MODULE HANDBOOK

Module Name	Solid-state chemistry
Module level	Bachelor
Abbreviation, if applicable	
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	6th/third year
Module coordinator(s)	Samik, S.Si., M.Si.
Lecturer(s)	Prof. Dr. Harun Nasrudin, M.S. Nur Hayati, S.Si., M.Si.
Language	Indonesian
Classification within the curriculum	Elective Course
Teaching format/class hours per week during the semester:	2 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:	2 x 1.59 = 3.18 ECTS
Prerequisites course(s):	Thermodynamics of chemistry
Targeted learning outcomes:	1. Able to apply logical, critical, systematic and innovative thinking in the context of developing or implementing science and technology related to solid-state chemistry. 2. Able to produce appropriate conclusions based on the results of identification, analysis, and synthesis of chemicals that have been carried out. 3. Mastering theoretical concepts about crystal structure, types of crystals, solids analysis techniques, properties of solids, crystal defects, synthesis, and utilization of solid materials. 4. Have a responsible attitude by applying preparative methods and characteristics of inorganic solids, properties and structures of solids, and solid solutions.
Content:	A study of solids, crystal structures, types of crystals, solids analysis techniques, properties of solids, crystal defects, synthesis, and utilization of solid materials. This study was conducted through lectures, discussions, review of journal articles and presentations.
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, internet
Learning Methods	Lectures, individuals' assignment, group assignment, discussion, and presentation
Literature:	1. Samik, Nasrudin, H., & Setiarso, P. (2018). *Kimia Zat Padat*. Surabaya: UNESA University Press 2. Askeland, D.R., & Fulay, P.P. (2009). *Essentials of Materials Science and Engineering*. Second Edition. Canada: Cengage Learning 3. Bahl, A., Bahl, B.S., & Tuli, G.D. (2002). *Essential of Physical Chemistry*. New Delhi: S.Chand and Company Ltd. 4. Levine, Ira. (2009). *Physical Chemistry*. Sixth Edition. New York: McGraw-Hill 5. Ropp, R.C., & Warren. (2003). *Solid-state Chemistry*. Amsterdam: Elsevier Science 6. Rodgers, G.E. (2012*). Descriptive Inorganic, Coordination, and Solid-State Chemistry*. Third Edition. Canada: Brooks/Cole, Cengage Learning 7. Smart, L.E., & Moore, E.A. (2005). *Solid-state Chemistry An Introduction*. Third Edition. Boca Raton London: Taylor & Francis Group. 8. West, A.R. (1984). *Solid-state Chemistry and Its Applications*. New Delhi: John Wiley & Sons Ltd.
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