

Integrated Science

Title	Integrated Science
Semester	F2024
Master	Mathematical Physical Modelling / Mathematical Computer Modelling / programme in Mathematical Bioscience / Physics and Scientific Modelling
Type of activity	Course
Teaching language	English
Study regulation	Read about the Master Programme and find the Study Regulations at ruc.dk Læs mere om uddannelsen og find din studieordning på ruc.dk

REGISTRATION AND STUDY ADMINISTRATIVE

	Sign up for study activities at stads selvbetjening within the announced registration period, as you can see on the Studyadministration homepage .
	When signing up for study activities, please be aware of potential conflicts between study activities or exam dates.
Registration	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	5
Responsible for the activity	Nicholas Bailey (nbailey@ruc.dk)
Head of study	Studieleder for Fysik (fys-sl@ruc.dk)
Teachers	
Study administration	INM Registration & Exams (inm-exams@ruc.dk)
Exam code(s)	U60197

ACADEMIC CONTENT

Overall objective	The purpose of the course is to provide the student with an overview of the application, reflection and internal subject-matter perspectives in the field of mathematics and physics Understand and compare the content of 2-3 IMFUFA seminars. There are 10-11 seminars during a semester and the program will be available around the start of semester. It is expected that students attend most or all of the seminars. The program will give the speaker names, titles and abstracts of the seminars.
Detailed description of content	Students choose two or three seminars and a theme through which to compare them. The theme can be rather broadly defined, for example "different types of mathematical modelling". They write a report summarizing each seminar, including relevant background knowledge and a brief discussion of the connection with the theme for each seminar. An brief overall introduction is also expected.
Course material and Reading list	There is no pre-assigned syllabus/reading list. The program for IMFUFA Seminars contains abstracts for the seminars and in some cases references to relevant scientific literature. The course gives 5 ECTS points; 5 ECTS corresponds to 135 hours of work. Student effort is allocated as follows (135 hours total):
Overall plan and expected work effort	• 20 hours seminar attendance (10-11 seminars, 2 hours per seminar) • 10 hours preparation (one per seminar) 10 hours post-seminar synopsis writing (one per seminar) • 90 hours report writing including literature search, initial draft, final draft • 5 hours supervision/feedback sessions

Format

The course includes formative evaluation based on dialogue between the students and the teacher(s).

Evaluation and feedback Students are expected to provide constructive critique, feedback and viewpoints during the course if it is needed for the course to have better quality. Every other year at the end of the course, there will also be an evaluation through a questionnaire in SurveyXact. The Study Board will handle all evaluations along with any comments from the course responsible teacher.

Furthermore, students can, in accordance with RUCs 'feel free to state your views' strategy through their representatives at the study board, send evaluations, comments or insights from the course to the study board during or after the course.

Programme The detailed program, containing the speakers, titles and abstracts, will be available at the start of each semester.

ASSESSMENT

After completing the course the students will be able to

- Overall learning outcomes
- Explain and understand different scientific subject-matters and perspectives in the field of mathematics and physics.
 - explain and analyse differences and similarities between examples of mathematical-physical models
 - explain and analyse differences and similarities between examples of application, reflection and internal subject-matter perspectives in the field of mathematics and physics
 - convey and communicate accurately different perspectives in the field of mathematics and physics

Individual written take-home assignment.

Form of examination The character limit of the assignment is: 24,000-48,000 characters, including spaces.
The character limit includes the cover, table of contents, bibliography, figures and other illustrations, but exclude any appendices.

The students start writing the take-home assignment during the course.
The duration is 28 days and may include public holidays. The submission deadline will be announced on study.ruc.dk.

Assessment: Pass/Fail.

Form of Re-examination

Samme som ordinær eksamen / same form as ordinary exam

Type of examination in special cases

The report will be evaluated on how well the student has been able to summarize and explain the essential content of the chosen seminars and connect them to the chosen theme.

Examination and assessment criteria

The students performance will be assessed by the following assessment criteria

- Explain and understand different scientific subject-matters and perspectives in the field of mathematics and physics.
- explain and analyse differences and similarities between examples of mathematical-physical models
- convey and communicate accurately different perspectives in the field of mathematics and physics

Exam code(s) Exam code(s) : U60197

Course days:

Hold: 1

Integrated Science - Project Presentations (PSM)

time 01-02-2024 14:00 til
01-02-2024 16:00

location 27.1-089 - teorikum 27 (66)

Integrated Science (PSM)

time 07-02-2024 14:15 til
07-02-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 14-02-2024 14:15 til
14-02-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 21-02-2024 14:15 til
21-02-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 28-02-2024 14:15 til
28-02-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science - Problem Formulation Seminar (PSM)

time 06-03-2024 14:00 til
06-03-2024 16:00
location 27.1-089 - teorirum 27 (66)

Integrated Science (PSM)

time 13-03-2024 14:15 til
13-03-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 20-03-2024 14:15 til
20-03-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 27-03-2024 14:15 til
27-03-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 03-04-2024 14:15 til
03-04-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 10-04-2024 14:15 til
10-04-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 17-04-2024 14:15 til
17-04-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 24-04-2024 14:15 til
24-04-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 08-05-2024 14:15 til
08-05-2024 16:00
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science (PSM)

time 22-05-2024 14:15 til
22-05-2024 16:00
forberedelsesnorm ikke valgt
forberedelsesnorm D-VIP ikke valgt
location 27.1-089 - teorirum 27 (66)
Teacher Nicholas Bailey (nbailey@ruc.dk)

Integrated Science - Hand-in of take home assignment (MathPhys)

time 06-06-2024 10:00 til
06-06-2024 10:00
forberedelsesnorm ikke valgt
forberedelsesnorm D-VIP ikke valgt

Integrated Science - Hand-in of take home assignment (reexam) (MathPhys)

time 28-06-2024 10:00 til
28-06-2024 10:00
forberedelsesnorm ikke valgt
forberedelsesnorm D-VIP ikke valgt