220225429 **Heat and Mass Transfer**

Module Name	**Heat and Mass Transfer**
Module Level, if applicable	Intermediate
Code if Applicable	220225429
Subtitle, if applicable	-
Courses, if applicable	220225429 Heat and Mass Transfer
Semester(s) in which the module is taught	3rd
Person responsible for the module	Prof. Dr. Ir. Warkoyo, MP.
Lecturer	Prof. Dr. Ir. Warkoyo, 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	● Lecture: 3 SKS X 50 minutes X 16 weeks ● Project: 3SKS X 60 minutes X 16 weeks ● Independent learning: 3 SKS X 60 minutes X 16 week
Credit points	3 SKS X 1.5 = 4.5 ECTS
Requirements according to the examination regulations	1. Registered in this course 2. Minimum 80% attendance in this course
Recommended prerequisites	-
Module Objectives (Intended learning outcomes)	On successful completion of this course, the student should be able to: • Understand the fundamental principles of heat and mass transfer. • Apply mathematical models to analyze heat and mass transfer processes. • Analyze heat and mass transfer in various engineering systems such as heat exchangers, reactors, and distillation columns. • Design and evaluate heat exchangers for different industrial applications. • Design and evaluate mass transfer equipment for separation processes. • Apply heat and mass transfer principles to solve engineering problems in industrial settings.
Module Content	This course presents introduction, conduction, convection, heat exchanger, radiation, mass transfer, and combine.

Study and examination requirements and forms of examination	**Cognitive:** Midterm exam, Final exam, Quizzes, Assignments **Psychomotor:** Practice and Lab Work **Affective:** Assessed from the element /variables achievement, namely (a) Contributions (attendance, active, role, initiative, and language), (b) Being on time, (c) Effort.
Media employed	Classical teaching tools with white board and power point presentation
Recommended Literature	For Class **B. Compulsory** 1. Incropera, F.P., DeWitt, D.P., Bergman, T.L., Lavine, A.S. 2017. Fundamentals of Heat and Mass Transfer. Wiley. Earle. 2. Cengel, Y.A., Ghajar, A.J. 2018. "Heat and Mass Transfer: Fundamentals and Applications." McGraw-Hill Education. 3. Kern, D.Q. 2012. "Heat Transfer Process." CRC Press. **B. Option** 1. Holman, J.P. 2010. "Heat Transfer." McGraw-Hill Education.
Date of Last Amendment	22nd Agustus 2022