

Course analysis (course evaluation)

Course code 1BI036	Course title General and Organic Chemistry	Credits 12hp
Semester (spring/autumn) HT-24	Period September 26 - November 18, 2024	
Course coordinator Bernhard Lohkamp		Examiner Bernhard Lohkamp
Teacher in charge of component Michael Landreh		Other participating teachers various
Number of registered students during the three week check 72	Number approved on the last course date 49	Response frequency course valuation survey 70%
Other methods for student influence (in addition to concluding course valuation) Course committee meetings (3 time, 2 during the course, 1 after)		
Feedback reporting of the course valuation results to the students Survey (without comments) published on the open course page. Whole survey sent to students who have participated in the survey. Discussed survey with the course committee.		

Note that...

The analysis should (together with a summarising quantitative summary of the students' course valuation) be communicated to the education committee at the department responsible for the course and for programme courses also the programme coordinating committee.

The analysis was communicated to the education committee on the following date: **18/12/24**

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1. Description of any conducted changes since the previous course occasion based on the views of former students

An introductory chemistry course page incl. quiz was prepared and made available to students before their studies at KI.

The course content (lecture, seminar, self-study) was reviewed to ensure that material less relevant for biomedical students was removed. Exercises were better aligned with theory content.

Seminars were conducted to include first group work before presentation of results.

Added an interactive lecture on reaction mechanisms.

Added generalised lab report feedback and generative AI information.

2. Brief summary of the students' valuations of the course

(Based on the students' quantitative responses to the course valuation and key views from free text responses. Quantitative summary and any graphs are attached.)

Overall students perceive the course as demanding but very manageable since it is well organised. Students enjoyed the laboratory work, took responsibility of their own learning and mostly achieved the intended learning outcomes. The final exam was not perceived well mainly due to a typo/mistake in one question (see note below). The student-teacher communication was good. Smaller learning groups such as seminars and esp. self-study with teacher help are very appreciated by the students. Opinions on feedback are very

diverse in general (survey) and in particular (lab reports - teacher dependent). It appears some students are not challenged (enough) whereas others are out of their depth.

3. The course coordinator's reflections on the implementation and results of the course

Strengths of the course:

Small study groups such as seminar and self-study with teacher help support the students' learning continuously and get the required help if necessary. The change of seminar format was well received (by students and teachers) but the format and/or role of self-studies was questioned.

The laboratory work is very much appreciated, and students enjoy not just the work and learning new techniques but the connection between theory and practice incl. the lab reports. Progression of the lab report content and format was recognised and appreciated.

New content (reaction mechanisms, feedback and AI) was well received and appreciated although it does always not seem to translate into overall better performance and/or perception of feedback e.g..

The pre-lab quizzes, discussions and video recordings of the experiments prepared the students well for the labs they performed. Teachers were appreciated for their good interaction with students and support. The course is well structured and organised incl. the Canvas pages and theory content.

Weaknesses of the course:

There was still some overlap between content of lectures esp. in the beginning and resulted in missing of some more advanced content. Depending on the teacher some parts of the lab assessment esp. reports are not graded uniformly and occasionally lack feedback. The time given to the course appeared to not always being well used as some parts move too fast whereas others too slow. The labs could have a "lab lecture" associated. The motivation to study organic chemistry is not always apparent and more connection to biology could be helpful. Students question the scheduling of self-studies directly after the lectures since it does not allow preparation.

3. Other views

Additionally green chemistry was highlighted in the lab manual. Generative AI guidelines were published, and students were required to add a statement on generative AI usage in connection with lab reports.

Survey participation was initially comparatively low and a significant amount of answers came in late.

There was a typo/mistake in one of the exam questions. This was taken into consideration in the assessment of the exam. Consideration to remove the question from grading entirely was dropped since this would have been disadvantageous to several student's results.

4. Course coordinator's conclusions and any suggestions for changes

(If changes are suggested, state who is responsible for implementing them and provide a schedule.)

The scheduling of lab reports will be reviewed so that the earlier, shorter lab reports are given less time and the later, more complex/complete ones more time. More general feedback could be provided earlier on and maybe could be complemented with some reminder at a later stage (BLo). The lab report check list together with some size expectations will be added directly to the report instructions (BLo together with PN to give general report guidelines). Some experiments have to be revised, first to prevent the use of CMR chemicals, second to train more basic lab skills, and third to have clear breaks and/or shorten the sessions (BLo+responsible teacher). The content will be revisited to avoid overlap and free time for more advanced topics (BLo). A workshop (series) on academic writing should be included (again) (BLo with academic writing at KI and course directors of year one). Lab experiments could be supplemented with either more information in the corresponding lectures and/or short "lab lecture" videos maybe even integrated with the pre-lab quiz (BLo and lab resp. teachers/lecturers). Self-study sessions and seminars will be reviewed, and some self-studies should be considered to become seminars (in the "new" format) again. The purpose of self-studies needs to be clarified even more (BLo and resp. lecturers). The feedback for the lab reports should be more formalised for the teachers despite being difficult to control/enforce (BLo and resp. lab teachers). Addition of some individual, voluntary lab practise following the introduction lab will be evaluated (BLo).

Appendices:
Survey