

Advanced organic chemistry, PhD level. 15 HEC

The course is normally run “even years” only (18, 20, 22, etc) with seminar sessions from March until November. Seminar session schedule will be developed together with the participants at the start of the course, not to clash too much with other assignments.

Eligibility: PhD student in Chemistry specializing in organic chemistry or similar

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 (major): Foundations: concepts, mechanisms and synthesis. Seminars and problem discussion sessions (planned and led by participants).

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

Recommended literature:

D. E. Lewis: *Advanced organic chemistry* (OUP, New York, 2016/later)

Additional reading:

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

Independent use of library facilities for finding sources (reviews, papers etc) will be required.

Examination: Continuous during the course by active seminar participation and hand-in assignments. For “resit” the examination will be a paper exam with oral follow-up.

Registration: email to helena.grennberg@kemi.uu.se, no later than end January (of course year)