HASANUDDIN UNIVERSITY

Agricultural Engineering
Bachelor Program

2023

MODULE DESCRIPTION

BACHELOR PROGRAM
AGRICULTURAL ENGINEERING
FACULTY OF AGRICULTURE
HASANUDDIN UNIVERSITY
2023

Engineering Properties of Materials

Semester 2

Module designation	*Engineering Properties of Materials*
Semester(s) in which the module is taught	*II*
Person responsible for the module	• *Prof. Dr. Ir. Salengke, M.Sc.* • *Prof. Dr. Ir. Junaedi Muhidong, M.Sc.* • *Prof. Dr. Ir. Mursalim* • *Dr. Ir. Abdul Waris, MT*
Language	*Indonesia*
Relation to curriculum	*Compulsory*
Teaching methods	*Lecture*
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *2 SKS x 1.7 = 3.4 ECTS = 91.8 hours* • *Lecture = 23.3 hours* • *Excercise = 28 hours* • *Sel study = 28 hours* • *Exam = 4 hours (MID term and final)* • *Exam preparation = 8.5 hours*
Credit points	*2 SKS =3.4 ECTS*
Required and recommended prerequisites for joining the module	*Basic Physics* *Basic Chemistry*
Module objectives/intended learning outcomes	*ILO 3 : Apply knowledge of mathematics, sciences, and engineering principles in agricultural fields; (Knowledge 1)* *ILO 7 : Manage and utilise agricultural resources effectively, efficiently, and sustainably; (Competence 1)*
Content	*This course equips students with knowledge about various physical properties of food materials and biological substances required in designing processes and equipment for handling and processing agricultural products, as well as controlling processing procedures. Topics taught in this course include thermal properties, rheological properties, aerodynamic properties, optical properties, electrical properties, thermodynamic properties, texture and mechanical properties, and flow properties of grain products. Measurement methods and analysis of these properties are also introduced.*
Examination forms	*Writing*
Study and examination requirements	*Attendance above 80%*
Reading list	• *Ignacio Arana: Physical Properties of Foods: Novel Measurement Techniques and Applications. ISBN: 978-1-4398-3537-1 (eBook - PDF).* *Jiri Blahovec and Miroslav Kutilek: Physical methods in agriculture: Approach to precision and quality. ISBN: 978-1-4615-0085-8 (eBook)* • *Gyorgy Sitkei: Mechanics of Agricultural Materials. ISBN: 0-444-99523-4.*