



Diponegoro University
Faculty of Science and Mathematics
Undergraduate Program Of Chemistry

Module designation	Inorganic Chemistry 2 (Kano2)
Semester(s) in which the module is taught	3
Person responsible for the module	Adi Darmawan, Ssi, Msi, Ph.D
Language	Indonesian
Relation to curriculum	Compulsory/ elective / specialisation
Teaching methods	Lecture
Workload (incl. contact hours, self-study hours)	Face to face : 1 x (3 x 50 min); Structured study: 1 x (3 x 60 min); Self study: 1 x (3 x 60 min)
Credit points	3
Required and recommended prerequisites for joining the module	KAno1
Module objectives/intended learning outcomes	(S9) Demonstrate a responsible attitude towards work in their area of expertise independently (PP1) Mastering theoretical concepts about atomic theory, bonds, structure, and properties of a compound based on its design and constituent elements (KU1) Able to apply logical, critical, systematic, and innovative thinking in the context of the development or implementation of science and technology that pays attention to and uses humanities values by their field of expertise (KK3) Able to analyze several alternative solutions in the field of identification and analysis of simple solids

Content	<ol style="list-style-type: none"> 1. Introduction, Lecture contract, Thermodynamic and kinetics aspects of inorganic reactions, Stability and reactivity of a compound 2. Arrhenius and Bronsted acid-base concept, Proton transfer equilibrium in water 3. Properties of Brnsted acids 4. Lewis acidity 5. Lewis acid-base reactions and properties 6. Intermolecular forces 7. Hard and soft acids and bases 8. Application of acid and base chemistry 9. Reaction on non-aqueous solvents 10. Self-ionizing and non-ionizing non-aqueous solvents; Liquid Ammonia 11. Sulfuric acid and fluorosulfuric acid 12. Ionic liquid 13. Reduction potential 14. Reduction and oxidation stability
Exams and assessment formats	Mid-Semester Exam and Final Exam
Study and examination requirements	Participatory Activities -20% Project Results -30% Task -10% Quiz -10% Mid-semester -15% Final exams -15%
Reading list	<ol style="list-style-type: none"> 1. Atkins, Overton, Rouke, Weller, Amstrong, Hagerman, 2010, Shriver and Atkins' Inorganic Chemistry, Oxford University Press 2. Gary L. Miessler, Paul J. Fischer and Donald A. Tarr, 2014, 5th ed. , "Inorganic Chemistry", Pearson Inc 3. Catherine E. Housecroft and Alan G. Sharpe, 2008, 3rd ed., "Inorganic Chemistry", Pearson Education Limited