Complex IT Systems – Practice

Title	Complex IT Systems – Practice
Semester	E2022
Master programme in	Computer Science
Type of activity	Course
Teaching language	English
Study regulation	Read about the Master Programme and find the Study Regulations at ruc.dk

REGISTRATION AND STUDY ADMINISTRATIVE

Registration	Sign up for study activities at STADS Online Student Service within the announced registration period, as you can see on the Study administration homepage. When signing up for study activities, please be aware of potential conflicts between study activities or exam dates. The planning of activities at Roskilde University is based on the recommended study programs which do not overlap. However, if you choose optional courses and/or study plans that goes beyond the recommended study programs, an overlap of lectures or exam dates may occur depending on which courses you choose
Number of participants	
ECTS	15
Responsible for the activity	Troels Andreasen (troels@ruc.dk)
Head of study	Henrik Bulskov (bulskov@ruc.dk)
Teachers	
Study administration	IMT Studyadministration (imt-studyadministration@ruc.dk)
Exam code(s)	U60057

ACADEMIC CONTENT

Overall objective	Construction of complex IT systems and management of complex IT projects.
Detailed description of content	Construction of complex IT systems and management of complex IT projects. This activity will be dominated by three pre-defined and connected subprojects that combine into a whole. Problems and

	challenges are related to issues covered in the three corresponding sections of the Complex IT systems – Theory course. The subprojects are defined by a set of specific requirements where the intention is to develop competence and skills in specific theoretical and practical areas. The goal is that the student, based on knowledge about relevant theory, will obtain skills to develop responsive applications in a distributed environment, and the approach is, by the three subprojects, to develop a modern complex and distributed web application.
Course material and Reading list	Syllabus will be available on Moodle.
Overall plan and expected work effort	The course will have a total workload of 412 hours. The activity's major teaching and learning activities are fleshed out ● Minor workshops on specific practical problems ● Status meetings with teachers to report on the process and get insight in requirements ● On campus work supported by teaching assistants
Format	
Evaluation and feedback	Evaluation form to be filled out (anonymously) plus open discussion on the last course day.
Programme	The course will cover full-stack development of a lager complex IT-system. Starting with storage, where data model and data representation as well as functionality handled by the persistence layer should be created. Hereafter, the backend of the system must be designed and implemented supporting a frontend and using the storage layer. Finally, a frontend will be designed and created to provide a user interface to the system, based on the functionality provided by the backend.

ASSESSMENT

Overall learning outcomes	After completing this activity, students will be able to: ● construct complex IT solutions individually and in software development teams and acquire new knowledge about new technologies and their application possibilities. ● demonstrate knowledge and understanding of methods for the analysis, design, and implementation of IT systems. ● assemble larger distributed systems, with data storage, backends and frontends. ● use appropriate state-of-the-art programming languages, libraries, development tools and equipment. ● demonstrate insight into the tools and libraries offered in modern development environments and usage of future-proof technologies.
Form of examination	Group portfolio and oral exam. Permitted group size: 2-6 students. Examples of written products are exercise responses, talking points for presentations, written feedback, reflections, written assignments. The preparation of the products may be subject to time limits. The character limit of the portfolio is:

	For 2 students: maximum 48.000 characters, including spaces. For 3 students: maximum 48.000 characters, including spaces. For 4 students: maximum 48.000 characters, including spaces. For 5 students: maximum 48.000 characters, including spaces. For 6 students: maximum 48.000 characters, including spaces. The character limits include the cover, table of contents, bibliography, figures and other illustrations, but exclude any appendices. Time allowed for exam including time used for assessment is for: 2 students: 60 minutes. 3 students: 75 minutes. 4 students: 90 minutes. 5 students: 105 minutes. 6 students: 120 minutes. The assessment is individual and based on the student's individual performance. The assessment is an overall assessment of the written product(s) and the subsequent oral examination.. Permitted support and preparation materials at the oral exam: All. Assessment: 7-point grading scale. Moderation: Internal co-assessor.
Form of Re-examination	Samme som ordinær eksamen / same form as ordinary exam
Type of examination in special cases	
Examination and assessment criteria	The exam is based on the documentation of the three different parts of the complex IT-system designed and implemented during the course as well as the source code and a demonstration of the software created.
Exam code(s)	Exam code(s) : U60057

Course days:

Hold: 1

Complex IT Systems - Practice (COMP)

time	05-09-2022 13:00 til 05-09-2022 17:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
Location (when shared activity)	09.2-009 - teorilokale (60)

Teacher (when Shared Activity)	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	06-09-2022 09:00 til 06-09-2022 17:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	05.2-032 - teorirum (65)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	08-09-2022 13:00 til 08-09-2022 17:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	05.1-032 - teorirum 05.1 (65)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	14-09-2022 08:15 til 14-09-2022 16:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	16-09-2022 08:15 til 16-09-2022 12:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	21-09-2022 08:15 til 21-09-2022 16:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	23-09-2022 08:15 til 23-09-2022 12:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	28-09-2022 08:15 til 28-09-2022 16:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	30-09-2022 08:15 til 30-09-2022 12:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	03-10-2022 09:00 til 03-10-2022 12:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
Location (when shared activity)	10.2-049 - teorirum (58)
Teacher (when Shared Activity)	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 05-10-2022 08:15 til
05-10-2022 16:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 07-10-2022 08:15 til
07-10-2022 12:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 12-10-2022 08:15 til
12-10-2022 16:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 14-10-2022 08:15 til
14-10-2022 12:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 19-10-2022 08:15 til
19-10-2022 16:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 21-10-2022 08:15 til
21-10-2022 12:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 26-10-2022 08:15 til
26-10-2022 16:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 28-10-2022 08:15 til
28-10-2022 12:00

location 05.1-032 - teorirum 05.1 (65)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 02-11-2022 08:15 til
02-11-2022 16:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 04-11-2022 08:15 til
04-11-2022 12:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 09-11-2022 08:15 til
09-11-2022 16:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 11-11-2022 08:15 til
11-11-2022 12:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 16-11-2022 08:15 til
16-11-2022 16:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 18-11-2022 08:15 til
18-11-2022 12:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time 23-11-2022 08:15 til
23-11-2022 16:00

location 10.2-049 - teorirum (58)

Teacher Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	25-11-2022 08:15 til 25-11-2022 12:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	30-11-2022 08:15 til 30-11-2022 16:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	02-12-2022 08:15 til 02-12-2022 12:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	07-12-2022 08:15 til 07-12-2022 16:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	09-12-2022 08:15 til 09-12-2022 12:30
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	14-12-2022 08:15 til 14-12-2022 16:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems - Practice (COMP)

time	16-12-2022 08:15 til 16-12-2022 12:00
location	10.2-049 - teorirum (58)
Teacher	Troels Andreasen (troels@ruc.dk)

Complex IT Systems – Practice - Portfolio hand-in (COMP)

time	20-12-2022 10:00 til 20-12-2022 10:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt

Complex IT Systems – Practice - Oral examination (COMP)

time	16-01-2023 08:15 til 18-01-2023 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	09.2-053 - mødelokale (12)

Complex IT Systems – Practice - Reexam - Hand-in (COMP)

time	06-02-2023 10:00 til 06-02-2023 10:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt

Complex IT Systems – Practice - Oral reexamination (COMP)

time	13-02-2023 08:15 til 13-02-2023 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	09.2-053 - mødelokale (12)