Valacich J. Modern Systems Analysis and Design. 8th Edition, 2017, Prentice Hall, ISBN-10: 0-13-420492-1, ISBN-13: 978-0-13-420492-5

Course schedule:

Week	Topic	Chapter	Project deliverables (due date)	Assignments (due date)	Midterms (date)
1	Introduction	1, 2			
2	Structured vs. Agile methodologies	1, 2, 3			
3	Requirements modelling (Volere)	6	Stage 1: Project Proposal (15-Jan)		
4	Process modelling (DFD)	7			
5	Logic modelling (Struct. Engl., Decision Tables/Trees)	7		Assignment 1 (29-Jan)	
6	Data modelling (ERD)	8	Stage 2: System Requirements (5-Feb)		
7	Data modelling (ERD)	8			Midterm 1 (12-Feb)
8	***Reading Week***				
9	Data modelling (Normalization)	9			
10	Object modelling (Use Cases, Class, Statechart and Sequence diagrams)	Appendix 7	Stage 3: Logical Design (7-Mar)	Assignment 2 (5-Mar)	
11	Object modelling (Use Cases, Class, Statechart and Sequence diagrams) Designing for user experience (guest lecture)	Appendix 7			
12	Project workshop				Midterm 2 (19-Mar)
13	Project presentations		Stage 4: Physical Design (26-Mar)		
14	Project presentations				

Marking scheme:

25% - Group Design Project

25% - Midterm I

25% - Midterm II

15% - 2 Individual Written Assignments

10% - Class Participation and Quizzes

Late policy:

If you have a legitimate reason (e.g., illness) for being late on an assignment or the term project deliverable, contact the instructor beforehand to explain the situation. A doctor's note will be required. In such cases, an extension may be granted or an alternative assignment may be given. Otherwise, an assignment or term project grade will be reduced by **10% per day late**.

Academic integrity:

Cheating will be taken seriously, so don't do it. Students who may be tempted to hand in someone else's work as if it were their own, to hand work that was prepared for a different course, to look over their neighbour's shoulder for the answer to an exam question, or to commit any other sort of academic offence in an attempt to improve their grade in the course, should read the following information very carefully:

http://secretariat.uwaterloo.ca/Policies/policy71.htm