Specialisation Project

Title	Specialisation Project
Semester	F2024
Master programme in	Physics and Scientific Modelling
Type of activity	Project
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

Registration	Sign up for study activities at stads selvbetjening within the announced registration period, as you can see on the Studyadministration homepage. Registration for project-exam: Please remember to confirm your registration by signing up for exam as a group when the group formation is final. The registration is through stads selvbetjening 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	Studieleder for Fysik (fys-sl@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)	U60200

ACADEMIC CONTENT

Overall objective	The purpose of the specialisation project is that the students start their specialisation – which will be culminated in the master thesis. The aim is that the student specialises in a concrete competence and obtain specific skills, and if relevant make preparatory studies for the thesis project. The project may be experimental, empirical, computational and/or theoretical. The specialisation project is problem-oriented and exemplary and should address a research question within one of the following three variants: * Fundamental research within physics and/or scientific modelling, the mathematical foundations of physics and scientific modelling, or aneighbouring discipline where thinking as a physicist and/or scientific modelling plays a role in advancing the field. * Applied research where physics and/or scientific modelling plays a role in solving a problem. * Research within philosophy, history or didactics of physics, mathematics and science in which having a background in physics,mathematics and scientific modelling contributes significantly to developing the understanding of the problem.
Detailed description of content	The specialisation project allows the student to obtain a specific skill, and/ or make preparatory studies for the thesis project.
Course material and Reading list	The project curriculum will vary depending on the project theme and specific research question. Relevant literature, software code, experimental methods (if relevant) and so forth are discussed with the supervisor.
Overall plan and expected work effort	The project is worth 15 ECTS points (420 hours). Some of this time is spend with the supervisor and/or head of study but most of the time is independent work by the students in groups. **Time with supervisor and/or head of study** • Project upstart and group formation: 8h • Problem formulation seminar: 2h

- Exam: 2h
- Supervision by supervisor (in meetings, with computer and/or in lab): 25h

Independent work by the student group

- Writing: 100h
- Searching for, reading and discussing literature:100h
- Working with the problem (e.g. writing code, experiments, mathematical analysis): 100h
- Preparation for exam: 46h

Format

All projects' processes will include ongoing dialogue-based (oral) evaluation between the students and the supervisor. Both students and supervisors are expected to provide constructive feedback and viewpoints during the process. Feedback concerning the academic content and progression, process and collaboration.

Evaluation and feedback

Every other year when the projects are handed in, there will also be an evaluation through a questionnaire in SurveyXact. The Study Board will handle all evaluations along with any comments from the head of study.

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 their project process to the study board during or after the project process.

At the beginning of the semester the students will form groups defined by a theme or research question of their choosing. This choice can be facilitated by the supervisors or originate from the students.

Programme

The study activity is based around PPL, where the group work independently and critically with the topic. This includes finding, reading, and understanding relevant literature, having regular productive group meetings, propose relevant scientific methods, models, experiments, or/

and analysis that can lead to an answer to the research question, composing text for the final project project, and more.

The project students agree with the supervisor on a regular meeting schedule; in order for the meetings to be fruitful the students must have an agenda and be well prepared for each meeting.

ASSESSMENT

Overall learning outcomes

After completing the specialisation project the students will be able to

- demonstrate knowledge and understanding of the theoretical concepts relevant for the project as well as their scope and relations
- explain and choose the relevant analytical/numerical/empirical and/or experimental methods applied in the project
- critically relate the strengths and weaknesses of applied theories, methods and models in the project
- communicate the results achieved to a selected target group
- identify and formulate an exemplary research question within the selected area, which can be handled by using the means available
- discuss the significance of the results achieved critically and to relate the results to relevant scientific literature in the area, including in particular theoretical literature.

Form of examination

Oral project exam in groups with individual assessment.

Permitted group size: 2-7 students.

The character limits of the project report are:
For 2 students: 4,800-240,000 characters, including spaces.
For 3 students: 4,800-240,000 characters, including spaces.
For 4 students: 4,800-240,000 characters, including spaces.
For 5 students: 4,800-240,000 characters, including spaces.
For 6 students: 4,800-240,000 characters, including spaces.
For 7 students: 4,800-240,000 characters, including spaces.
The character limits include the cover, table of contents, summary, bibliography, figures and other illustrations, but exclude any appendices.

The project report must include a summary in English, that is part of the assessment.

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.
7 students: 135 minutes.

Writing and spelling skills in the project report are part of the assessment.

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

Oral project exam in groups with individual assessment.

The assessment criteria of the written part

Examination and assessment criteria

- demonstrate knowledge and understanding of the theoretical concepts relevant for the project as well as their scope and relations
- explain and choose the relevant analytical/numerical/empirical and/or experimental methods applied in the project
- critically relate the strengths and weaknesses of applied theories, methods and models in the project
- communicate the results achieved to a selected target group
- identify and formulate an exemplary research question within the selected area, which can be handled by using the means available

- discuss the significance of the results achieved critically and to relate the results to relevant scientific literature in the area, including in particular theoretical literature.

The assessment of the oral exam is based on the student's ability to meet the criteria mentioned above and their ability to

- clearly present and communicate the scientific content of the project
- engage in a scientific dialogue and discussion with the supervisor and co assessor

Furthermore, whether the performance meets all formal requirements in regard to both for the written og oral exam

Exam code(s) Exam code(s) : U60200

Course days:

Hold: 1

Specialisation Project - Introduction (PSM)

time 01-02-2024 09:15 til 01-02-2024 10:00
location 27.2-054 - lokale 3 (40)

Specialisation Project - Forum 1 (PSM)

time 01-02-2024 11:15 til 01-02-2024 12:00
location 27.2-054 - lokale 3 (40)

Specialisation Project - Project Presentations (PSM)

time 01-02-2024 14:00 til 01-02-2024 16:00
location 27.1-089 - teorirum 27 (66)

Specialisation Project - IMFUFA breakfast (canteen in building 27) (PSM)

time	02-02-2024 09:15 til 02-02-2024 10:00

Specialisation Project - Forum 2 (PSM)

time	02-02-2024 10:15 til 02-02-2024 12:00
location	27.1-052 - lokale 2 (20) / 27.1-089 - teorirum 27 (66)

Specialisation Project - Forum 3 (PSM)

time	05-02-2024 10:15 til 05-02-2024 12:00
location	27.2-054 - lokale 3 (40)

Specialisation Project - Forum 4 (PSM)

time	07-02-2024 12:15 til 07-02-2024 14:00
location	27.2-054 - lokale 3 (40)

Specialisation Project - Problem Formulation Seminar (PSM)

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

Specialisation Project - Hand-in of project

time	29-05-2024 10:00 til 29-05-2024 10:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt

Specialisation Project - Project examination

time	17-06-2024 08:15 til 28-06-2024 18:00

forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt

Specialisation Project - Project reexamination

time	01-08-2024 08:15 til 30-08-2024 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
Content	**The common study regulations § 18, 5:** A student who has failed to pass an ordinary project examination is automatically registered for the re-examination. The student is entitled to make changes to the failed project report. The project report must be submitted no later than 14 days after the date for the ordinary project examination.