## Advanced chemical method A - Methods in Biophysical Chemistry (KEM)

### Om kurset

<table>
<thead>
<tr>
<th>Subject</th>
<th>Kemi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activitytype</td>
<td>master course</td>
</tr>
<tr>
<td>Teaching language</td>
<td>English</td>
</tr>
<tr>
<td>Registration</td>
<td>The information about the activity will be continuously updated until 30 May, changes may occur. The final description will be available from 1 June</td>
</tr>
</tbody>
</table>

Registration is happening through [stads selvbetjening](#) within the announced registration period, as you can see on the [Studyadministration homepage](#). When registering for courses, please be aware of the potential conflicts between courses or exam dates on courses. The planning of course 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.

### Learning outcomes/assessment criteria

After successful completion of the course the student will be able to demonstrate and apply:

**Knowledge of**
- Different techniques available in biophysical chemistry.
- Fundamental laws determining structure and function of biomolecules.
- Macromolecules.
- Role of water in biophysical processes.

**Skills in**
- Problem-solving, independent learning and the application of methods to solve unfamiliar problems.
- Analysis of own experimental data and interpretation in terms of physics-chemical models.
- Presentation of research literature.

**Competences to**
- Choose between different experimental techniques in solving a specific problem.
- be critical of techniques with respect to challenges and accuracy.
- Use and understand fundamental basis for techniques.

### Overall content

Principles and background for specific chemical methods. Instruments and special techniques for specific chemical problems and analysis. Practical procedures for specific chemical analysis.

### Detailed description of content

Develop skills and competencies to select and use experimental techniques for specific biophysical chemistry characterization.

### Teaching and working methods

The course will consist of lectures, laboratory exercises with reports, literature, journal presentations, and discussions. Laboratory reports will receive feedback.

### Expected work effort (ects-declaration)

- Lectures: 24 hrs
- Laboratory parts: 16 hrs
- Preparation for lectures: 24 hrs
- Laboratory report work: 32 hrs
- Exam: 1 hr
- Preparation for exam: 19 hrs
- Literature study and journal presentation: 19 hrs

Total time for this 5 ECTS course is 135 hrs
### Course material and reading list

In addition notes, laboratory instructions, and literature will be available on Moodle prior to sessions.

### Form of examination

Oral exam that will include written reports prepared during the course. The students will draw a question and have 30 minutes to prepare a presentation. The exam lasts 30 minutes including voting.

### Form of re-examination

Re-exam has the same format as ordinary exam

### Examination type

Individual examination

### Assessment

Pass / No pass

### Moderation

Internal (i.e. course lecturer and an internal examiner assess)

### Evaluation and feedback forms

The course includes formative evaluation based on dialogue between the students and the teacher(s) (as well as written feedback on the reports). The course is also evaluated through a questionnaire in SurveyXact (and an oral evaluation at the end of the course). The Study Board will handle all evaluations along with any comments from the course responsible teacher.

### The responsible course lecturer

Søren Hvidt (hvidt@ruc.dk)

### Teacher

Søren Hvidt (hvidt@ruc.dk)
Jeppe Kari (jkari@ruc.dk)

### Administration of exams

INM Studieadministration (inm-studieadministration@ruc.dk)

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**Kursusgange:**

**Hold: 1**

**Chemistry: Advanced Chemical Method A - Methods in Biophysical Chemistry - Lecture 1 (KEM)**

<table>
<thead>
<tr>
<th>Tidspunkt</th>
<th>05-09-2018 13:15 til 05-09-2018 15:00</th>
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<tbody>
<tr>
<td>Forberedelsesnorm</td>
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<tr>
<td>Forberedelsesnorm d-vip</td>
<td>Ikke valgt</td>
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<tr>
<td>Sted</td>
<td>20.1-075 - møde (16)</td>
</tr>
<tr>
<td>Underviser</td>
<td>Søren Hvidt (<a href="mailto:hvidt@ruc.dk">hvidt@ruc.dk</a>)</td>
</tr>
<tr>
<td>Indhold</td>
<td>Introduction to course and laboratory organization</td>
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</tbody>
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**Chemistry: Advanced Chemical Method A - Methods in Biophysical Chemistry - Lecture 2 (KEM)**

<table>
<thead>
<tr>
<th>Tidspunkt</th>
<th>19-09-2018 13:15 til 19-09-2018 17:00</th>
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Forberedelsesnorm d-vip Ikke valgt
Sted 28a.1-11 - mødelokale a1 (20)
Underviser Søren Hvidt (hvidt@ruc.dk)
Jeppe Kari (jkari@ruc.dk)
Indhold Macromolecules and first lab day

Chemistry: Advanced Chemical Method A - Methods in Biophysical Chemistry - Lecture 3 (KEM)

Tidspunkt 03-10-2018 13:15 til 03-10-2018 17:00
Forberedelsesnorm Ikke valgt
Forberedelsesnorm d-vip Ikke valgt
Sted 28a.1-11 - mødelokale a1 (20)
Underviser Søren Hvidt (hvidt@ruc.dk)
Jeppe Kari (jkari@ruc.dk)
Indhold Methods and lab day 2


Tidspunkt 17-10-2018 13:15 til 17-10-2018 17:00
Forberedelsesnorm Ikke valgt
Forberedelsesnorm d-vip Ikke valgt
Sted 28a.1-11 - mødelokale a1 (20)
Underviser Søren Hvidt (hvidt@ruc.dk)
Jeppe Kari (jkari@ruc.dk)
Indhold Enzyme kinetics and laboratory day 3


Tidspunkt 31-10-2018 13:15 til 31-10-2018 17:00
Forberedelsesnorm Ikke valgt
Forberedelsesnorm d-vip Ikke valgt
Sted 28a.1-11 - mødelokale a1 (20)
Underviser Søren Hvidt (hvidt@ruc.dk)
Jeppe Kari (jkari@ruc.dk)
Indhold Rheology and laboratory day 4
Chemistry: Advanced Chemical Method A - Methods in Biophysical Chemistry - Lecture 6 (KEM)

Tidspunkt 14-11-2018 13:15 til 14-11-2018 17:00
Forberedelsesnorm Ikke valgt
Forberedelsesnorm d-vip Ikke valgt
Sted 28a.1-11 - mødelokale a1 (20)
Underviser Søren Hvidt (hvidt@ruc.dk) Jeppe Kari (jkari@ruc.dk)

Chemistry: Advanced chemical method A - Methods in Biophysical Chemistry - Exam

Tidspunkt 11-01-2019 08:15 til 11-01-2019 19:00
Forberedelsesnorm Ikke valgt
Forberedelsesnorm d-vip Ikke valgt
Indhold Exam day - information on Moodle - exam before Christmas

Chemistry: Advanced chemical method A - Methods in Biophysical Chemistry - Re-exam

Tidspunkt 11-02-2019 08:15 til 11-02-2019 19:00
Forberedelsesnorm Ikke valgt
Forberedelsesnorm d-vip Ikke valgt