MODULE HANDBOOK

Module Name	Industrial Chemistry
Module level	Bachelor
Abbreviation, if applicable	8420402147
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	8th/Fourth Year
Module coordinator(s)	Dr. Nuniek Herdyastuti, M.Si
Lecturer(s)	Prof. Dr. Titik Taufikurrohmah, M.Si,, Dr. Nuniek Herdyastuti, M.Si. Dian Novita, ST., M.Pd.
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 1.59 ECTS
Credit points:	2 CU = 2 x 1.59 = 3.18 ECTS
Prerequisite course(s):	• Spectroscopy and Chromatography Method • Structure and Function of Biomolecule • Chemical Kinetics
Targeted learning outcomes:	1. Students have the ability to collaborate in carrying out the practicum process. 2. Skilled students use tools in carrying out the practicum process. 3. Students have knowledge of the principles, basic concepts, and chemical processes in the chemical industry, including industries: the petrochemical industry; oils including essential oils and oils from seeds; fermentation industries including tempeh, soy sauce, yogurt and wine, soap and detergent; paper industry including recycled paper; carbon industry from various raw materials; and the cosmetics industry, including facial soaps, various facial creams, shampoos and cosmetic dyes.
Content:	1. Introduction: Understand contract studies, grading systems and some examples of types of chemical processes in industry 2. Industrial Chemistry in Petrochemicals: Chemical processes in the industry in petrochemicals and their applications 3. Chemical Processes in the Petroleum Industry: chemical processes in the oil industry, essential oil refining, oil

	isolation from seeds 4. Chemical Processes in the Fermentation Industry: understand the fermentation process and the process of making products related to the fermentation industry (making soy sauce, soygurt, cheese, etc.) 5. Chemical Processes in the Soap and Detergent Industry: understand the chemical processes in the soap and detergent industry and understand the process of making products related to the soap and detergent industry 6. Chemical Processes in the paper industry: understand chemical processes in the paper industry and understand the process of making products related to the paper industry including recycled paper 7. Chemical Processes in the cosmetic industry: understand chemical processes in the cosmetic industry and understand the process of making products related to the cosmetics industry
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, and practicum
Literature:	1. Austin, T. George. 1984. *Shreve's Chemical Process Industries* Fifth Edition. New York: Mc Graw-Hill. 2. Felder, R.M., Rousseau, R.W., and Bullard, L.G. 2016. *Elementary Principles of Chemical Processes*. USA: John Wiley & Sons, Inc. 3. Recent journals related to each topic