

2023

MODULE DESCRIPTION

BACHELOR PROGRAM
AGRICULTURAL ENGINEERING
FACULTY OF AGRICULTURE
HASANUDDIN UNIVERSITY
2023



Engineering Economy

Semester 6

Module designation	<i>Engineering Economics</i>
Semester(s) in which the module is taught	<i>VI</i>
Person responsible for the module	<ul style="list-style-type: none"> • <i>Prof. Dr. Ir. Salengke, M.Sc.</i> • <i>Prof. Dr. Ir. Mursalim</i> • <i>Dr. Diyah Yumeina, STP, M.Sc.</i>
Language	<i>Indonesia</i>
Relation to curriculum	<i>Compulsory</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	<p><i>Basic Mathematics</i> <i>Engineering Mathematics I</i> <i>Engineering Mathematics II</i> <i>Applied Statistics</i></p>
Module objectives/intended learning outcomes	<p><i>ILO 4: Use quantitative analysis, information technology and critical thinking in agricultural engineering profession; (Knowledge 2)</i> <i>ILO 7: Manage and utilise agricultural resources effectively, efficiently, and sustainably; (Competence 1)</i> <i>ILO 8: Demonstrate capacity in operating agricultural engineering related business either as producer or service provider; (Competence 2)</i></p>
Content	<p><i>Engineering Economy deals with methods for systematic evaluation of economic feasibility of engineering projects or investment based on costs and revenue estimations. Topics and concepts that will be covered in this course include decision making, costs, benefits, and cash flow, interest and time value of money, uses and formulation of interest factors, present worth analysis, uniform annual cash flow analysis, benefit-cost ratio analysis, and internal rate of return. Other topics that will be covered include incremental analysis for multiple alternatives, breakeven point analysis, payback period analysis, depreciation costs), and replacement analysis.</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>Salengke: Engineering Economy: Techniques for Project and Business Feasibility Analysis. ISBN: 978-602- 8405-35-5.</i> • <i>Donald G. Newman and Bruce Johnson, Engineering Economic Analysis, Engineering Press, Inc., ISBN: 0- 910554-93-5.</i> • <i>Leland T. Blank and Anthony J. Tarquin, Engineering Economy. ISBN: 0-07-062982-X</i>