

CB483 Irrigation And Drainage

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laborator y	
CB382	4	7	2	2	0	3

COURSE AIM

The course is designed to teach essentials of planning, selection and design of irrigation and drainage systems and other related topics related to the sustainable management of water resources and disposal or reuse of drainage waters as sectors of water resources system.

COURSE WEEKLY CONTENTS

- 1 Water requirements for irrigation and overview of irrigation systems and agricultural and urban drainage system.
- 2 Introduction to sustainability of irrigation and drainage ecosystems. Overview of irrigation and drainage structures.
- 3 Soil-Water-Crop relationship.
- 4 Crop water requirements:
- 5 Synoptic diagram for surface irrigation and drainage systems.
- 6 Design of cross-sections for surface irrigation channels.
- 7 Design of cross-sections for surface (storm) drainage channels. + Midterm Exam
- 8 Water conservation-Introduction to sprinkler and drip irrigation systems and water management.
- 9 Selection of sprinkler and drip irrigation systems components;
- 10 Sprinkler irrigation systems.
- 11 Drip irrigation systems.
- 12 Drip irrigation systems.
- 13 Drainage system, planning, design, construction and operation of subsurface and land drainage.
- 14 Quality of drainage water and impact on fresh water resources and coastal waters.
- 15 Review of case studies for irrigation and drainage projects.

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	10	MARKS		→	30
To be freely distributed among possible assessments							
8 to 12	←		20	MARKS		→	20
13 to 15	←		10	MARKS		→	10
16 or 17	40 Final						40
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

- Textbook** Irrigation Engineering by Sharma, R. and Sharma T., Publisher: S. Chand and Company Ltd., 2002.
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- Other** Water Resources Engineering, Linsley, R.L. Franzini, J.B. Freyberg J. and Tchobanoglous G., McGraw-Hill Co., New York, 1992.
Elementary Soil and Water Engineering, Schwab, G.O., Frevert, R.K., Publisher: John Wiley and Sons, Inc., 1985.
Computer Applications in Hydraulic Engineering-connecting theory to practice, Walski, M.T.; Haestad Press, Waterbury, CT, U.S.A., 2002.
Irrigation and Drainage, Neil Southorn Publisher: Butterworth Publishing Co, UK, 1998.