

704572 Dams Engineering

The course emphasizes on the basic principles of dam selection, design principles for different types of dams mainly embankment and concrete dams, the spillways and energy dissipaters.

Unit 1

Selection of dams, Design criteria and factor of safety.

Unit 2

Foundations and construction materials,

Unit 3

Embankment dams: Types, their component and functions, causes of failure, factors influencing design.

Unit 4

Concrete dams, Types, selection, Elementary design Principles.

Unit 5:

Design of spillway and energy dissipaters.

Text / References Books:

- Design of Small Dams, A water resources technical publication, Bureau of Reclamation, 1987
- Design of gravity dams, A water resources technical publication, Bureau of Reclamation, 1976
- Bedient, P. B. and W.C. Huber, 1992; "Hydrology and Floodplain Analysis", second Edition, Addison Wesley
- Manual on small earth dams: A guide to siting, design and construction, FAO irrigation and drainage paper 64
- SMALL DAMS: Guidelines for Design, Construction and Monitoring, French Committee on Large Dams
- Handout Materials

Assessment:

Homework, Quizzes and projects	25-35%
Midterm exam	15-25%
Final Exam	50%

