

MODULE HANDBOOK

Module Name	Surface Chemistry
Module level	Bachelor
Abbreviation, if applicable	8420403168
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	5 th /Third Year
Module coordinator(s)	Prof. Dr. Suyono, M.Pd.
Lecturer(s)	Dr. Harun Nasrudin, M.S.; Bertha Yonata, S.Pd., M.Pd.
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:	Total workload 126 hours per semester which consists of 3 hours lecture, 3 hours structured activities, 3 hours 3 hours 3 hours 3 hours individual activities, and 14 weeks per a semester (4.2 ECTS)
Credit points:	3 SCU
Prerequisites course(s):	-
Targeted learning outcomes:	<p>CLO 1 students have ability to communicate the analysis results of viscosity, surface tension, adsorption, and colloids so that they can develop a conceptual framework to formulate performance or alternative performance in solving chemical problems in life</p> <p>CLO 2 Students have mastered to apply laboratory equipment for analyzing viscosity, surface tension, adsorption, and colloids</p> <p>CLO 3 Students have knowledge on surface properties of capillary symptoms, surface thermodynamics, adsorption, surfactants, detergents, emulsions, bases and aerosols, chemisorption and catalysts.</p> <p>CLO 4 Students have the ability to work in team and responsible for designing, implementing and reporting experiments results of viscosity, surface tension, adsorption, and colloids.</p>
Content:	<p>Introduction: Exploring the surface properties of capillary symptoms, surface thermodynamics, adsorption, surfactants, detergents, emulsions, bases and aerosols, chemisorption and catalysts</p> <p>Fluid Viscosity: Its definition and scope, types of viscometer, coefficient of viscosity, principle work of viscosity, how to measure viscosity, factors affecting viscosity</p>

	<p>Surface thermodynamics for surface tension: surface properties of fluid, surface tension, surface properties of solid matter,</p> <p>Properties of surface thermodynamic for adsorption: adsorption on the surface of the substance,</p> <p>Colloid systems and its usage in daily life: the colloids states in terms of particle size, types of colloids and its properties, kinetic properties of colloids, optical properties of colloids, colloid stability, colloids usage in daily life</p>
Study / exam achievements:	<p>Students are considered to be competent and pass if at least get 55</p> <p>Final score is calculated as follows: 20% participation + 30% assignment + 20% middle exam (UTS) & 30% final exam (UAS)</p> <p>Table index of graduation</p> <ul style="list-style-type: none"> • 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:	<ol style="list-style-type: none"> 1. Duncan J.S. 2004. Introduction to Colloid and Surface Chemistry. Butter Worths 2. Adamson dan Gost AP, 1977, Physical Chemistry of Surfaces 6th ed. New York: Willey Inter Science.
Note	<p>Srface Chemistry covers the activities of theory, practicum and presentation.</p> <p>Total ECTS = ((total hours workload x 50 min)/60 min)/25 hours</p> <p>Each ECTS is equals wits 25 hours</p>