

# Experimental Host-Pathogen Interactions

Title	Experimental Host-Pathogen Interactions
Semester	F2024
Master programme in	Chemical Biology / Molecular Health Science
Type of activity	Course
Teaching language	English
Study regulation	Read about the Master Programme and find the Study Regulations at <a href="https://ruc.dk">ruc.dk</a> Læs mere om uddannelsen og find din studieordning på <a href="https://ruc.dk">ruc.dk</a>

## REGISTRATION AND STUDY ADMINISTRATIVE

	Sign up for study activities at <a href="https://stads.selvbetjening.ruc.dk">stads selvbetjening</a> within the announced registration period, as you can see on the <a href="https://ruc.dk/studyadministration">Studyadministration homepage</a> .
	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	The Master Programme/Institute reserves the right to cancel the course if fewer than 8 studentes are registered for the course.
ECTS	5
Responsible for the activity	Lotte Jelsbak ( <a href="mailto:ljelsbak@ruc.dk">ljelsbak@ruc.dk</a> ) Karen Angeliki Krogfelt ( <a href="mailto:karenak@ruc.dk">karenak@ruc.dk</a> )
Head of study	Lotte Jelsbak ( <a href="mailto:ljelsbak@ruc.dk">ljelsbak@ruc.dk</a> )
Teachers	
Study administration	INM Registration & Exams ( <a href="mailto:inm-exams@ruc.dk">inm-exams@ruc.dk</a> )

Exam code(s) U60184

## ACADEMIC CONTENT

**Overall objective** The purpose of the course is to teach the students experimental approaches to investigate molecular mechanisms of infectious disease that gives students insight into the identification, function, regulation of virulence properties of model human pathogens as well as antimicrobial methods for treatment of these. The students will be introduced to various methods that are used in contemporary infectious disease research and clinical laboratories.

**Detailed description of content** The purpose of the course is to teach the students experimental approaches to investigate molecular mechanisms of infectious disease that gives students insight into the identification, function, regulation of virulence properties of model human pathogens as well as antimicrobial methods for treatment of these.

The students will be introduced to various methods that are used in contemporary infectious disease research and clinical laboratories.

See Moodle for further details.

**Course material and Reading list** Course manual on Moodle. The course manual must be printed out before the start of the course, and the students must bring their own lab coat for the course.

5 ECTS corresponds to 135 hours

**Overall plan and expected work effort**

- lectures 4 hrs
- student presentations 5 hrs
- practical exercises 60 hrs
- report writing 40 hrs
- preparation 25 hrs
- Oral exam 1 hr

**- total 135 hrs**

## 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 An intensive laboratory course with introductory lectures and student presentations related to the day's work. The students will work in groups of two or three and prepare a laboratory journal and a laboratory report during the course.

See Moodle for further details.

## ASSESSMENT

After completing the course, the students will be able to:

- Overall learning outcomes
- design experiments for investigations of microbial and molecular mechanisms of model human pathogens
  - interpret scientific studies of the molecular mechanisms of infectious disease
  - independently plan and complete experimental work based on standard protocols
  - use digital programs to analyse the data that has been acquired
  - analyse complex data structures with relevant mathematical and statistical models/programs

- plan, complete and analyse assigned experiments using microbiological and molecular methods.

Individual oral exam based on a portfolio.

The character limit of the portfolio is 12,000-96,000 characters, including spaces. 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.

Form of examination

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: 15 minutes. The assessment is an overall assessment of the written product(s) and the subsequent oral examination.

Permitted support and preparation materials for the oral exam: Personal notes, own reports and assignments.

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

Individual oral exam based on a portfolio.

Examination and assessment criteria

The portfolio consists of the power point presentations for each exercise, which addresses microbiological experimentations, principles and perspectives as well as the questions in the instruction. The portfolio must be handed in the day prior to your exam.

The character limit of the portfolio is 12,000-96,000 characters, including spaces. The preparation of the products may be subject to time limits. The character limits include the cover, table of contents, bibliography, figures and other illustrations, but exclude any appendices.

Students will be assessed by their ability to

For written report:

- design experiments for investigations of microbial and molecular mechanisms of model human pathogens
- interpret scientific studies of the molecular mechanisms of infectious disease
- independently plan and complete experimental work based on standard protocols
- use digital programs to analyse the data that has been acquired
- analyse complex data structures with relevant mathematical and statistical models/programs
- plan, complete and analyse assigned experiments using microbiological and molecular methods.

For oral exam:

As above in addition to presentation, dialogue and discussion of experimental data.

Exam code(s) Exam code(s) : U60184

## **Course days:**

**Hold: 1**

### **Experimental Host-Pathogen Interactions (MHS)**

time 03-06-2024 08:30 til  
03-06-2024 17:00

location 28b.0-05 - lille teorirum (20)

Teacher Lotte Jelsbak ( ljelsbak@ruc.dk )  
Karen Angeliki Krogfelt ( karenak@ruc.dk )

### **Experimental Host-Pathogen Interactions (MHS)**

time 04-06-2024 08:30 til  
04-06-2024 17:00  
location 28b.0-05 - lille teorirum (20)  
Teacher Lotte Jelsbak ( ljelsbak@ruc.dk )  
Karen Angeliki Krogfelt ( karenak@ruc.dk )

### **Experimental Host-Pathogen Interactions (MHS)**

time 06-06-2024 08:30 til  
06-06-2024 17:00  
location 28b.0-05 - lille teorirum (20)  
Teacher Lotte Jelsbak ( ljelsbak@ruc.dk )  
Karen Angeliki Krogfelt ( karenak@ruc.dk )

### **Experimental Host-Pathogen Interactions (MHS)**

time 07-06-2024 08:30 til  
07-06-2024 17:00  
location 28b.0-05 - lille teorirum (20)  
Teacher Karen Angeliki Krogfelt ( karenak@ruc.dk )  
Lotte Jelsbak ( ljelsbak@ruc.dk )

### **Experimental Host-Pathogen Interactions (MHS)**

time 10-06-2024 08:30 til  
10-06-2024 17:00  
location 28b.0-05 - lille teorirum (20)  
Teacher Lotte Jelsbak ( ljelsbak@ruc.dk )  
Karen Angeliki Krogfelt ( karenak@ruc.dk )

### **Experimental Host-Pathogen Interactions (MHS)**

time 11-06-2024 08:30 til  
11-06-2024 17:00  
location 28b.0-05 - lille teorirum (20)  
Teacher Karen Angeliki Krogfelt ( karenak@ruc.dk )  
Lotte Jelsbak ( ljelsbak@ruc.dk )

## **Experimental Host-Pathogen Interactions (MHS)**

time 12-06-2024 08:30 til  
12-06-2024 17:00  
location 28b.0-05 - lille teorirum (20)  
Teacher Lotte Jelsbak ( ljelsbak@ruc.dk )  
Karen Angeliki Krogfelt ( karenak@ruc.dk )

## **Experimental Host-Pathogen Interactions (MHS)**

time 13-06-2024 08:30 til  
13-06-2024 17:00  
location 28b.0-05 - lille teorirum (20)  
Teacher Lotte Jelsbak ( ljelsbak@ruc.dk )  
Karen Angeliki Krogfelt ( karenak@ruc.dk )

## **Experimental Host-Pathogen Interactions (MHS)**

time 14-06-2024 08:30 til  
14-06-2024 17:00  
location 28b.0-05 - lille teorirum (20)  
Teacher Karen Angeliki Krogfelt ( karenak@ruc.dk )  
Lotte Jelsbak ( ljelsbak@ruc.dk )

## **Experimental Host-Pathogen Interactions - Hand-in of portfolio (MHS)**

time 17-06-2024 10:00 til  
17-06-2024 10:00  
forberedelsesnorm ikke valgt  
forberedelsesnorm D-VIP ikke valgt

## **Experimental Host-Pathogen Interactions - Exam (MHS)**

time 21-06-2024 08:15 til  
21-06-2024 16:00  
Teacher Karen Angeliki Krogfelt ( karenak@ruc.dk )  
Lotte Jelsbak ( ljelsbak@ruc.dk )

## **Experimental Host-Pathogen Interactions - Hand-in of portfolio (reexam) (MHS)**

time 09-08-2024 10:00 til  
09-08-2024 10:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

## **Experimental Host-Pathogen Interactions - Reexam (MHS)**

time 13-08-2024 08:15 til  
13-08-2024 16:00

Teacher Lotte Jelsbak ( [ljelsbak@ruc.dk](mailto:ljelsbak@ruc.dk) )  
Karen Angeliki Krogfelt ( [karenak@ruc.dk](mailto:karenak@ruc.dk) )