MODULE HANDBOOK

Module Name	Basic Theory of Inorganic Chemistry
Module level	Bachelor
Abbreviation, if applicable	3074213015
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	3th/Second Year
Module coordinator(s)	Prof. Dr. Sari Edi C, M.Si
Lecturer(s)	Prof. Sari Edi C. M.Si; Dr. Amaria, M.Si., and Dina Kartika M,M.Sc
Language	Indonesian
Classification within the curriculum	Compulsory Course
Teaching format/class hours per week during the semester:	3 hours lecturers (50 min per hours)
Workload:	1 CU for bachelor degree equals to 3 workhours per week or 170 minutes (50' face to face learning, 60' structured learning, and 60' independent learning). In one semester, courses are conducted in 14 weeks (excluding mid and end-term exam). Thus, 1 CU equals to 39.67 workhours per semester. One CU equals to 1.59 ECTS.
Credit points:	3 CU (4,77 ECTS)
Prerequisites course(s):	-
Targeted learning outcomes:	CLO 1 Having the ability to take advantage of ICT-based learning resources and learning to domination of Inorganic Chemical theory and concept. CLO 2 Able to knowledge about about periodicity of nature of element, acid base theory, basic reaction of chemistry, reaction and termodinamic of redox, molecule structure : covalent bond, Tonic bond and solid state CLO 3 Make decision in hooking;correlating concepts of keberkalan the nature of element with theory of asam-basa, elementary reaction of chemistry, reaction and thermodynamic of redox, covalent bond, tonic bond and solid state CLO 4 Demonstrate an attitude of responsibility for work in their field of expertise indepently
Content:	**Characteristic of elemen**: nucleus effective charge; Shielding effect, energy ionization; affinity electron; electronegtivity; covalen radii; and ionic radii; **Chemical bond**: ionic bond, characteristic of ionic compound; ionic compound; mechanism of ionic compound; ratio of radii; lattice energy; solution of ionic compound; the Fajan role;

	Covalen bond: valency Teory Bond; crystal field stabilization (CFSE); Orbital Molecule Theory; hydrogen bond and van der Waals; **Reaction of chemistry:** basic theory of inorganic chemistry; acid base theory; the strength of acid base; reaction in water and non water. **Oxidation-reduction theory:** half reaction; oxidation-reduction number; potential reduction; galvani cell; potential electrode; applied potential standart; reaction in water medium. **Structure of solid :** ionic solid; grafite and diamond; crystale defect; band theory.
Study / exam achievements:	Students are considered to be competent and pass if at least get 55 Final score is calculated as follows: 20% participation + 30% assignment + 20% middle exam (UTS) & 30% final exam (UAS) Table index of graduation • A = 4 (85 ≤-≥ 100) • A- = 3,75 (80 ≤-< 85) • B+ = 3,5 (75 ≤- < 80) • B = 3 (70 ≤-< 75) • B- = 2,75 (65 ≤-<75) • C+ = 2,5 (60 ≤-<65) • C = 2 (55 ≤-<60) • D = 1 (40 ≤-<55) • E = 0 (0 ≤-<40)
Media:	Computer, LCD, White board
Learning Methods	Individuals assignment, group assignment, discussion, presentation
Literature:	1. Huheey, J.E. ; Keiter, E.A. ; Keiter, R.L., 1990, *Inorganic Chemistry, Prinsciples of Structure and Reactivity*, Fourth Edition, Harper Collins College Publishers. 2. Madan, R.D., 1997. *Modern Inorganic Chemistry* , S. Chand and Company LTD, New Delhi. 3. Manku, G.S., 1980, *Theoritical Principles of Inorganik Chemistry,* Tata Mc Graw Hill Book Co of India.Arends, Richard I. (2004). *Guide to Field Experiences and Portofolio Development: to accompany ;learning to teach.* New York: McGraw-Hill Book Company. 4. Sugiarto, Bambang. 2012. *Sistem Periodik Unsur*. Surabaya: Unesa University Press 5. Sari Edi Cahyaningrum, 2018, Teori Dasar Kimia Anorganik, Unesa university Press

Note	Physical Chemistry 2 covers the activities of theory, and presentation.