

Data & Things

Title	Data & Things
Semester	F2023
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	10
Responsible for the activity	Jens Ulrik Hansen (jensuh@ruc.dk) Hua Lu (luhua@ruc.dk)
Head of study	Henrik Bulskov (bulskov@ruc.dk)
Teachers	
Study administration	IMT Registration & Exams (imt-exams@ruc.dk)
Exam code(s)	U60058

ACADEMIC CONTENT

Overall objective	Advanced data solutions and complex device systems.
Detailed description of content	This course focuses on building data centric applications that utilize data to create new insights or features. In doing this, we need to understand how to analyze data and create statistical and machine learning models,

	<p>as well as learning how to process, transform, and manage data. In managing data, we will go beyond the classical relational databases and cover topics such as parallel and distributed data systems, partial and graph databases, and data from IoT devices. Moreover, we will cover how to put data products, such as machine learning models, into production and monitor their performance (ML Ops). Thus, this course cover both hands-on introductions to data science, machine learning, data engineering, ML Ops, as well as building complex data centric systems that may utilize IoT devices and external data sources as input to statistical and machine learning models that may result in visualizations, features, or effects into the environment.</p>
Course material and Reading list	Will be announced on Moodle.
Overall plan and expected work effort	The course will have a total workload of 275 hours.
Format	
Evaluation and feedback	Evaluation form to be filled out (anonymously) plus open discussion on the last course day
Programme	
ASSESSMENT	
Overall learning outcomes	<p>After completing this activity, students will be able to:</p> <ul style="list-style-type: none"> • analyse, implement, and verify complex data solutions to solve problems within complex IT systems. • demonstrate knowledge of modern data storages, and data engineering and science. • understand and implement solutions that integrate computation into the environment and use serval devises and systems. • design and implement coordination for systems with many software and hardware components and interfaces suitable for ubiquitous computing.
Form of examination	<p>Individual oral exam based on a written product..</p> <p>The character limit of the written product is maximum 48.000 characters, including spaces. The character limits include the cover, table of contents, bibliography, figures and other illustrations, but exclude any appendices.</p> <p>Time allowed for exam including time used for assessment: 20 minutes. The assessment is an overall assessment of the written product(s) and the subsequent oral examination.</p> <p>Permitted support and preparation materials for the oral exam: All.</p> <p>Assessment: 7-point grading scale. Moderation: Internal co-assessor.</p>
Form of Re-examination	Samme som ordinær eksamen / same form as ordinary exam

Type of
examination in
special cases

Examination
and
assessment
criteria

IKKE UDFYLDT

Exam code(s) Exam code(s) : U60058

Course days:

Hold: 1

Data & Things (COMP)

time 02-02-2023 08:15 til
 02-02-2023 16:00

location 10.1-025 - teorirum (32)

Teacher Hua Lu (luhua@ruc.dk)
 Jens Ulrik Hansen (jensuh@ruc.dk)

Data & Things (COMP)

time 06-02-2023 08:15 til
 06-02-2023 16:00

location 10.1-025 - teorirum (32)

Teacher Hua Lu (luhua@ruc.dk)
 Jens Ulrik Hansen (jensuh@ruc.dk)

Data & Things (COMP)

time 08-02-2023 08:15 til
 08-02-2023 16:00

location 10.1-025 - teorirum (32)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
 Hua Lu (luhua@ruc.dk)

Data & Things (COMP)

time 10-02-2023 08:15 til
10-02-2023 12:00

location 10.1-025 - teorirum (32)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
Hua Lu (luhua@ruc.dk)

Data & Things (COMP)

time 13-02-2023 08:15 til
13-02-2023 16:00

location 10.1-025 - teorirum (32)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
Hua Lu (luhua@ruc.dk)

Data & Things (COMP)

time 15-02-2023 08:15 til
15-02-2023 16:00

location 10.1-025 - teorirum (32)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
Hua Lu (luhua@ruc.dk)

Data & Things (COMP)

time 17-02-2023 08:15 til
17-02-2023 12:00

location 10.1-025 - teorirum (32)

Teacher Hua Lu (luhua@ruc.dk)
Jens Ulrik Hansen (jensuh@ruc.dk)

Data & Things (COMP)

time 20-02-2023 08:15 til
20-02-2023 12:00

location 10.1-025 - teorirum (32)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
Hua Lu (luhua@ruc.dk)

Data & Things (COMP)

time 22-02-2023 08:15 til
22-02-2023 16:00

location 10.1-025 - teorirum (32)

Teacher Hua Lu (luhua@ruc.dk)
Jens Ulrik Hansen (jensuh@ruc.dk)

Data & Things (COMP)

time 24-02-2023 08:15 til
24-02-2023 12:00

location 10.1-025 - teorirum (32)

Teacher Hua Lu (luhua@ruc.dk)
Jens Ulrik Hansen (jensuh@ruc.dk)

Data & Things (COMP)

time 27-02-2023 08:15 til
27-02-2023 12:00

location 10.1-025 - teorirum (32)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
Hua Lu (luhua@ruc.dk)

Data & Things (COMP)

time 01-03-2023 08:15 til
01-03-2023 16:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

location 07.2-061 - undervisningslokale (30)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
Hua Lu (luhua@ruc.dk)

Data & Things (COMP)

time 03-03-2023 08:15 til
03-03-2023 12:00

location 10.1-025 - teorirum (32)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
Hua Lu (luhua@ruc.dk)

Data & Things - Hand-in (COMP)

time 23-03-2023 10:00 til
23-03-2023 10:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

Data & Things - Oral examination (COMP)

time 28-03-2023 08:15 til
29-03-2023 18:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

location 09.2-053 - mødelokale (12)

Teacher Jens Ulrik Hansen (jensuh@ruc.dk)
Hua Lu (luhua@ruc.dk)

Data & Things - Reexam - Hand-in (COMP)

time 07-08-2023 10:00 til
07-08-2023 10:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

Data & Things - Oral reexamination (COMP)

time 11-08-2023 08:15 til
11-08-2023 18:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

location 10.1-025 - teorirum (32)