

Basic Course 2: Experimental Methods

About the course

Subject	Den internationale naturvidenskabelige bacheloruddannelse
Activity type	Basic course
Teaching language	English
Registration	Students will be signed up for this course by the study administration. If you have taken the course before and need to be signed up again please contact inm-exams@ruc.dk
Detailed description of content	<p>Course runs in the first weeks of the semester To follow this course you must have completed the Lab Safety Course. If you have not completed that please let the studieadministration know.</p> <p>Experiments are a cornerstone of natural scientific investigations of nature.</p> <p>Basic course 2 presents several central experimental methods, and you learn to obtain, analyze and interpret empirical data using quantitative and qualitative methods, so that you can compare experimental and theoretical results. Furthermore, you learn to handle common and safety-related procedures in the laboratory, including chemical and gene technology-classified laboratories.</p> <p>Basic course 2 supports Basic Project 2, where the students explore the interplay between theory, model, experiment, and simulation in natural science and often do experimental work in their BP2.</p> <p>Regarding the use of generative AI at the exam</p> <p>In this course, generative AI tools (GAI) are allowed in the work on the exam if their use is declared. You must clearly indicate how you have used generative artificial intelligence (GAI). This can, for example, be included as part of a methodology section or as a brief statement at the end of your exam paper or submitted as an appendix to your assignment. This means that you must describe how you have used GAI, for example, for preparatory work on the assignment, to ask questions, search and process information, receive feedback and critique on your text, perform proofreading, or improve language and readability. It is important that you actively consider your choice of tools in this way, as it is part of the entire creation process of the assignment and thus part of your scientific method and academic communication.</p> <p>The use of any specific text that is GAI-generated requires citation, just like the use of any other sources from which direct quotes are taken.</p> <p>The use of generative artificial intelligence (GAI) must always take place within the framework of Roskilde University's 'Guidelines for using generative artificial intelligence in exams'. In the library's guide, you can see more about how to cite AI, how you can declare your use of GAI, and read Roskilde University's Guidelines - https://libguides.ruc.dk/AI.</p> <p>Regular spell check and other language suggestions, as known from Word or other word processing programs, as well as programs for writing minutes and transcription, are allowed in all written exams and do not need to be declared.</p>
Expected work effort (ECTS-declaration)	<p>About 15 hours of laboratory work in both Biology, Physics and Chemistry. In addition 8 hours of environmental science activities. Reports are handed in by teams after the laboratory sessions.</p> <p>Work load:</p> <ul style="list-style-type: none">• 54 hrs of laboratory time• 28 hrs of laboratory preparation• 53 hrs of report work <p>Total 135 hr</p>
Course material and Reading list	Notes and guidelines for the laboratory work provide at the course.
Evaluation- and feedback forms	<p>Feedback is given during the laboratory work and on the reports, which need to be approved.</p> <p>The course includes formative evaluation based on dialogue between the students and the teacher(s) (as well as written feedback on the reports).</p> <p>At the end, the course is evaluated through a questionnaire in SurveyXact. The Study Board will handle all evaluations along with any comments from the course responsible teacher.</p>

Administration of exams	INM Registration & Exams (inm-exams@ruc.dk)
Responsible for the activity	Martin Niss (maniss@ruc.dk)
ECTS	5
Learning outcomes and assessment criteria	<ul style="list-style-type: none"> • Knowledge of core concepts, relationships, and empirical methods in chemistry, physics, biology, and environmental science • Skills to produce data within chemistry, physics, biology, and environmental science • Skills to analyze and interpret data using quantitative and qualitative methods • Skills to be able to follow and assess experimental procedures • Skills to be able to handle common and safety-related procedures in chemical and gene technology-classified laboratories • Skills to use relevant IT tools in connection with empirical work • The competence to compare experimental, numerical and analytical results • The competence to be able to process, use, interpret, and assess data obtained with methods from chemistry, physics, biology, and environmental science to answer scientific questions
Mandatory or elective	Mandatory course
Overall content	The course includes exemplary lab exercises in the fields of chemistry, physics, biology, and environmental science with a focus on empirical methods to obtain data.
Teaching and working methods	Laboratory exercises.
Form of examination (P1)	<p>The course is passed through regular, active and satisfactory participation.</p> <p>Regular participation is defined as: The student must be present for a minimum of 75 per cent of the experimental/practical parts of the course including the elaboration of analyses and interpretation of data in reports.</p> <p>Active and satisfactory participation is defined as: The student must participate in course-related activities (e.g. workshops, seminars, field excursions, process study groups, working conferences, supervision groups, feedback sessions). The student must demonstrate acquiring skills mentioned in the learning outcomes and assessment criteria. The student must submit a number of group laboratory experiment reports.</p> <p>Assessment: pass/Fail.</p> <p>Reexam: Students that have been present for a minimum of 75 per cent of the experimental/practical parts of the course but not have had all the experiment reports approved must re-submit the reports. The reports must be approved by the teacher.</p>
Form of Re-examination (P1)	Samme som ordinær eksamen
Exam code(s)	Exam code(s) : U26531

Course days:

Hold: Team 2

Basic Course 2 - Experimental Methods {Team 2}

Time 05-02-2026 08:15 til
05-02-2026 10:00

Location 25.1-035 - Teorikum 25.1 (130)

Basic Course 2 - Experimental Methods {Team 2}

Time 09-02-2026 12:30 til
09-02-2026 16:00

Location 15.1-039 - Laboratorium (0) / 15.1-047 - Laboratorium (0)

Basic Course 2 - Experimental Methods {Team 2}

Time 10-02-2026 12:30 til
10-02-2026 16:00

Location 15.1-039 - Laboratorium (0) / 15.1-047 - Laboratorium (0)

Basic Course 2 - Experimental Methods {Team 2}

Time 12-02-2026 12:30 til
12-02-2026 16:00

Location 15.1-039 - Laboratorium (0) / 15.1-047 - Laboratorium (0)

Basic Course 2 - Experimental Methods {Team 2}

Time 13-02-2026 12:30 til
13-02-2026 16:00

Location 15.1-039 - Laboratorium (0) / 15.1-047 - Laboratorium (0)

Basic Course 2 - Experimental Methods {Team 2}

Time 16-02-2026 10:15 til
16-02-2026 12:00

Location 11.2-047 - Gl. Natfagsal (65)

Basic Course 2 - Experimental Methods {Team 2}

Time 19-02-2026 12:30 til
19-02-2026 16:00

Location 15.2-013 - Laboratorium (0) / 15.2-021 - Laboratorium (0)

Teacher Frederik Diness (diness@ruc.dk)

Basic Course 2 - Experimental Methods {Team 2}

Time 23-02-2026 12:30 til
23-02-2026 16:00

Location 15.2-013 - Laboratorium (0) / 15.2-021 - Laboratorium (0)

Teacher Frederik Diness (diness@ruc.dk)

Basic Course 2 - Experimental Methods {Team 2}

Time 24-02-2026 12:30 til
24-02-2026 16:00

Location 15.2-013 - Laboratorium (0) / 15.2-021 - Laboratorium (0)

Teacher Frederik Diness (diness@ruc.dk)

Basic Course 2 - Experimental Methods {Team 2}

Time 26-02-2026 12:30 til
26-02-2026 16:00

Location 15.2-013 - Laboratorium (0) / 15.2-021 - Laboratorium (0)

Teacher Frederik Diness (diness@ruc.dk)

Basic Course 2 - Experimental Methods {Team 2}

Time 05-03-2026 12:30 til
05-03-2026 16:00

Location 27.2-054 - Lokale 3 (40)

Basic Course 2 - Experimental Methods {Team 2}

Time 06-03-2026 12:30 til
06-03-2026 16:00

Location 27.2-054 - Lokale 3 (40)

Basic Course 2 - Experimental Methods {Team 2}

Time 09-03-2026 12:30 til
09-03-2026 16:00

Location 27.2-046 - Fysik B (1)

Basic Course 2 - Experimental Methods {Team 2}

Time 10-03-2026 12:30 til
10-03-2026 16:00

Location 27.2-054 - Lokale 3 (40)

Basic Course 2 - Experimental Methods {Team 2}

Time 12-03-2026 12:15 til
12-03-2026 16:00

Location 25.1-035 - Teorirum 25.1 (130)

Teacher Simon David Herzog (sherzog@ruc.dk)

Basic Course 2 - Experimental Methods {Team 2}

Time 13-03-2026 10:15 til
13-03-2026 12:00

Location 15.2-013 - Laboratorium (0) / 15.2-021 - Laboratorium (0)

Teacher Frederik Diness (diness@ruc.dk)
Jeppe Kari (jkari@ruc.dk)

Basic Course 2 - Experimental Methods {Team 2}

Time 13-03-2026 12:15 til
13-03-2026 14:00

Location 15.1-039 - Laboratorium (0) / 15.1-047 - Laboratorium (0)

Teacher Rie Jønsson (riej@ruc.dk)

Basic Course 2 - Experimental Methods {Team 2}

Time 13-03-2026 12:15 til
13-03-2026 14:00

Location 27.2-054 - Lokale 3 (40)

Teacher Thomas Schröder (tbs@ruc.dk)