

Course title: **Advanced organic chemistry**

Credits /Duration (days)

15 hp

Learning outcomes:

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

- Describe and discuss key concepts for describing compounds and reactions
- Critically discuss functional group transformations from synthetic as well as mechanistic perspective
- Critically discuss carbon-carbon forming and breaking strategies from synthetic as well as mechanistic perspectives
- Identify, analyze and evaluate synthetic routes to complex target compounds and systems
- Plan and lead discussion seminars

Course layout:

Part 1: Foundations: concepts, mechanisms and synthesis. Seminars and problem discussion sessions (planned and led by participants), hand-in assignment(s) or paper exam.

Part 2: Building broader and higher: classical and contemporary examples. Presentation seminar(s) by participants on selected contemporary themes (number of themes to be decided, depends on number of participants and availability of senior coaches). The seminar preparation part includes finding, critically evaluating and discussing scientific literature for the given theme.

Literature

D. E. Lewis: *Advanced organic chemistry* (OUP, New York, 2016, available at Adlibris)

Additional reading:

J. Keeler and P. Wothers: *Why chemical reactions happen* (OUP, 2004)

Independent use of library facilities for finding sources (reviews, papers etc) for the contemporary aspects of the themes of part 2 will be required.

Contact

Helena Grennberg Helena.grennberg@kemi.uu.se