

**North South University**  
**Department of Civil and Environmental Engineering (CEED)**  
CEE 467 Irrigation and Drainage  
Summer 2018

**Course Information**

**Class:** MW 9:40 - 11:10 AM  
**Course Instructor:** Prof. Dr. Md. Sirajul Islam  
**Office:** Room NAC 604  
**Email:** [sirajul.islam@northouth.edu](mailto:sirajul.islam@northouth.edu)  
**Office Hours:** MW 11.10 to 12.40 or by appointment

**Credit:** 3 credit hours.

**Prerequisites:** - CEE360 Open-Channel Hydraulics

**Description:**

This course provides theoretical and practical knowledge of irrigation and drainage engineering. The course contents involve theory, numerical calculations and case studies. Some of the main topics covered in this course are: importance of irrigation, consumptive use and estimation of water requirements, sources and quality of irrigation water, soil-water relationships, irrigation methods, design of canal systems, irrigation pumps and structures, importance of land drainage, drainage system design.

**Grading:**

|                                    |     |
|------------------------------------|-----|
| Class participation and attendance | 10% |
| Quizzes                            | 20% |
| Group Project & Presentation       | 10% |
| Midterm Exam                       | 25% |
| Final Exam                         | 35% |

**Recommended Texts:**

1. Irrigation Engineering by N.N. Basak
2. Irrigation Engineering and Hydraulic Structures by Santosh Kumar Garg

**Reference texts:**

3. Irrigation development and management in Bangladesh by M.A.Sattar
4. Irrigation Engineering by R.K. Sharma and T.K. Sharma

**Course Objectives and Instructional Learning Outcomes (ILOS):**

Upon successful completion of this course, the student will be able to:

| <b>Objectives</b>  | <b>Related BSCEE Program Outcome (a to k)</b>  |
|--|--|
| 1. Understand key irrigation and drainage issues.  | (j) a knowledge of contemporary issues   |
| 2. Gain appreciation of application of engineering knowledge and skills to solving irrigation and drainage problems. | (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. |
| 3. Learn main methods and tools for designing irrigation and drainage systems.                                       | (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.   |

**Course content:** Importance of irrigation; sources and quality of irrigation water; soil-water relationship; consumptive use and estimation of water requirements; methods of irrigation; design of irrigation canal systems; irrigation structures; irrigation pumps; problems of irrigated land; irrigation water management; importance of land drainage; Urban drainage problem and solution.

**Exams and Quizzes:** Exams and quizzes will be closed book and closed notes. No electronic devices except non-programmable calculators will be allowed during exams. Calculators can not be shared with friends. Nobody will be allowed to go outside of the exam hall once exam starts. NO MAKE UP MID-TERM OR FINAL EXAM WILL BE ARRANGED UNLESS AN ABSOLUTELY UNAVOIDABLE VALID REASON FOR ABSENCE IS FOUND. For such unavoidable circumstances, written explanation of the situation must be submitted before the exam. If any class test or mid-term exam cannot be held on the due date, the exam will be automatically shifted to the very next available class, unless otherwise announced. If you miss both midterm and final exams, then there will be no makeup exams and you have to repeat the course. Any violation of the exam policy may result in failing grade in your corresponding exam or quiz.

**Class attendance: Attendance in classes is mandatory.** Those who attend 80% or above classes, their attendance will be calculated based on 10% of the course grade. If you miss more than 40% of the classes, your attendance point will be zero. Attendance will be counted within five minutes at the beginning of the class. If you come late, you will get a late attendance. Three late attendances equal to one missed class.

**Class etiquette:** Distracting others in class is violating others rights to be attentive. So, food, laptop or cell phones can not be turned on during class time. You have to share any talk with the whole class. Be careful about personal talking. No talking will be tolerated when I teach. On the premises of the University or at a University-sponsored program, students must abide by the Student Code of Conduct: <http://www.northsouth.edu/student-code-of-conduct.html>

**Cheating:** University policy states that cheating and plagiarism are scholastic offences. The commission of a scholastic offence is attended by academic penalties, which might include expulsion from the program. If you are caught cheating, there will be no second warning. For more information on scholastic offenses, please see: <http://www.northsouth.edu/student-code-of-conduct.html>

**Grade dispute:** If you dispute your grade on any assignment, project or exam, you have one week time from the date that the graded paper was returned to you to request a change in the grade. After this time, no further change in grade will be considered. The instructor reserves the right to re-grade the whole paper.

**General course administration:** The class presentations will be interactive lectures. To supplement course administration, there may be an online administration system in this course. All students must subscribe to this service and monitor messages from these groups regularly. Detail on the membership of this electronic service will be notified soon.