HASANUDDIN UNIVERSITY

Agricultural Engineering
Bachelor Program

2023
MODULE DESCRIPTION

BACHELOR PROGRAM
AGRICULTURAL ENGINEERING
FACULTY OF AGRICULTURE
HASANUDDIN UNIVERSITY
2023

Soil & Water Conservation Engineering

Semester 6

Module designation	*Soil and Water Conservation Engineering*
Semester(s) in which the module is taught	*VI*
Person responsible for the module	• *Prof. Dr. Ir. Ahmad Munir, M.Eng* • *Dr. Ir. Sitti Nur Faridah, MP* • *Dr. Suhardi, STP., MP*
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	*Irrigation and Drainage Technique* *Engineering Hydrology* *Introduction to Climatology*
Module objectives/intended learning outcomes	*ILO3: apply knowledge of mathematics, sciences, and engineering principles in agricultural fields* *ILO5: use techniques, skills, and modern tools necessary for agricultural engineering practices* *ILO6: manage and utilize agricultural resources effectively, efficiently, and sustainably* *ILO9: analyze the impact of engineering solutions to the environment and society using a multidisciplinary approach* *ILO10: explore and develop effective solutions related to agricultural engineering issues*
Content	*This course discusses the engineering principles involved in soil and water conservation. The discussion includes the classification of water erosion, and the agronomical and engineering measures adopted for erosion control. The design of the bunds and terraces are discussed in detail, followed by gully control measures. The wind erosion and measures to control it, for example, windbreaks and shelterbelt, are also discussed. Many examples and problems are included to emphasize design principles and to facilitate understanding of subject matter, including discussing several computer models described and demonstrated.*
Examination forms	*Writing*
Study and examination requirements	*Attendance above 80%*
Reading list	• *Schwab, G.O., R.K. Frevert, T.W. Edminster, and K.K. Barnes. 1981. Soil and Water Conservation Engineering. Third Edition. John Wiley & Sons. New York.* • *Arsyad, S. 2006. Konservasi Tanah dan Air. IPB Press. Edisi kedua. Darmaga, Bogor*