COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title	Code
Inorganic Chemistry	**CH**

Lecturer(s)	Department(s) where the course unit (module) is delivered
Coordinator: Dr. Inga Grigoraviciute-Puroniene **Other(s):**	**Inorganic Chemistry**

Study cycle	Type of the course unit (module)
Bachelor	**Elective**

Mode of delivery	Period when the course unit (module) is delivered	Language(s) of instruction
Face to face	**Second semester**	**English**

Requirements for students	
Prerequisites: **General Chemistry**	**Additional requirements (if any):**

Course (module) volume in credits	Total student's workload	Contact hours	Self-study hours
5	**130**	**32**	**98**

Purpose of the course unit (module): programme competences to be developed		
This course created to introduce the student to inorganic chemistry; to develop a theoretical and content base for inorganic chemistry.		
Learning outcomes of the course unit (module)	**Teaching and learning methods**	**Assessment methods**
1. Explain and predict the structure and bonding in molecules on the basis of VSEPR, Valence Bond and Molecular Orbital theories. 2. Describe how the chemical properties of the main group elements vary through the periodic system. 3. Physical properties and chemistry of transition metal. Explain coordination chemistry: valence bond theory, crystal-field theory. Describe d-orbital splitting in octahedral, tetrahedral, square planar geometries. 4. Describe how structures and electrical properties vary for metallic and ionic solids. 5. Electrochemistry. Calculate standard cell potential, E^o cell, and Gibbs energy, ΔG^o.	This course includes 32 hours of lectures including individual problem solving and tutorials. Textbook reading.	During the course, two tests including short answer tasks, and solving of numerical problems. Final exam.

Content: breakdown of the topics	Contact hours							Self-study work: time and assignments	
	Lectures	Tutorials	Seminars	Exercises	Laboratory work	Internship/work placement	**Contact hours**	**Self-study hours**	**Assignments**
1. Introduction. Objectives.	2						2	**0**	
2. Atomic and electronic structure	4						4	**11**	Textbook reading. Problem solving.
3. Bonding theories and symmetry	4						4	**15**	Textbook reading. Problem solving.
4. The main group elements	6						6	**19**	Textbook reading. Problem solving.
5. D-block metals and transition metal complexes	6						6	**20**	Textbook reading. Problem solving.
6. Metals and ionic solids	4						4	**13**	Textbook reading.
7. Electrochemistry	6						6	**20**	Textbook reading. Problem solving.
Total	**32**						**32**	**98**	

Assessment strategy	Weight,%	Deadline	Assessment criteria
Two tests will be conducted during the course, each counting 30% towards the final grade.	60	1st test: March 2nd test: April	Short answer questions.
Final end-of-term exam.	40	May/June	Multiple choice questions.

Author	Year of publication	Title	Issue of a periodical or volume of a publication	Publishing place and house or web link
Compulsary reading				
G. L. Miessler, P. J. Fischer, D. A. Tarr	2014	Inorganic Chemistry	5th ed.	Pearson Education
C. E. Housecroft, A. G. Sharpe	2008	Inorganic Chemistry	3rd ed.	Pearson Education Limited
Optional reading				
J. E. Huheey, E. A. Keiter, R. L. Keiter	1993	Principles of Structure and Reactivity	4th ed.	Harper Collins