

Inorganic Chemistry (7,5 ECTS)

Aim: After completing the course successfully, the student is able to draw conclusions based upon a broad knowledge of chemical models and empirical facts about inorganic compounds and an extended knowledge of co-ordination compounds when describing and analysing phenomena involving inorganic compounds in a language in accord with tradition in the scientific community.

Contents: Inorganic chemistry is treated systematically from a periodic table of the elements point of view. Relevant models are utilized in order to describe the properties of the compounds.

Emphasis is put on representative d-block elements, while the f-block elements are only treated superficially. The course is based upon the knowledge of basic inorganic chemistry including its analytical dimension. The laboratory exercises illustrate synthesis and electron-spectroscopic properties of simple coloured co-ordination compounds. The PC-exercise deals with the stability of co-ordination compounds.

Format: A small class size invites to more dialogue with contributions from the participants. Details to be agreed upon.

Volume: Approx. 30 mornings/afternoons. Each session about three hours.

Prerequisites: Elementary inorganic chemistry (cf. Kemi C), bonding, spectroscopic methods and elementary chemical thermodynamics and kinetics, and chemical properties of organic compounds with the hetero-atoms O, N and S, especially in aqueous solution.

Textbook: C.E.Housecroft & A.Sharpe: Inorganic chemistry. (Prentice Hall)

Assessment: : The answers given on a 4 hours written test in January or June dealing with a case study in inorganic chemistry with emphasis on coordination chemistry, will be assessed according to the 7-step scale.

The grading will depend on the extent to which the aims have been fulfilled.

- 12 (A) is given for answers demonstrating that the student is able to describe and analyse phenomena in inorganic chemistry using the relevant models unequivocally with only few or no minor shortcomings and by the unburdened use of a clear language in accord with tradition in inorganic chemistry.
- 7 (C) is given for answers demonstrating that the student is able to describe and analyse phenomena in inorganic chemistry using relevant models and by the use of understandable chemical language
- 2 (E) is given for answers demonstrating that the student to a limited extent is able to describe and partly analyse simple phenomena in inorganic chemistry using some models and chemical terminology

Laboratory- and PC-exercise parts are tested and approved by written reports.