

Elective Modules: Computational Chemistry

1	Elective Module: Computational Chemistry	SKS	ECTS-Credits
	<i>In this elective module will actively learn on how to solve chemistry problem by means of in silico method.</i>		
a.	Computational Chemistry This course aims to enable students to use computational chemistry methods to help solve problems in the field of chemistry.	2	2.66
b	Molecular Modeling Molecular modeling is a strategy to describe the properties of chemicals at the molecular level mathematically. Through this lecture, the forces acting on molecules are studied so that relatively stable molecules are obtained and are formulated in simple mathematical equations.	2	2.66
c.	Simulation of Chemical Systems Through this course, students are expected to be able to develop models (microscopic systems) that can be used to describe/study the thermodynamic properties of chemical compounds.	2	2.66
Total		6	7.98
Learning Outcomes: LO 3. Students master theory and working as a researcher in the field of science and technology with the ability to solve community problems with an orientation to sustainable development and to disseminate research results in scientific meetings and scientific publications. LO 4. Student master in basic principles and ability to use software in determining the structure and energy of micro molecules, analysis and synthesis in general or more specific field in chemistry (organic, biochemistry, or inorganic), and data processing (analytical chemistry).			
Prerequisites: Compulsory module			

Elective Modules: General Competence

2	Elective Module: Quality Management System	SKS	ECTS-Credits
	<i>In this elective module students will be involved in the simulation of setup process of certain parameter for testing laboratory.</i>		
a	Quality Management System This course aims to enable students to be able to apply the principles of a laboratory quality management system based on ISO 17025. Emphasis is given to quality management principles and good practice of testing laboratories to produce reliable data.	2	2.66
	Total	2	2.66
	Learning Outcomes: LO 3. Students master theory and work as a researcher in the field of science and technology and able to solve community problems with an orientation to sustainable development and disseminate research results in scientific meetings and/or scientific publications.		
	Prerequisites: -		