AALBORG UNIVERSITET

STUDIEORDNING FOR KANDIDATUDDANNELSEN I IT-DESIGN OG APPLIKATIONSUDVIKLING 2017

CAND.IT.
AALBORG

MODULER SOM INDGÅR I STUDIEORDNINGEN

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DEVELOPMENT OF A SOFTWARE APPLICATION

2019/2020

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

Course modules on iDA7

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Purpose:
The student should gain knowledge about issues and fundamental techniques for developing applications to solve realistic tasks, and gain experience in developing large systems, labour and quality control including testing.

Reason:
The project module focuses on achieving skills with specific and predefined methods, languages and tools. The project module should ensure that students gain a common foundation on program development that can be utilized in the following semesters

LEARNING OBJECTIVES

KNOWLEDGE

- analyse and model the requirements of the object oriented paradigm
- structure an application in a multi-layer architecture using current program designs, realize and test the application in an object-oriented paradigm
- understand and use concepts and features in the paradigm and on this basis construct an application of high internal and external quality

SKILLS

- implement systematic testing of the application and demonstrate that the application corresponds to the intentions and needs of users
- implement systematic evaluation of the user interface
- argue for the choices made in all the development process activities, including explaining requirements, architecture and how users are linked

COMPETENCES

- develop a running application that solves the user’s problem
- describe and reflect on the methods used in the development project

TYPE OF INSTRUCTION

Project work, including:

- formulation, analysis and contribution to the resolution of a current research problem within the theme of the project module
- As an integrated part of the project work, the student must follow the Problem based learning and project management workshop (1 ECTS). Approved participation is required to register for the project exam, See enclosure 1.

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 450 hours

EXAM

EXAMS

Name of exam	Development of a Software Application
Type of exam	Oral exam based on a project
ECTS	15
Assessment	7-point grading scale
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Udvikling af en softwareapplikation
Module code	DSNIDAK101
Module type	Project
Duration	1 semester
Semester	Autumn
ECTS	15
Language of instruction	English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

SYSTEMS DEVELOPMENT

2019/2020

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

LEARNING OBJECTIVES

KNOWLEDGE

Object-oriented modelling in analysis and design:

- modelling of context (application domain and problem domain)
- object-oriented concepts: class, object, event, structure, function, use patterns, component, component architecture
- UML: class diagram, state chart diagram, sequence diagram, diagram for use patterns

Modelling with patterns:

- patterns for modelling application and problem domains
- patterns for composing components
- specifically the patterns for analysis: object-descriptor, hierarchy, stepwise-role, materials, procedure
- specifically the patterns for design: collection, layered, observer, client-server, model-view-controller

System development methods:

- waterfall method and model-driven development
- iterative method and prototype-driven development
- activities in systems development and relations between activities

Systems practices:

- techniques to determine the specific method
- the relation between methodology and practice
- strengths and weaknesses of model-driven and prototype-driven development

SKILLS

- be able to explain accurately, using the concepts and modelling language of the discipline
- be able to model the requirements to a system, its context and all its various parts (model, features and interfaces)
- be able to model a system design at component level and describe relations between components.

COMPETENCES

- able to apply concepts, patterns and modelling language to describe a specific system that solves a well-defined task

TYPE OF INSTRUCTION

The teaching is organized according to the general teaching methods for the education, cf. chapter 3

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 150 hours

EXAM

EXAMS

Name of exam	Systems Development
Type of exam	Written or oral exam
ECTS	5
Assessment	7-point grading scale
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

FACTS ABOUT THE MODULE

Danish title	Systemudvikling
Module code	DSNIDAFK102
Module type	Course
Duration	1 semester
Semester	Autumn
ECTS	5
Language of instruction	Danish and English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

DESIGN AND EVALUATION OF USER INTERFACES

2019/2020

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

LEARNING OBJECTIVES

KNOWLEDGE

Fundamentals of human-computer interaction:

- interaction design
- usability and user experience
- design principles
- interaction forms
- human cognition, perception and memory

Interaction design process:

- activities in interaction design
- user-centered design
- contextual design, participatory design
- different lifecycle models for interaction design

Use context and users:

- understand needs and requirements: e.g. interview, observation, questionnaire, probes, card sorting
- task analysis: e.g. hierarchical task analysis, objectives, tasks, actions
- scenarios and personas
- use patterns

Design of interfaces:

- visual design principles
- Gestalt laws
- sketching and prototyping
- conceptual and physical interface design

Usability evaluation:

- activities
- roles and tasks
- identification of usability problems

SKILLS

- understand basic and advanced concepts and theories of human-computer interaction
- be able to explain the activities in the design of an interface accurately
- be able to explain the activities of a usability evaluation

COMPETENCES

- be able to apply concepts, techniques and methods to design and evaluate a specific system that solves a well-defined task and discuss relations between concepts, techniques and methods in the subject.

TYPE OF INSTRUCTION

The teaching is organized according to the general teaching methods for the education, cf. chapter 3

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 150 hours

EXAM

EXAMS

Name of exam	Design and Evaluation of User Interfaces
Type of exam	Written or oral exam
ECTS	5
Assessment	7-point grading scale
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

ADDITIONAL INFORMATION

Contact: The Study board for Computer Science at cs-sn@cs.aau.dk or 9940 8854

FACTS ABOUT THE MODULE

Danish title	Design og evaluering af brugergrænseflader
Module code	DSNIDAK103
Module type	Course
Duration	1 semester
Semester	Autumn
ECTS	5
Language of instruction	Danish and English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

INTRODUCTION TO PROGRAMMING

2019/2020

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

Students who complete the module should obtain a solid foundation in working with computers and other digital devices, which will be built upon in future coursework to enable programming for different media platforms.

Furthermore, to provide the student with a foundation and basic introduction for the systematic development of programs using object-oriented modelling and programming. The student should acquire an understanding of basic concepts and mechanisms in an object-oriented programming language such that the student is able to use the language and associated class library to implement small programs.

LEARNING OBJECTIVES

KNOWLEDGE

- Understanding of flow control structures, both logical (e.g., if, case), and loop (e.g., for, while)
- Understanding data types and structures (e.g., array, struct, list)
- Understanding functions
- Understanding basic principles of Object Oriented programming, such as using application programming interfaces (APIs) and the need to create custom classes
- Basic introduction to concepts of access (e.g., public, private, protected) and inheritance, composition and encapsulation
- Understanding of design methodologies for programming and understanding of the distinction between good and bad programming practices

SKILLS

- Ability to apply knowledge to the design of a simple event-driven interactive interface, e.g., a simple game
- Interpret and analyse programming code and work out manually
- Ability to apply programming skills to the design and implementation of simple functions and classes
- Synthesize simple built-in functions and classes from APIs
- Ability to plan and perform systematic test of small programs (application)

COMPETENCES

- evaluate small fragments of existing code, judge its design and recommend changes
- use object-oriented programming for solving specific small programming tasks

TYPE OF INSTRUCTION

The teaching is organized according to the general teaching methods for the education, cf. chapter 3

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 150 hours

EXAM

EXAMS

Name of exam	Introduction to Programming
Type of exam	Written or oral exam

ECTS	5
Assessment	Passed/Not Passed
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

ADDITIONAL INFORMATION

Contact: The Study board for Computer Science at cs-sn@cs.aau.dk or 9940 8854

FACTS ABOUT THE MODULE

Danish title	Grundlæggende programmering
Module code	DSNIDAK104
Module type	Course
Duration	1 semester
Semester	Autumn
ECTS	5
Language of instruction	Danish and English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

SOFTWARE ENGINEERING

2019/2020

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

Course modules Systems Development and Design and Evaluation of User Interfaces.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

LEARNING OBJECTIVES

KNOWLEDGE

The student should gain knowledge of leading paradigms (e.g. traditional and agile) in professional development of software. The student should also gain knowledge of theories, methods and techniques involved in these paradigms (e.g. process modelling, management of requirements, design, project management, testing, process improvement) as well as an overview of theory of science for software engineering.

SKILLS

- the ability to explain course concepts precisely using the terminology of the discipline, and be able to distinguish between and compare the software engineering paradigms
- Be able to explain accurately and using the terminology of the discipline, the theories, methods and techniques of software engineering paradigms and their application in the professional development of software intensive systems

COMPETENCES

- be able to select, justify and use appropriate paradigms, theories, methods and techniques in their own development contexts.

TYPE OF INSTRUCTION

The teaching is organized according to the general teaching methods for the education, cf. chapter 3

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 150 hours

EXAM

EXAMS

Name of exam	Software Engineering
Type of exam	Written or oral exam
ECTS	5
Assessment	7-point grading scale
Type of grading	External examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

ADDITIONAL INFORMATION

Contact: The Study board for Computer Science at cs-sn@cs.aau.dk or 9940 8854

FACTS ABOUT THE MODULE

Danish title	Software Engineering
Module code	DSNIDAFK203
Module type	Course
Duration	1 semester
Semester	Spring
ECTS	5
Language of instruction	Danish and English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

SOFTWAREINNOVATION

2019/2020

FORUDSÆTNINGER/ANBEFALEDE FORUDSÆTNINGER FOR AT DELTAGE I MODULET

Indgående indsigt i datalogiske grundprincipper

MODULETS INDHOLD, FORLØB OG PÆDAGOGIK

FORMÅL
Med software innovation menes bredt innovation i tilknytning til udvikling af software. Hovedvægten ligger på innovation produkter og processer, men også ledelse af innovativt arbejde og personlige og organisatoriske forudsætninger for innovation medregnes til faget

LÆRINGSMÅL

VIDEN

Software Innovationsteori:

- centrale teorier om innovation og innovationsprocesser
- personlige og organisatoriske forudsætninger for innovation
- teorier om software innovation

Innovationsmetoder:

- generelle metoder og teknikker til understøttelse af innovation
- konkrete metoder og teknikker til software innovation

Innovationspraksis:

- erfaring med metoder og teknikker i kreative og innovative processer
- vurdering af styrker og svagheder ved metoder og teknikker til kreative og innovative processer ved softwareudvikling

FÆRDIGHEDER

- redegøre præcist og ved brug af fagets begreber for fagets teorier
- redegøre for tilgange til valg og ledelse af innovative processer i softwareudvikling
- diskutere personlige og organisatoriske forudsætninger for software innovation
- redegøre for og diskutere værktøjer og teknikker til støtte for software innovation ud fra erfaring

KOMPETENCER

- vurdere det innovative potentiale i et software-produkt eller en software-understøttet proces

UNDERVISNINGSFORM

Undervisningen tilrettelægges i henhold til de generelle undervisningsformer for uddannelsen, jf. kapitel 3

OMFANG OG FORVENTET ARBEJDSINDSATS

Det forventes at den studerende bruger 30 timer per ECTS, hvilket for denne aktivitet betyder 150 timer.

EKSAMEN

PRØVER

Prøvens navn	Softwareinnovation
Prøveform	Skriftlig eller mundtlig
ECTS	5
Bedømmelsesform	7-trins-skala
Censur	Intern prøve
Vurderingskriterier	Vurderingskriterierne er angivet i Universitetets eksamensordning

YDERLIGERE INFORMATIONER

Kontakt: Studienævn for datalogi via cs-sn@cs.aau.dk eller 9940 8854

FAKTA OM MODULET

Engelsk titel	Software Innovation
Modulkode	DSNDATFK205
Modultype	Kursus
Varighed	1 semester
Semester	Forår
ECTS	5
Undervisningssprog	Dansk og engelsk
Tomplads	Ja
Undervisningssted	Campus Aalborg
Modulansvarlig	Lone Leth Thomsen

ORGANISATION

Studienævn	Studienævn for Datalogi
Institut	Institut for Datalogi
Fakultet	Det Tekniske Fakultet for IT og Design

DATABASE DEVELOPMENT

2019/2020

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

Basic knowledge of programming.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

LEARNING OBJECTIVES

KNOWLEDGE

- the relational data model and its concepts
- data modelling (ERD / UML)
- concept of operations
- integrity constraints including primary keys, promoting keys, checks and not null
- SQL language for defining databases, basic and advanced data extraction and modification of data
- Extracting information from a DBMS from a programming language such as PHP, Java or C #
- "best practice" for good design and use of DBNS and SQL
- Understand and use the advanced queries using more than two tables, e.g., for inner join, outer join, and the set operators

SKILLS

- be able to construct and evaluate a database design and database scheme
- demonstrate understanding of the relational data model and how to evaluate the model
- construct and evaluate complex queries in SQL and other relevant query languages
- constructing transactions that comply with relevant technical and commercial criteria
- Informally argue for the goodness/quality of the database design using knowledge on unnecessary repetition of information plus first and third normal form

COMPETENCES

- use a database management system (DBMS) to store and retrieve information
- use SQL from a conventional programming language

TYPE OF INSTRUCTION

The teaching is organized according to the general teaching methods for the education, cf. chapter 3

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 150 hours

EXAM

EXAMS

Name of exam	Database Development
Type of exam	Written or oral exam
ECTS	5

Assessment	Passed/Not Passed
Type of grading	Internal examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

ADDITIONAL INFORMATION

Contact: The Study board for Computer Science at cs-sn@cs.aau.dk or 9940 8854

FACTS ABOUT THE MODULE

Danish title	Databaseudvikling
Module code	DSNIDAK204
Module type	Course
Duration	1 semester
Semester	Spring
ECTS	5
Language of instruction	Danish and English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

EMPIRICAL RESEARCH IN SOFTWARE DEVELOPMENT

2019/2020

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

iDA8 project. The activity Software Development Research Methods must be followed in parallel or before.

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

LEARNING OBJECTIVES

KNOWLEDGE

- Must have knowledge about the application of concepts, processes and theories from the activity Software Development Research Methods

SKILLS

- Must be able to identify, formulate and analyse a problem in context.
- Must be able to relate the problem definition to empirical research processes for software development.
- Must be able to identify and describe relevant empirical research processes to address the defined problem.
- Must be able to report on the findings of the empirical research processes

COMPETENCES

- Must document experience with empirical research processes to address knowledge creation on software development or software products.

TYPE OF INSTRUCTION

The teaching is organized according to the general teaching methods for the education, cf. chapter 3

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 600 hours

EXAM

EXAMS

Name of exam	Empirical Research in Software Development
Type of exam	Oral exam based on a project
ECTS	20
Assessment	7-point grading scale
Type of grading	External examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

ADDITIONAL INFORMATION

Contact: The Study board for Computer Science at cs-sn@cs.aau.dk or 9940 8854

FACTS ABOUT THE MODULE

Danish title	Empirisk forskning i softwareudvikling
Module code	DSNIDAK301
Module type	Project
Duration	1 semester
Semester	Spring
ECTS	20
Language of instruction	English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

ENTREPRENØRSKAB

2019/2020

FORUDSÆTNINGER/ANBEFALEDE FORUDSÆTNINGER FOR AT DELTAGE I MODULET

Anbefalede faglige forudsætning:

Akademisk modenhed svarende til bachelorniveau i en software relateret disciplin

MODULETS INDHOLD, FORLØB OG PÆDAGOGIK

LÆRINGSMÅL

VIDEN

Om softwarerelateret iværksætteri og forretningsudvikling, herunder typisk:

- forskellige videnskabelige tilgange til entrepreneurship, herunder effectuation
- intra-/entrepreneurship
- konkurrence- og markedsvilkår
- forretningsmodeller og -planer
- intellectual property rights
- markedsudvikling og -føring
- vækststrategier
- open entrepreneurship

FÆRDIGHEDER

- kunne redegøre præcist og ved brug af fagets terminologi for kursets begrebsapparat
- kunne gøre brug af begreberne til at belyse praktiske og empiriske (casebaserede) kontekster

KOMPETENCER

- kunne formulere, udvikle og præsentere egne software-relaterede forretningsideer over for et fagligt kvalificeret publikum

UNDERVISNINGSFORM

Undervisningen tilrettelægges i henhold til de generelle undervisningsformer for uddannelsen, jf. kapitel 3

OMFANG OG FORVENTET ARBEJDSINDSATS

Det forventes at den studerende bruger 30 timer per ECTS, hvilket for denne aktivitet betyder 150 timer.

EKSAMEN

PRØVER

Prøvens navn	Entreprenørskab
Prøveform	Skriftlig eller mundtlig
ECTS	5
Bedømmelsesform	Bestået/ikke bestået

Censur	Intern prøve
Vurderingskriterier	Vurderingskriterierne er angivet i Universitetets eksamensordning

YDERLIGERE INFORMATIONER

Kontakt: Studienævn for datalogi via cs-sn@cs.aau.dk eller 9940 8854

FAKTA OM MODULET

Engelsk titel	Entrepreneurship
Modulkode	DSNDATFK302
Modultype	Kursus
Varighed	1 semester
Semester	Efterår
ECTS	5
Undervisningssprog	Dansk
Tomplads	Ja
Undervisningssted	Campus Aalborg
Modulansvarlig	Lone Leth Thomsen

ORGANISATION

Studienævn	Studienævn for Datalogi
Institut	Institut for Datalogi
Fakultet	Det Tekniske Fakultet for IT og Design

MASTER'S THESIS

2019/2020

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

LEARNING OBJECTIVES

KNOWLEDGE

- Must have knowledge about the application of concepts, processes and theories of software development

SKILLS

- Must be able to identify, formulate and analyse a problem in context.
- Must be able to relate the problem definition to empirical research processes for software development and argue for the relevance the problem in a wider context.
- Must be able to identify, explain and argue for the relevance and rigour of the chosen empirical research processes to address the defined problem.
- Must be able to report on the findings of the empirical research processes and explain the contributions to research and practice.
- Must be able to perform a literature review relevant to the defined problem.

COMPETENCES

- Must document experience with empirical research processes to address knowledge creation on software development or software products.
- Must have experience with research processes and research setting.

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 450 hours

EXAM

EXAMS

Name of exam	Master's Thesis
Type of exam	Oral exam based on a project
ECTS	30
Assessment	7-point grading scale
Type of grading	External examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

ADDITIONAL INFORMATION

Contact: The Study board for Computer Science at cs-sn@cs.aau.dk or 9940 8854

FACTS ABOUT THE MODULE

Danish title	Kandidatspeciale
Module code	DSNIDAFK401
Module type	Project
Duration	1 semester
Semester	Spring
ECTS	30
Language of instruction	English
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

USER-CENTERED SOFTWARE DEVELOPMENT

2019/2020

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

iDA7 project; SD; DEB; and programming skills

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

LEARNING OBJECTIVES

KNOWLEDGE

- Must have knowledge about the application of concepts, processes and theories for user-centered development and software engineering

SKILLS

- Must be able to define a problem within user-centered software development and solve it
- Must be able to argue for the chosen requirements, design and implementation and how they relate
- Must be able to describe and explain how a chosen process solved the defined problem

COMPETENCES

- Must have experience with user-centered design
- Must have experience with selected processes for software engineering
- Can study, reflect on, and manage user-centered development processes

TYPE OF INSTRUCTION

The teaching is organized according to the general teaching methods for the education, cf. chapter 3

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 450 hours

EXAM

EXAMS

Name of exam	User-Centered Software Development
Type of exam	Oral exam based on a project
ECTS	15
Assessment	7-point grading scale
Type of grading	External examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

ADDITIONAL INFORMATION

Contact: The Study board for Computer Science at cs-sn@cs.aau.dk or 9940 8854

FACTS ABOUT THE MODULE

Danish title	Brugercentreret softwareudvikling
Module code	DSNIDAK201
Module type	Project
Duration	1 semester
Semester	Spring
ECTS	15
Language of instruction	English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

INNOVATIVE SOFTWARE DEVELOPMENT

2019/2020

PREREQUISITE/RECOMMENDED PREREQUISITE FOR PARTICIPATION IN THE MODULE

iDA7 project; SD; DEB; and programming skills

CONTENT, PROGRESS AND PEDAGOGY OF THE MODULE

LEARNING OBJECTIVES

KNOWLEDGE

- Must have knowledge about the application of concepts, processes and theories for innovation and software engineering

SKILLS

- Must be able to define a problem within innovative software development and solve it
- Must be able to argue for the chosen requirements, design and implementation and how they relate
- Must be able to describe and explain how a chosen process solved the defined problem

COMPETENCES

- Must have experience with creative processes for software innovation
- Must have experience with selected processes for software engineering
- Can study, reflect on, and manage innovative processes and development processes

TYPE OF INSTRUCTION

The teaching is organized according to the general teaching methods for the education, cf. chapter 3

EXTENT AND EXPECTED WORKLOAD

It is expected that the student uses 30 hours per ECTS, which for this activity means 450 hours

EXAM

EXAMS

Name of exam	Innovative Software Development
Type of exam	Oral exam based on a project
ECTS	15
Assessment	7-point grading scale
Type of grading	External examination
Criteria of assessment	The criteria of assessment are stated in the Examination Policies and Procedures

ADDITIONAL INFORMATION

Contact: The Study board for Computer Science at cs-sn@cs.aau.dk or 9940 8854

FACTS ABOUT THE MODULE

Danish title	Innovativ softwareudvikling
Module code	DSNIDAK202
Module type	Project
Duration	1 semester
Semester	Spring
ECTS	15
Language of instruction	English
Empty-place Scheme	Yes
Location of the lecture	Campus Aalborg
Responsible for the module	Lone Leth Thomsen

ORGANISATION

Study Board	Study Board of Computer Science
Department	Department of Computer Science
Faculty	Technical Faculty of IT and Design

SPECIALISERINGSKURSUS I MENNESKE-MASKINE INTERAKTION

2019/2020

MODULETS INDHOLD, FORLØB OG PÆDAGOGIK

LÆRINGSMÅL

VIDEN

- opnå dybtgående indsigt i centrale emner inden for nyere forskning i menneske-maskine interaktion

FÆRDIGHEDER

Den studerende skal med udgangspunkt i en videnskabelig artikel inden for kursets centrale emner:

- kunne give en klar og forståelig præsensation af artiklens centrale emner, herunder dens præmisser, problemstilling(er), teori, metoder, resultater og konklusioner
- kunne gøre rede for relevante/centrale teorier, metoder og argumenter, der præsenteres i artiklen

KOMPETENCER

Den studerende skal med udgangspunkt i en videnskabelig artikel inden for kursets centrale emner:

- kunne relatere de i artiklen præsenterede teorier, metoder og resultater til kursets emner
- kunne vurdere og perspektiver de i artiklen foreslående løsninger, resultater og/eller konklusioner og disses kvaliteter og praktiske anvendelighed

OMFANG OG FORVENTET ARBEJDSINDSATS

Det forventes at den studerende bruger 30 timer per ECTS, hvilket for denne aktivitet betyder 150 timer.

EKSAMEN

PRØVER

Prøvens navn	Specialiseringskursus i menneske-maskine interaktion
Prøveform	Mundtlig Den studerende giver en forelæsning af 30 minutters varighed over et nærmere afgrænset videnskabeligt emneområde (typisk i form af en artikel) i tilknytning til problemstillinger behandlet i kurset. Udvælgelsen af emneområdet og formuleringen af opgaven til den enkelte studerende foretages af kursusholderen, normalt i samråd med den studerendes projektvejleder, og den studerende gives 7 dages forberedelse. Efter forelæsningen kan eksaminator og censor, inden for en tidsramme, der normalt ikke overstiger 10 minutter, stille spørgsmål i tilknytning til den studerendes præsentation af emneområdet
ECTS	5
Bedømmelsesform	7-trins-skala
Censur	Ekstern prøve

Vurderingskriterier	Vurderingskriterierne er angivet i Universitetets eksamensordning

YDERLIGERE INFORMATIONER

Kontakt: Studienævn for datalogi via cs-sn@cs.aau.dk eller 9940 8854

FAKTA OM MODULET

Engelsk titel	Specialisation Course in Human-Computer Interaction
Modulkode	DSNDATFK305
Modultype	Kursus
Varighed	1 semester
Semester	Efterår
ECTS	5
Undervisningssprog	Dansk
Tomplads	Ja
Undervisningssted	Campus Aalborg
Modulansvarlig	Lone Leth Thomsen

ORGANISATION

Studienævn	Studienævn for Datalogi
Institut	Institut for Datalogi
Fakultet	Det Tekniske Fakultet for IT og Design

SPECIALISERINGSKURSUS I SYSTEMUDVIKLING 2019/2020

MODULETS INDHOLD, FORLØB OG PÆDAGOGIK

LÆRINGSMÅL

VIDEN

- opnå dybtgående indsigt i centrale emner indenfor nyere forskning i systemudvikling

FÆRDIGHEDER

Den studerende skal med udgangspunkt i en videnskabelig artikel inden for kursets centrale emner:

- kunne give en klar og forståelig præsentation af artiklens centrale emner, herunder dens præmisser, problemstilling(er), teorier, metoder, resultater og konklusioner.
- kunne gøre rede for relevante/centrale teorier, metoder og argumenter, der præsenteres i artiklen

KOMPETENCER

Den studerende skal med udgangspunkt i en videnskabelig artikel inden for kursets centrale emner:

- kunne relatere i de i artiklen præsenterede teorier, metoder og resultater til kursets emner
- kunne vurdere og perspektivere de i artiklen foreslåede løsninger, resultater og /eller konklusioner og disses kvaliteter og praktiske anvendelighed

UNDERVISNINGSFORM

Undervisningen tilrettelægges i henhold til de generelle undervisningsformer for uddannelsen, jf. kapitel 3

OMFANG OG FORVENTET ARBEJDSINDSATS

Det forventes at den studerende bruger 30 timer per ECTS, hvilket for denne aktivitet betyder 150 timer.

EKSAMEN

PRØVER

Prøvens navn	Specialiseringskursus i systemudvikling
Prøveform	Mundtlig Den studerende giver en forelæsning af 30 minutters varighed over et nærmere afgrænset videnskabeligt emneområde (typisk i form af en artikel) i tilknytning til problemstillinger behandlet i kurset. Udvælgelsen af emneområdet og formuleringen af opgaven til den enkelte studerende foretages af kursusholderen, normalt i samråd med den studerendes projektvejleder, og den studerende gives 7 dages forberedelse. Efter forelæsningen kan eksaminator og censor, inden for en tidsramme, der normalt ikke overstiger 10 minutter, stille spørgsmål i tilknytning til den studerendes præsentation af emneområdet.
ECTS	5
Bedømmel	7-trins-skala

sesform	
Censur	Ekstern prøve
Vurderingskriterier	Vurderingskriterierne er angivet i Universitetets eksamensordning

YDERLIGERE INFORMATIONER

Kontakt: Studienævn for datalogi via cs-sn@cs.aau.dk eller 9940 8854

FAKTA OM MODULET

Engelsk titel	Specialisation Course in Systems Development
Modulkode	DSNDATFK308
Modultype	Kursus
Varighed	1 semester
Semester	Efterår
ECTS	5
Undervisningssprog	Dansk og engelsk
Tomplads	Ja
Undervisningssted	Campus Aalborg
Modulansvarlig	Lone Leth Thomsen

ORGANISATION

Studienævn	Studienævn for Datalogi
Institut	Institut for Datalogi
Fakultet	Det Tekniske Fakultet for IT og Design