UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF PHYSICS EDUCATION
PHYSICS STUDY PROGRAM
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Bachelor of Physics **MODULE HANDBOOK**

Module name:	Teknologi Surfactan
Module level, if applicable:	Undergraduate
Code:	FSK6257
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	3rd
Module coordinator:	Suparno, M.Sc., Ph.D
Lecturer(s):	Suparno, M.Sc., Ph.D
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	100 minutes lectures and 120 minutes structured activities per week.
Workload:	Total workload is 91 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks.
Credit points:	2 SKS (3.25 ECTS)
Prerequisites course(s):	-
Course Outcomes	After taking this course the students have ability to: CO1. Mahasiswa memahami struktur molekul, komponen penyusun, karakteristik dan jenis-jenis surfaktan CO2. Mahasiswa memahami fungsi dan manfaat surfaktan dalam berbagai industri (painting, coating, printing,

<table>
<tr><td></td><td>cleaning, food, oil recovery etc) dan dalam kehidupan sehari-hari.
CO3. Mahasiswa dapat memanfaatkan surfaktan untuk membuat emulsi, membuat minyak, membuat sabun dan berbagai produk terkait dg surfaktan
CO4. Mahasiswa dapat memodifikasi pertikel netral menjadi bermuatan dan dapat melakukan pengukuran terhadap muatan partikel.</td></tr>
<tr><td>Content:</td><td>Mata kuliah ini membahas struktur molekul, komponen penyusun, karakteristik dan jenis surfaktan. Dilanjutkan dengan berbagai fungsi dan manfaat surfaktan dalam berbagai industri dan kehidupan sehari hari. Juga dipelajari tentang rekayasa teknologi yang dapat dilakukan dengan memanfaatkan surfaktan sebagai penurun tegangan permukaan, bahan pembersih, bahan pemberi muatan, bahan pengemulsi, bahan pembentuk busa, bahan agregasi dll.</td></tr>
<tr><td>Study / exam achievements:</td><td>Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude. The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO2,
CO3
CO4
CO4
CO5
CO6
CO7</td><td>a. Individual Assignment
b. Group Assignment
c. Quiz
d. Mid
e. Final Exam</td><td>Presentation / written test</td><td>15%
15%
15%
25%
30%</td></tr>
<tr><td colspan="3"></td><td>Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
<tr><td>Literature:</td><td>A. Drew Myers, Surfactan Science and Technology, 3rd Ed., Wiley-Interscience, Hoboken NJ, 2006</td></tr>
</table>

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CO1			✓				✓	
CO2			✓				✓	
CO3			✓				✓	
CO4			✓				✓	