UNIVERSITY OF SKÖVDE

TRANSLATION FROM SWEDISH

COURSE SYLLABUS

Basic Chemistry G1N

15 credits

Course code: KE117G
Version number: 9.1
Valid from: 1 July 2026
Ratified by: Curriculum Committee for Bioscience
Date of ratification: 25 September 2025

1. General information about the course

The course is provided by the University of Skövde and is named Basic Chemistry G1N (Grundläggande kemi G1N). It comprises 15 credits and is a first-cycle course. The level of progression is G1N.

The course is a part of the subject of Chemistry. The disciplinary domain of the course is Natural Sciences.

2. Entry requirements

General entry requirements.
Additional requirements: Mathematics 2a or 2b or 2c, Science studies 2, English 6
Or:
Mathematics level 2a or level 2b or level 2c, Science studies level 2, English level 2 (or the equivalent).

The level of English proficiency is normally shown by an internationally recognized test, e.g. IELTS or TOEFL.

3. Course content

The course provides knowledge in basic chemistry from a bioscientific perspective where the basic chemistry is used to describe and explain biochemical reactions and structures of biomolecules. The theoretical knowledge will be applied on chemical and mathematical problems. The knowledge will also be applied on laboratory sessions. The course forms a basis for upcoming courses in biochemistry, molecular biology and biomedicine.

4. Objectives

After completed course the student should be able to:

- describe the structure of atoms, molecules and how chemical bonds are formed, and use this knowledge to name and explain the properties and structures of inorganic chemical substances,
- use thermodynamics principles and laws to explain the mechanisms of chemical reactions and chemical equilibrium,
- perform stoichiometric calculations, balance chemical reactions and use these skills in the laboratory,
- name organic chemical substances and draw their structural formula,
- present different classes of organic substances, their properties, structures, reactivity and biological functions,
- describe the four classes of biological macromolecules, with focus on their structures and biochemical reactions and functions,
- plan, perform and evaluate laborations in groups and present the results in writing.

5. Examination

The course is graded A (Excellent), B (Very good), C (Good), D (Satisfactory), E (Sufficient) or F (Fail).

The final grade of the course is issued only when all examination parts are approved.

The final grade of the course is determined by an average of the grades for the examination parts Supervised written examination 1 and Supervised written examination 2. The average value is rounded to the nearest integer (half rounded up) and translated into a final grade of the course.

In the course “duggor” are included that are not mandatory, but which can give bonus points for the Supervised written examination 1 and Supervised written examination 2.

The examinations of the course consist of the following modes of assessment:

- **Supervised written examination 1**
  5 credits, grades: A/B/C/D/E/F
- **Supervised written examination 2**
  5 credits, grades: A/B/C/D/E/F
- **Laboratory assignment 1**
  1.5 credits, grades: G/U
- **Laboratory assignment 2**
  1.5 credits, grades: G/U
- **Written assignment 1**
  1 credit, grades: G/U
- **Written assignment 2**
  1 credit, grades: G/U

Students with a permanent disability who have been approved for directed educational support may be offered adapted modes of assessment.

6. Types of instruction and language of instruction

The teaching is comprised of calculation exercises, lectures and laboratory sessions.

The teaching is conducted in English.

7. Course literature and other educational materials

Timberlake, K. (2015). *General, Organic, and Biological Chemistry: Structures of Life* (5th ed). Pearson. ISBN 9781292096193.

8. Student influence

Student influence in the course is ensured by means of course evaluation. The students are informed about the results of the evaluation and potential measures that have been taken or are planned, based on the course evaluation.

9. Additional information

The content of the course corresponds completely or partially with the following course(s) and cannot be included in the required credits of a degree qualification:

- KE112G - General Chemistry G1N 7.5 credits
- KE311G - Organic and Physical Chemistry G1F 7.5 credits

Further information about the course, as well as national and local governing documents for higher education, is available on the website of the University of Skövde.