

Fall 2015

ENCE 6342

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University of New Orleans

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Catalog Data: The study of the seepage through earthen dams; construction excavations and hydraulic structures; properties of phreatic surfaces; seepage pressures; piping and boiling; construction and utilization of flow nets; groundwater mechanics applications including flow characteristics and changes in flow due to pump and drain systems.

Prerequisite: ENCE 3340 or consent of department.

Instructor: Malay Ghose Hajra, Ph.D., P.E.

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Email: mghoseha@uno.edu

Office: EN 813

Office Hours: Mondays 2:00pm to 3:00pm

Class Room: EN 315

Class Time: Mondays 6:00pm to 8:45pm

Text Book: None. Course material will be distributed in class

Additional Resources:

1. Construction Dewatering and Groundwater Control
J. Patrick Powers, Arthur B. Corwin, Paul C. Schmall, and Walter E. Kaeck
Publisher: Wiley
2. Groundwater Lowering in Construction
Pat M. Cashman and Martin Preene
Publisher: CRC
3. Groundwater and Seepage
Milton E. Harr
Publisher: Dover Publishing, Inc.
4. Dewatering and Groundwater Control
Army TM 5-818-5
November 1983
5. ICE Manual of Geotechnical Engineering (<http://www.icevirtuallibrary.com/icemanuals/MOGE>)
6. American Society for Testing and Materials (ASTM) Standards
7. ASTM Geotechnical Testing Journal
8. American Society of Civil Engineers (ASCE) Journal of Geotechnical and Geoenvironmental Engineering
9. Geotechnique Journal
10. Canadian Geotechnical Journal

Student Learning Objectives:

At the completion of this course:

- Students should be able to understand the principles and applications for various dewatering or groundwater control techniques
- Students should be able to design a dewatering or groundwater control system
- Students should be able to plan instrumentation program for a dewatering project

Selected Course Topics:

- Geologic formation, Soil, and Groundwater Investigation for dewatering
- Characteristics of Aquifers
- Design of Dewatering, pressure relief, and groundwater control systems
- Geotechnical Instrumentation during groundwater dewatering and control

Attendance Policy:

Class attendance is in accordance with the published university policy. Regular attendance is required in this course. You must sign in on a sign-on sheet passed around during the class. You are responsible for material identified in the Reading/Lecture schedule listed in the syllabus and covered in class, even if absent from class for authorized activities.

Tentative due dates for assignments

Homework Assignments: Assigned homeworks, if any, will be due at the beginning of the class on the due date. Assignments or project work will not be accepted as late due to absence, unless that absence is coordinated with the instructor well in advance. A significant part of engineering is written communication. Hence it is important that you do it neatly, legibly and in an orderly manner. Use engineering paper for all your quizzes / homework. Write your name on each sheet of your answer paper. Solve each problem on separate page. Write the problem number, given data and what is required to compute. Show the computations clearly with the formula or equations that you use and also the substituted values.

Quizzes: Quizzes will be given in class (pre-announced) similar to or involving the concepts learned in practice problems. It may last from 10 to 20 minutes depending on the problem. All quizzes are closed book and closed notes with relevant tables/charts being supplied with a few selected formulas. Use engineering paper in all your work.

Examinations: The Mid semester examination will be given between October 5 and 9, 2015, as indicated in the University Schedule for Fall 2015 semester. The Mid semester examination will cover topics up to one week from the day of the examination, thus allowing you time to study and formulate questions over the material. The Final Exam will not be comprehensive and will be given on December 7, 2015 (5:30 PM – 7:30 PM), according to the University Schedule. You must take the exams on the scheduled exam dates; no excuses will be accepted except for an incapacitating illness or a death in the immediate family. For these last two excuses, a signed medical note from a doctor (including address and phone number) will be required. Failure to take an exam on the assigned date without prior approval of the instructor will result in a score of zero.

Class Project: A class project will be required for this course. The topic and scope of the projects will be discussed on the first day of the class. The students will work on a real-world in a team. The class project will require a final report (due by November 23, 2015) and a 30 minute presentation by each student.

The content of the project report should provide a general background and historical perspective of the subject matter, and analysis and discussion of the applicable design methods used. Maximum report length is 25 pages and this includes double-spaced text, figures, tables, references, and appendices. A font size of 12 and a font type of Arial or Times New Roman should be used. A cover sheet and a table of contents should be provided and they are not included in the 25 page maximum length. If equations are used, they should be properly written using the Equation Editor. Handwritten equations or table/figure captions are not acceptable. Figures should preferably be redrawn. However, if they are scanned, the scan quality will be considered in grading. Neatness and organization of the paper will also be considered during grading. It is strictly forbidden to directly copy sentences from references. Students are expected to read and understand a number of references and summarize the information that they obtained in their own words. In addition, a one-page summary of the report should be distributed to the class (including the instructor) on the presentation day. The summary should include a brief background of the selected topic with an emphasis on design considerations, or results. A list of 3-4 recommended references on the selected topic should also be included at the end of the summary. Each class-project presentation (tentatively scheduled for December 7, 2015) will be followed by a 5 minutes Q&A session. EN 101 (Engineering Auditorium) will be reserved for the presentation. Students are strongly encouraged to

prepare their presentations in Microsoft Power Point and to present it using a computer projector, since most professional presentations (i.e. conferences, interviews, meetings, etc.) are done in this way. A computer projector and a computer will be available in the room. The students are advised to arrive 30 minutes early and prepare (i.e. loading the file, ensuring the file is accessible, etc.). The grading scheme is based on the instructor's grade and peers' grades. The presentation grade will be based on organizational skills, time management, clarity of visuals, and delivery of the speech.

Grading Criteria:

Mid term exam: 15%
Quizzes/Homeworks/class presentations: 30%
Class Project: 40%
Final exam: 15%

Grading Standards:

A: 90 or above
B: 80 and <90
C: 70 and <80
D: 60 and <70

Students with disabilities:

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students who seek accommodations for disabilities must contact the Office of Disability Services prior to discussing their individual needs for accommodation with their instructors.

Academic Integrity

Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Student Code of Conduct for further information. The Code is available online at <http://www.studentaffairs.uno.edu>.

Accommodations

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to <http://www.ods.uno.edu>.

Verification for Online Students

To ensure academic integrity, all students enrolled in distance learning courses at the University of New Orleans may be required to verify their identity when completing exams or other high-stakes assignments. At the discretion of the faculty member teaching the course, verification may include on-campus proctored examinations, off-site or online proctored examinations, or other reasonable measures to ensure student identity. If students cannot attend an on-campus proctored exam, UNO partners with ProctorU, a live, online proctoring service that allows students to complete exams from any location using a computer, webcam, and reliable internet connection. Verification measures for this course are identified below and any fees associated are the responsibility of the student.

Important Dates*

Last day to adjust schedule w/out fee.....	08/18/2015
Semester Classes Begin	08/19/2015
Last day to adjust schedule w/fee, or withdraw with 100% refund.....	08/25/2015
Last day to apply for December commencement.....	09/25/2015
Final day to drop a course or resign	10/14/2015
Mid-semester examinations.....	10/05-10/09/2015
Final examinations	12/07-12/11/2015
Commencement.....	12/18/2015

*Note: check Registrar's website for Saturday and A/B sessions, and for items not listed here: <http://www.registrar.uno.edu>

Fall Semester Holidays

Labor Day	09/07/2015
Mid-semester break	10/15-10/16/2015
Thanksgiving.....	11/26-11/27/2015

Withdrawal Policy – Undergraduate only

Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important dates calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates on the Registrar's website, <http://www.registrar.uno.edu>. Please consult The Bulletin for charges associated with dropping and adding courses.

Incomplete Policy – Undergraduate only

The grade of I means *incomplete* and is given for work of passing quality but which, because of circumstances beyond the student's control, is not complete. The issuance of the grade of I is at the discretion of the faculty member teaching the course. For all graduate and undergraduate students, a grade of I becomes a grade of F if it is not converted before the deadline for adding courses for credit (as printed in the Important Dates Calendar) of the next regular semester including summer semester.

Repeat Policy

When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit, or (2) the student's Dean gives prior approval for documented extenuating circumstances.

Graduate Policies

Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the Graduate Student Handbook: <http://www.uno.edu/grad/documents/GraduateStudentHandbook2014.pdf>

Academic Dishonesty Policy

<http://www.uno.edu/student-affairs-enrollment-management/documents/academic-dishonesty-policy-rev2014.pdf>

Safety Awareness Facts and Education

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here:

<http://www.uno.edu/student-affairs-enrollment-management/>

UNO Counseling Services and UNO Cares

UNO offers care and support for students in any type of distress. Counseling Services assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. Find out more at <http://www.uno.edu/counseling-services/>. First-year students often have unique concerns, and UNO Cares is designed to address those students succeed. Contact UNO Cares through <http://www.uno.edu/fye/uno-cares.aspx>.

Emergency Procedures

Sign up for emergency notifications via text and/or email at E2Campus Notification: <http://www.uno.edu/ehso/emergency-communications/index.aspx>. All emergency and safety procedures are explained at the Emergency Health and Safety Office: <http://www.uno.edu/ehso/>.

Diversity at UNO

As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university's efforts towards creating an environment of healthy respect, tolerance, and appreciation for the people from all walks of life, and the expression of intellectual point of view and personal lifestyle. The Office of Diversity Affairs promotes these values through a wide range of programming and activities. <http://diversity.uno.edu/index.cfm>

Learning and Support Services

Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the Learning Resource Center in LA 334, or learn more at <http://www.uno.edu/lrc/>.

Affirmative Action and Equal Opportunity

UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO's compliance with federal and state regulations regarding EEOC in its Policies and Resources website: <http://www.uno.edu/human-resource-management/policies.aspx>