

220222535 Operation Unit

Module Name	Operation Unit
Module Level, if applicable	Beginner
Code if Applicable	220222535
Subtitle, if applicable	-
Courses, if applicable	220222535 Operation Unit
Semester(s) in which the module is taught	2nd
Person responsible for the module	Sri Winarsi, S.TP., MP
Lecturer	Sri Winarsi, S.TP., MP
Language	Indonesian
Relation to curriculum	Compulsory Course for undergraduate program in the Food Technology Department, Faculty of Agriculture and Animal Science
Type of teaching	Lecture, Project
Workload	<ul style="list-style-type: none"> ● Lecture: 2 SKS X 50 minutes X 16 weeks ● Project: 2 SKS X 60 minutes X 16 weeks ● Independent learning: 2 sks X 60 minutes X 16 week
Credit points	2 SKS X 1.5 = 3 ECTS
Requirements according to the examination regulations	<ol style="list-style-type: none"> 1. Registered in this course 2. Minimum 80% attendance in this course
Recommended prerequisites	-
Module Objectives (Intended learning outcomes)	<p>On successful completion of this course, student should be able to:</p> <ul style="list-style-type: none"> ● Understand the fundamental principles underlying different unit operations. ● Identify the role of unit operations in chemical processes. ● Analyze the design and operation of key unit operations such as distillation, absorption, extraction, and evaporation. ● Apply mathematical and engineering principles to optimize unit operation processes. ● Develop skills in process integration and optimization for efficient operation unit design. ● Understand the environmental and safety considerations associated with operating unit processes.
Module Content	This course presents the principles of equilibrium, material and energy balances, liquid product transfer, evaporation, mechanical separation, distillation, and extrusion, as well as their application in the

	food industry.
Study and examination requirements and forms of examination	<p>Cognitive: Midterm exam, Final exam, Quizzes, Assignments</p> <p>Psychomotor: Practice and Lab Work</p> <p>Affective: Assessed from the element /variables achievement, namely (a) Contributions (attendance, active, role, initiative, and language), (b) Being on time, (c) Effort.</p>
Media employed	Classical teaching tools with white board and power point presentation
Recommended Literature	<p>For Class</p> <p>B. Compulsory</p> <ol style="list-style-type: none"> 1. Badger, W.L., And J.T. Banchemo, 1985. Introduction to Chemical Engineering. Mc Graw Hill. 2. Earle, R.L., 1983. Unit Operations in Food Processing. Pergamon Press. Oxford - New York - Toronto - Sydney - Paris - Frankfurt. 3. Fellows, P.J., 1988. Food Processing Technology (Principles and Practice). Ellis Horwood. New York - London - Toronto - Sydney - Tokyo - Singapore. <p>B. Option</p> <ol style="list-style-type: none"> 1. Geankoplis, C.J., 2003. Transport Processes and Separation Process Principles. Pearson Education International. US.
Date of Last Amendment	22nd Agustus 2022