

Teknik Konservasi Tanah dan Air

**Course Brief
Description:**

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.

**Course Learning
Objectives:**

Mahasiswa memiliki kemampuan menganalisis permasalahan kerusakan tanah dan air, dapat menentukan dan merancang suatu metode konservasi tanah dan air serta dapat mengoperasikan minimal 1 model prediksi erosi.

**Related Expected
Learning Outcomes
(ELOs):**

- ELO-3: Apply knowledge of mathematics, sciences, and engineering principles in agricultural fields.
 - ELO-4: Use quantitative analysis, information technology and critical thinking in agricultural engineering profession.
 - ELO-6: Manage and utilize agricultural resources effectively, efficiently, and sustainably
 - ELO-9: Analyze the impact of engineering solutions to environment and society using multidisciplinary approach.
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Teaching Method

- Lecture and in-depth discussion
 - Independent assignment
 - Tutorial/Simulation
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Grading Policy

- Quiz and Assignment : 20%
 - Exam : 80%
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Reference

- 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
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Lecturer Name

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 - **Dr. Ir. Sitti Nur Faridah, MP**
 - **Dr. Suhardi, STP., MP**
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Course Outline

Lecture:	Topic:	
1	Pendahuluan	
2	Masalah Erosi dan Akibatnya	Quiz 1
3	Pengertian Dasar Konservasi Tanah dan Air	
4 - 5	Faktor Penyebab Erosi	Assignment 1
6	Pengukuran Erosi	
7	Faktor dominan yang mempengaruhi erosi	
8	Mid TEST	
9	Teknik konservasi tanah vegetative dan mekanik	Assignment 2
10	Teknik konservasi air	
11	Model Prediksi Erosi	Quiz 2
12 - 13	Penyusunan dan Pengoperasian model	Assignment 3
14 - 15	Penerapan model prediksi erosi	
16	Final Exam	