

2023

MODULE DESCRIPTION

BACHELOR PROGRAM
AGRICULTURAL ENGINEERING
FACULTY OF AGRICULTURE
HASANUDDIN UNIVERSITY
2023



Experimental Design

Elective

Module designation	<i>Experimental Design</i>
Semester(s) in which the module is taught	<i>Elective</i>
Person responsible for the module	<ul style="list-style-type: none"> • <i>Dr. Ir. Supratomo, DEA</i> • <i>Prof. Dr. Ir. Mursalim</i>
Language	<i>Indonesia</i>
Relation to curriculum	<i>Elective</i>
Teaching methods	<i>Lecture</i>
Workload (incl. contact hours, self-study hours)	<p><i>(Estimated) Total workload:</i> $2 \text{ SKS} \times 1.7 = 3.4 \text{ ECTS} = 91.8 \text{ hours}$</p> <ul style="list-style-type: none"> • <i>Lecture = 23.3 hours</i> • <i>Excercise = 28 hours</i> • <i>Sel study = 28 hours</i> • <i>Exam = 4 hours (MID term and final)</i> • <i>Exam preparation = 8.5 hours</i>
Credit points	<i>2 SKS =3.4 ECTS</i>
Required and recommended prerequisites for joining the module	<i>Basic Mathematics</i> <i>Engineering Design</i> <i>Engineering Mathematics I</i> <i>Engineering Mathematics II</i>
Module objectives/intended learning outcomes	<p><i>ILO 4 : Use quantitative analysis, information technology and critical thinking in agricultural engineering profession; (Knowledge 2)</i></p> <p><i>ILO 10 : Explore and develop effective solutions related to agricultural engineering issues. (Competence 4)</i></p>
Content	<p><i>This course discusses various types of experimental designs that can be applied in agricultural engineering research. Topics that will be covered include introduction to experimental design concepts, design of experiment using completely randomized design, randomized block design, Latin Square design, factorial experiments and split-plot designs, and data analysis using analysis of variance, Least Significance Different, honestly significance difference and Tukey's w-procedure</i></p>
Examination forms	<i>Writing</i>
Study and examination requirements	<i>Attendance above 80%</i>
Reading list	<ul style="list-style-type: none"> • <i>Gomez, K. A. dan A.A. Gomez. 1995. Prosedur Statistik untuk Penelitian Pertanian (Statistical Procedures for Agricultural Research) edisi kedua. Penerbit Universitas Indonesia (UI Press). Jakarta.</i> • <i>Steel, R. G. D. dan J. H. Torrie. 1993. Prinsip dan Prosedur Statistika: Suatu Pendekatan Biometrik (Principles and Procedures of Statistics) cetakan ketiga. PT. Gramedia Pustaka Utama, Jakarta</i>