

# Specialisation Project

Title Specialisation Project  
Semester E2022  
Master programme in Mathematical Bioscience

Type of activity Project

Teaching language English

Study regulation Read about the Master Programme and find the Study Regulations at [ruc.dk](http://ruc.dk)  
Læs mere om uddannelsen og find din studieordning på [ruc.dk](http://ruc.dk)

## REGISTRATION AND STUDY ADMINISTRATIVE

Sign up for study activities at [stads selvbetjening](http://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](http://stads.selvbetjening)

Registration 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 Jesper Schmidt Hansen ([jschmidt@ruc.dk](mailto:jschmidt@ruc.dk))

Head of study Jesper Schmidt Hansen ([jschmidt@ruc.dk](mailto:jschmidt@ruc.dk))

Teachers

Study administration INM Studieadministration ([inm-studieadministration@ruc.dk](mailto:inm-studieadministration@ruc.dk))

Exam code(s) U60170

## ACADEMIC CONTENT

Overall objective The overall purpose of the project is that the student specialises in a concrete competence, obtain specific skills, and/or make preparatory studies for the thesis project.

The specialisation project allows the student to obtain a specific skill, and/or make preparatory studies for the thesis project.

Detailed description of content The skill can, for example, be in-depth knowledge in the history of science in a specific exemplary topic, an in-depth knowledge, ability to reflect on and apply one or more specific biological laboratory techniques, in-depth knowledge about an advanced mathematical analysis methods, and/or highly specialized numerical methods.

Course material and Reading list The project curriculum will vary depending on the project theme and specific research question. Relevant literature, software code, lab methods, and so forth are discussed with the supervisor.

The project is worth 15 ECTS points (405 hours).

The following are based on estimates and will vary significantly depending on the specific project:

Overall plan and expected work effort

- Semesterstart and group formation: ~10 hours
- Project-formulation and presentation seminars: 2-4 hours
- Supervision: 15 - 25 hours
- Project work: ~350-380 hours
- Exam: 30 min

## Format

Evaluation and feedback 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.

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, 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

After the project the student will be able to

#### Overall learning outcomes

- demonstrate in-depth knowledge in the history of science in a specific exemplary topic within biology, mathematics, and/or integrated science (reflection variant) OR
- demonstrate in-depth knowledge, ability to reflect on and apply one or more specific biological laboratory techniques, specific advanced mathematical analysis methods, and/or highly specialized numerical methods AND/OR

- perform critical analysis and reflect on the usage of results from complex/large data set provided by student's own laboratory work or data from the literature AND/OR
- perform critical analysis and reflect on the usage of results from one or more mechanism-based mathematical models describing a biological system as an example of a general system in natural science.
- independently formulate a research problem/hypothesis based on relevant literature, organize, and manage project/group work.
- communicate the conclusion from the research question in a clear, concise, and reflected manner

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: 24,000-307,200 characters, including spaces.

For 3 students: 24,000-307,200 characters, including spaces.

For 4 students: 24,000-307,200 characters, including spaces.

For 5 students: 24,000-307,200 characters, including spaces.

For 6 students: 24,000-307,200 characters, including spaces.

For 7 students: 24,000-307,200 characters, including spaces.

The character limits include the cover, table of contents, summary, bibliography, figures and other illustrations, but exclude any appendices.

Form of  
examination

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

<p>Form of Re-examination</p> <p>Type of examination in special cases</p>	<p>Assessment: 7-point grading scale.</p> <p>Moderation: Internal co-assessor.</p> <p>Samme som ordinær eksamen / same form as ordinary exam</p>
<p>Examination and assessment criteria</p>	<p>Oral project exam in groups with individual assessment. The students begin the exam with a presentation with a duration of 8-10 min. each on a topic related to the project. After the presentation there will be a dialogue between the students, supervisor and co-assessor, specific questions may be asked to individual students.</p> <p>The assessment criteria of the written part</p> <ul style="list-style-type: none"> <li>• demonstrate in-depth knowledge in the history of science in a specific exemplary topic within biology, mathematics, and/or integrated science (reflection variant) OR <ul style="list-style-type: none"> <li>◦ demonstrate in-depth knowledge, ability to reflect on and apply one or more specific biological laboratory techniques, specific advanced mathematical analysis methods, and/or highly specialized numerical methods AND/OR</li> <li>◦ perform critical analysis and reflect on the usage of results from complex/large data set provided by student's own laboratory work or data from the literature AND/OR</li> <li>◦ perform critical analysis and reflect on the usage of results from one or more mechanism-based mathematical models describing a biological system as an example of a general system in natural science.</li> <li>◦ independently formulate a research problem/hypothesis based on relevant literature, organize, and manage project/group work.</li> <li>◦ communicate the conclusion from the research question in a clear, concise, and reflected manner</li> </ul> </li> </ul>

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 and oral exam

- The project report must include a summary in English, that is part of the assessment.
- Writing and spelling skills in the project report are part of the assessment.

Exam code(s) Exam code(s) : U60170

## **Course days:**

**Hold: 1**

### **Specialisation Project - Intro (Mathbio)**

time 01-09-2022 09:15 til  
01-09-2022 10:00

location 27.1-032 - biblioteket (12)

Teacher Jesper Schmidt Hansen ( jschmidt@ruc.dk )

### **Specialisation Project - Forum 1 (Mathbio)**

time 01-09-2022 11:15 til  
01-09-2022 13:00

location 09.2-009 - teorilokale (60)

Teacher Jesper Schmidt Hansen ( jschmidt@ruc.dk )  
Kristine Niss ( kniss@ruc.dk )

## **IMFUFA Breakfast (canteen in building 27)**

time 02-09-2022 09:15 til  
02-09-2022 10:00

## **Specialisation Project - Forum 2 (Mathbio)**

time 02-09-2022 10:15 til  
02-09-2022 12:00

location 27.1-052 - lokale 2 (20)

Teacher Jesper Schmidt Hansen ( jschmidt@ruc.dk )

## **Study Start event at Department of Science & Environment**

time 02-09-2022 12:30 til  
02-09-2022 14:00

location 28b.0-05 - lille teorirum (20) / 28b.0-01 - store teorirum (30)

## **Specialisation Project - Forum 3 (Mathbio)**

time 05-09-2022 12:15 til  
05-09-2022 14:00

location 27.1-052 - lokale 2 (20)

Teacher Jesper Schmidt Hansen ( jschmidt@ruc.dk )

## **Specialisation Project - Forum 4 (Mathbio)**

time 07-09-2022 12:15 til  
07-09-2022 14:00

location 27.1-052 - lokale 2 (20)

Teacher Jesper Schmidt Hansen ( jschmidt@ruc.dk )

## **Specialisation Project - IMFUFA seminar (Mathbio)**

time 07-09-2022 14:00 til  
07-09-2022 16:00

location 27.1-089 - teorirum 27 (66)

Nicholas Bailey ( nbailey@ruc.dk )

Teacher Kristine Niss ( kniss@ruc.dk )

Jesper Schmidt Hansen ( jschmidt@ruc.dk )

## **Specialisation Project - Problem formulation seminar (Mathbio)**

time 05-10-2022 14:00 til  
05-10-2022 16:00  
location 27.1-089 - teorirum 27 (66)  
Teacher Nicholas Bailey ( nbailey@ruc.dk )

## **Specialisation Project - Hand-in of project**

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

## **Specialisation Project - Project examination**

time 16-01-2023 08:15 til  
31-01-2023 18:00  
forberedelsesnorm ikke valgt  
forberedelsesnorm D-VIP ikke valgt

## **Specialisation Project - Project reexamination**

time 01-02-2023 08:15 til  
28-02-2023 18:00  
forberedelsesnorm ikke valgt  
forberedelsesnorm ikke valgt  
D-VIP

The common study regulations § 20, 5:

Content 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