



PARTNERS ACADEMIC SUMMER SCHOOL 2024

Syllabus for – Chemistry

Subject Area

This syllabus is for PARTNERS applicants seeking to progress to the degrees of:

- Chemistry - BSc F100/MChem F103
 - Chemistry with Industrial Training - BSc F102/ MChem F106
 - Chemistry with Medicinal Chemistry - BSc F151/ MChem F123
 - Chemistry with Medicinal Chemistry with Industrial Training - BSc F122/MChem F124
 - Chemistry with Medicinal Chemistry with Study Abroad – MChem F156
 - Chemistry with study abroad- MChem F107
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Aims

To allow students to demonstrate their potential to succeed in specified degree programmes by showing a grasp of entry-level subject-specific knowledge, understanding, cognitive and subject-specific skills.

Learning Outcomes

A good knowledge and understanding of ...

- A range of experimental techniques in organic chemistry (e.g. in the synthesis of new compounds, their purification and identification)
- A good idea of interpretation of experimental results, methods of analysis, and mechanisms of organic reactions.
- Certain aspects of Physical Chemistry

The ability to apply this knowledge and critical understanding to...

- Explain experimental observations and draw conclusions from specific data

Competence in...

- Interpretation of experimental results and analytical data and use of computers and the library to obtain relevant information.
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Summer School Syllabus

On-campus days

Day 1:

Introduction session – Introduction to Organic and Physical Chemistry, and to Lab Safety.

Lab sessions 1 and 2: Students will perform experiments in either Organic or Physical Chemistry and collect necessary experimental data in one of the teaching laboratories.

Chemistry workshop – a tutorial session at the end of the day to reflect on the experimental observations and to analyse the data obtained.

Day 2:

Lab sessions 3 and 4 – Students will continue with their experimental work in one of the teaching laboratories.

Chemistry workshop – a tutorial session at the end of the day to analyse experimental data obtained in the laboratory and to highlight the underlying concepts used in the experiments.

Off-campus sessions:

Day 1:

- Introduction to Organic Chemistry
- Zoom workshop on Introduction to Organic Chemistry
- Reaction Mechanisms
- Zoom workshop on Reaction Mechanisms
- Open Office Q&A

Day 2:

- Open Office Q&A
- Introduction to Physical Chemistry
- Zoom workshop on Introduction to Physical Chemistry

Day 3:

- Open Office Q&A
- Organic Spectroscopy
- Zoom workshop on Organic Spectroscopy

Activities for Personal Study

Students will be provided with reading to complete during the Summer School. These will be provided via the Library Reading List feature within Canvas. They will also be asked to watch videos of chemical experiments and use interactive simulations of experiments on canvas.

Students on the Chemistry strand will be split into two groups, with different on-campus days – we are unable to let students choose their on-campus days or change their allocation due to capacity and numbers

Online Teaching:

Monday 1st, Tuesday 2nd July

OR

Wednesday 3rd, Thursday 4th & Friday 5th (AM only) July

On-Campus Teaching:

Sunday 30th June (PM), Monday 1st July, Tuesday 2nd July

OR

Wednesday 3rd (PM), Thursday 4th & Friday 5th July

Formative Assessment Details

At the end of the course students will be expected to submit a report on their lab work with corresponding analysis of the experimental data (template for the report will be provided).

Hand-in Method

Digital

Assessment deadline

Friday 12th July