Subject module course 1: Essential Computing I

Om kurset

Subject	Fagmodul i Datalogi
Activitytype	subject module course
Teaching language	English
Registration	Please register via STADS self-service within the registration period announced here. Tilmelding via stads selvbetjening Indenfor den annonceret tilmeldingsperiode, som du kan se her.
Foreign language reading proficiency	English at a level equivalent to the Danish gymnasium level B
Objectives description (assessment criteria)	§ 1. The aim of the Bachelor Subject module in Computer Science is to qualify the student in interdisciplinary development work, particularly in preparation for professional functions in software development, i.e. especially construction and analysis of software. The aim is to give general and valid qualifications at a scientific level. General terms and general understanding have a high priority and the student's ability to work in the field of computer science from a problem-solving and critical perspective is emphasised The goal of the course is that the student acquires: **Knowledge:** • Knowledge about basic terms and tools related to programming **Skills:** • Skills in basic programming and the use of tools for preparation and execution of programmes. **Competencies:** • Competencies in analysing a problem and producing, implementing and testing an algorithmic solution
Overall content	The course introduces fundamental concepts and tools related to programming. The course is based on the Java programming language. More specifically the course covers the following: • The idea of an algorithm, problem solving, computational thinking, limits of what can be computed • Essential programming control structures, basic data types, arrays, structured data types, procedures and functions • Calculations, using libraries and APIs, files, handling graphics and sound • Classes, objects and object oriented programming • Structure of typical programs with graphical user interface
Teaching and working methods	Lectures and exercises
Expected work effort (ects-declaration)	The course will have a total workload of 140 hours with 40 hours of lectures and exercises, 70 hours of preparation over an 11 week course period and 30 hours for the exam and preparation before the course.
Course material and reading list	Will be announced in due time
Prerequisite for taking the exam	To attend the exam the student must have 50 % of the hand in assignments approved including the mini project
Form of examination	The exam will be a 15 minute individual oral exam. The exam will mainly be about the assignments (especially the mini project) but questions can be related to the whole course curriculum.

	The mark will be based on overall assessment on the assignments and the oral exam. To attend the exam the student must have 50 % of the hand in assignments approved including the mini project. The assignments can be made in groups – each group with a maximum of 3 students
Form of re-examination	Same as the ordinary exam
Examination type	Individual examination
Assessment	7-point grading scale
Moderation	Internal (i.e. course lecturer and an internal examiner assess)
Evaluation- and feedback forms	There will be feedback on the running programming assignments which are set during the course. An electronic evaluation will take place at the end of the course
The responsible course lecturer	Mads Rosendahl(madsr@ruc.dk) Torben Braüner(torben@ruc.dk)
Administration of exams	IMT Studieadministration (imt-studieadministration@ruc.dk)

Kursusgange:

Hold: 1

Session 1: Introduction to programming

Tidspunkt	13-09-2017 08:15 til 13-09-2017 12:00
Sted	06.2-007 - teorirum (75) / 06.1-032 - teorirum (60)
Indhold	Hold 1: 06.2-007 - teorirum (75) Hold 2: 06.1-032- teorirum (60)

Session 2: 'Object Oriented' thinking

Tidspunkt	20-09-2017 08:15 til 20-09-2017 12:00
Sted	06.2-007 - teorirum (75) / 04.2-025 - teorirum (40)
Indhold	hold 1: 06.2-007 - teorirum (75) hold 2: 04.2-025

Session 3: Variables and datatypes

Tidspunkt	27-09-2017 08:15 til 27-09-2017 12:00
Sted	06.2-007 - teorirum (75) / 06.1-032 - teorirum (60)
Indhold	Hold 1: 06.2-007 - teorirum (75) Hold 2: 06.1-032- teorirum (60)

Session 4: Objects

Tidspunkt	04-10-2017 08:15 til 04-10-2017 12:00
Sted	06.2-007 - teorirum (75) / 06.1-032 - teorirum (60)
Indhold	Hold 1: 06.2-007 - teorirum (75) Hold 2: 06.1-032- teorirum (60)

Session 5: Exercise / Programming

Tidspunkt	11-10-2017 08:15 til 11-10-2017 12:00
Sted	06.2-007 - teorirum (75) / 06.1-032 - teorirum (60)
Indhold	Hold 1: 06.2-007 - teorirum (75) Hold 2: 06.1-032- teorirum (60)

Session 6: The Java Library

Tidspunkt	18-10-2017 08:15 til 18-10-2017 12:00
Sted	06.2-007 - teorirum (75) / 06.1-032 - teorirum (60)
Indhold	Hold 1: 06.2-007 - teorirum (75) Hold 2: 06.1-032- teorirum (60)

Session 7: Object Oriented Programming

Tidspunkt	25-10-2017 08:15 til 25-10-2017 12:00
Sted	06.2-007 - teorirum (75) / 06.1-032 - teorirum (60)
Indhold	Hold 1: 06.2-007 - teorirum (75) Hold 2: 06.1-032- teorirum (60)

Session 8: GUI programming & Exception handling

Tidspunkt	01-11-2017 08:15 til 01-11-2017 12:00
Sted	06.2-007 - teorirum (75) / 06.1-032 - teorirum (60)
Indhold	Hold 1: 06.2-007 - teorirum (75) Hold 2: 06.1-032- teorirum (60)

Session 9: GUI programming

Tidspunkt	08-11-2017 08:15 til 08-11-2017 12:00
Sted	06.2-007 - teorirum (75) / 06.1-032 - teorirum (60)
Indhold	Hold 1: 06.2-007 - teorirum (75) Hold 2: 06.1-032- teorirum (60)

Session 10: Java Collections Framework

Tidspunkt	15-11-2017 08:15 til 15-11-2017 12:00
Sted	06.2-007 - teorirum (75) / 04.2-025 - teorirum (40)
Indhold	hold 1: 06.2-007 - teorirum (75) hold 2: 04.2-025 (40)

Submitting exam assignment

Tidspunkt	27-11-2017 12:00 til 27-11-2017 12:00

Oral examination

Tidspunkt	02-01-2018 08:00 til 03-01-2018 18:00

Re-examination

Tidspunkt	22-02-2018 08:00 til 22-02-2018 18:00
Indhold	Genaflevering af skriftlig opgave: Mandag d. 19. februar kl. 12.00 i Digital Eksamen