

## Experimental Biotechnology

Title	Experimental Biotechnology
Semester	E2023
Master programme in	Molekylær biologi / Chemical Biology / Molecular Health Science
Type of activity	Laboratory 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

Registration	<p>Sign up for study activities at <a href="#">stads selvbetjening</a> within the announced registration period, as you can see on the <a href="#">Studyadministration homepage</a>.</p> <p>When signing up for study activities, please be aware of potential conflicts between study activities or exam dates.</p> <p>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.</p>
Number of participants	Please note this course have a limit of max. 36 students.
ECTS	5
Responsible for the activity	Håvard Jenssen ( <a href="mailto:jenssen@ruc.dk">jenssen@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)	U60044

### ACADEMIC CONTENT

Overall objective	The purpose of the course is to teach the students experimental approaches within DNA and protein technology that gives students
-------------------	--

	insight into the function and regulation of genes and gene products. The students will be introduced to various methods that are used in contemporary molecular biology research.
Detailed description of content	<p>A practical course in DNA and protein technology that gives students insight into the function and regulation of genes and gene products.</p> <p>Introduction to various methods that are used in contemporary molecular biology research.</p>
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.
Overall plan and expected work effort	<ul style="list-style-type: none"> <li>• lectures 5 hrs</li> <li>• student presentations 5 hrs</li> <li>• practical exercises 60 hrs</li> <li>• report writing 40 hrs</li> <li>• preparation 25 hrs</li> <li>• Oral exam 0,25 hr</li> </ul> <p>- total 135 hrs</p>
Format	
Evaluation and feedback	<p>The course includes formative evaluation based on dialogue between the students and the teacher(s).</p> <p>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.</p> <p>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.</p>
Programme	Intensive lab course

## ASSESSMENT

Overall learning outcomes	<p>After completing the course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• develop methods for isolating, characterising and modifying genes and gene products</li> <li>• analyse the properties of genes and proteins, and their application in biotechnological processes</li> <li>• develop a plan and completing experimental work based on standard protocols</li> <li>• develop good laboratory practice and composition of a tidy and well organized laboratory journal</li> <li>• use digital programs to analyse the data that has been acquired</li> <li>• plan, complete and analyse assigned experiments using methods in gene and protein technology</li> </ul>
---------------------------	--

	<ul style="list-style-type: none"> <li>analyse complex data structures with relevant mathematical and statistical models/programs.</li> </ul>
Form of examination	<p>Individual oral exam based on group product</p> <p>Permitted group size: 2-3 students.</p> <p>The character limit of the written product is 12,000-96,000 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 the exam including time used for assessment: 15 minutes.</p> <p>The students are examined separately.</p> <p>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: Personal notes, own reports and assignments.</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	<p>The portfolio consists of two lab-reports.</p> <p>The individual oral exam starts with a presentation of the finding of the reports.</p> <p>The assessment criteria regarding the written part:</p> <p>The candidate will be assessed in his/her general understanding of the methodologies used in the lab, and interpretation and analysis of the individual findings outlined in the lab reports. This work may also include use of digital programs to analyse the data that has been acquired and analysis of complex data structures with relevant mathematical and statistical models/programs.</p> <p>The assessment of the oral exam is based on the student's ability to meet the criteria mentioned above and their ability to</p> <ul style="list-style-type: none"> <li>clearly present and communicate the scientific content of the reports</li> <li>engage in a scientific dialoged and discussion with the assessors</li> </ul> <p>Furthermore, whether the performance meets all formal requirements in regard to both for the written og oral exam</p>
Exam code(s)	Exam code(s) : U60044

Course days:

Hold: 1

## Experimental Biotechnology - Introduction (MHS)

time	18-12-2023 10:15 til 18-12-2023 14:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	15.0-003 - auditorie 15 (68)
Teacher	Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time	15-01-2024 08:15 til 15-01-2024 16:00
location	15.0-003 - auditorie 15 (68)
Teacher	Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time	16-01-2024 08:15 til 16-01-2024 16:00
location	15.0-003 - auditorie 15 (68)
Teacher	Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time	17-01-2024 08:15 til 17-01-2024 16:00
location	15.0-003 - auditorie 15 (68)
Teacher	Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time 18-01-2024 08:15 til  
18-01-2024 16:00

location 15.0-003 - auditorie 15 (68)

Teacher Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time 19-01-2024 08:15 til  
19-01-2024 16:00

location 15.0-003 - auditorie 15 (68)

Teacher Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time 22-01-2024 08:15 til  
22-01-2024 16:00

location 15.0-003 - auditorie 15 (68)

Teacher Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time 23-01-2024 08:15 til  
23-01-2024 16:00

location 15.0-003 - auditorie 15 (68)

Teacher Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time 24-01-2024 08:15 til  
24-01-2024 16:00

location 15.0-003 - auditorie 15 (68)

Teacher Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time 25-01-2024 08:15 til  
25-01-2024 16:00

location 15.0-003 - auditorie 15 (68)

Teacher Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology (MHS)

time 26-01-2024 08:15 til  
26-01-2024 16:00

location 15.0-003 - auditorie 15 (68)

Teacher Håvard Jenssen (jenssen@ruc.dk)

## Experimental Biotechnology - Hand-in of portfolio (MHS)

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

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

## Experimental Biotechnology - Exam (MHS)

time 06-02-2024 09:00 til  
06-02-2024 17:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

## Experimental Biotechnology - Exam (MHS)

time 07-02-2024 09:00 til  
07-02-2024 17:00

forberedelsesnorm ikke valgt

forberedelsesnorm D-VIP ikke valgt

## Experimental Biotechnology - Hand-in of portfolio (reexam) (MHS)

time	04-03-2024 10:00 til 04-03-2024 10:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt

## Experimental Biotechnology - Reexam (MHS)

time	19-03-2024 08:15 til 19-03-2024 12:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt