Module Handbook

Module Name	Transition Elements of Inorganic Chemistry
Module level	Bachelor
Abbreviation, if applicable	-
Sub-headings, if applicable	-
Course included in the module, if applicable	-
Semester / term	7th / First Year
Module coordinator (s)	Dr. Amaria, M.Si.
Lecturer (s)	Dr. Amaria, M.Si .; Prof. Dr. Sari Edi C., M.Si .; Dr. Muchlis, S.Pd., M.Pd .; Kusumawati D, S.Pd. M.Pd .; Rusly Hidayah, S.Si., M.Pd.
Language	Indonesian
Classification within the Curriculum	Compulsory Course
Format / class teaching 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 1,587 ECTS.
Credit points:	3 CU (4,761 ECTS)
Prerequisites course (s):	-
Targeted learning outcomes:	CLO 1 Students have the ability to utilize learning resources and ICT to support mastery of concepts and theories of inorganic chemistry CLO 2 Students have knowledge about the basic concept of metal extraction, properties of physical and chemistry, of transition's element and compound of first, second, and third block d CLO 3 Students make decision related concept of periodic table properties, properties of physical and chemistry, of transition's element and compound of first, second, and third block d CLO 4 Students have an honest and responsible attitude in study inorganic chemistry concept.
Content:	1. **Principles of metals extraction;** 2. **Introduction of transition metals**: 1. Propertiesof transition metals, 2. Size of atom and ion, 3. Ionization energy; 4. Magnetic properties, 5. Catalytic properties, 6. Stability of oxidation state level, 7. Reactivity, 8. Stability of complex. Complex compound and color

	3. **Scandium and titanium groups:** 1. General properties of scandium group, 2. Oxide and scandium group compounds, 3. extraction, properties, and using of scandium group, 4. General properties of titanium group, 5. Oxide andtitanium group compounds, 3. extraction, properties, and using of titanium group, 4. **Vanadium group:** 1. General properties of vanadium group, 2. Oxide and scandium group compounds, 3. extraction, properties, and using of scandium group 5. **Chromium group:**1. General properties of chromium group, 2. Oxide andchromium group compounds, 3. extraction, properties, and using of chromium group 6. **Manganese group:** 1. General properties of manganese group, 2. Oxide andmanganese group compounds, 3. extraction, properties, and using of manganese group 7. **Iron group:**1. General property of iron group, 2. Oxide andiron group compounds, 3. extraction, properties, and using of iron group 8. **Cobalt group:** 1. General properties of cobalt group, 2. Oxide andcobalt group compounds, 3. extraction, properties, and using of cobalt group 9. **Nickel group:**1. General properties of nickel group, 2. Oxide andnickel group compounds, 3. extraction, properties, and using of nickel group 10. **Copper group:** 1. General properties of copper group, 2. Oxide andcopper group compounds, 3. extraction, properties, and using of copper group 11. **Zinc group:**1. General properties of zink group, 2. Oxide andzinc group compounds, 3. extraction, properties, and using of zinc group.
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, and presentation.
Literature:	1. Dina Kartika Maharani, et al. 2017. Transitional Inorganic Chemistry. Surabaya: Unesa University Press 2. Madan, RD, 1997.Modern Inorganic Chemistry. New Delhi .: S. Chand and Company Ltd 3. Manku, GS, 1980. Inorganic Chemistry. India: Tata Mc Graw Hill Book Co. 4. Lee, JD 1991. Concise Inorganic Chemistry. Fourth Edition. London: Chapman & Hall
Note	Transition Elements of Inorganic Chemistry covers the activities of theory and presentation.