ENCE 3327
INTRODUCTION TO ENVIRONMENTAL ENGINEERING
(Required)

ENCE 3327 Introduction to Environmental Engineering 3 cr.
Topics include: water quality, water and wastewater treatment processes, air pollution control, and solid and hazardous waste management. Laboratory provides hands-on analytical experience with various pollution parameters. Three hours of lecture and three hours of lab.

PREREQUISITES
Prerequisites: CHEM 1017 or CHEM 1014, and ENCE 3318 or ENME 3720.

CLASS SCHEDULE
Class meetings: TTh 9:30 - 10:45, EN 320

INSTRUCTOR CONTACT INFO AND OFFICE HOURS
Guillermo J. Rincon, Ph.D.
Office hours: TW 2:00 – 4:00 pm, EN 832
e-mail: grrincon@uno.edu

STUDENT LEARNING OBJECTIVES
Students who satisfactorily complete this course will be able to:
- Write mass balances in different types of reactors.
- Outline the role of water treatment units such as coagulation, softening, flocculation, sedimentation, filtration, and disinfection.
- Calculate dissolved oxygen profiles in rivers and lakes.
- Outline the role of wastewater treatment units, both primary and secondary treatment units.
- Describe the sources of air pollution, health effects, and air quality regulations; design important particulate collection devices.
- Describe solid waste quantities, characteristics, collection, and disposal options.
- Outline hazardous waste characteristics, classification, and cradle-to-grave concepts in management.
- Make use of basic laboratory experiments to determine water and wastewater characteristics such as solids (TSS, MLSS, VSS, TDS), pH, DO, BOD, COD, alkalinity, and turbidity; discuss basic concepts in air quality monitoring (particulates).

COURSE TOPICS

<table>
<thead>
<tr>
<th>TENTATIVE DATE</th>
<th>TOPICS</th>
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<tbody>
<tr>
<td>Aug 20, 25, 27</td>
<td>Mass balances and reactors</td>
</tr>
<tr>
<td>Sep 01</td>
<td>Water pollution, DO sag</td>
</tr>
<tr>
<td>Sep 03, 08</td>
<td>DO sag, eutrophication</td>
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<tr>
<td>Sep 10, 15</td>
<td>Water chemistry</td>
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<tr>
<td>Sep 17, 22</td>
<td>Water treatment</td>
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<tr>
<td>Sep 24</td>
<td>Review session</td>
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<tr>
<td>Sep 29</td>
<td>First exam (through water treatment)</td>
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<tr>
<td>Oct 01, 06</td>
<td>Wastewater treatment</td>
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<tr>
<td>Oct 08, 13, 15, 20, 22</td>
<td>Air pollution</td>
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<td>Oct 27, 29, Nov 03</td>
<td>Solid waste management</td>
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<tr>
<td>Nov 05</td>
<td>Review session</td>
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<tr>
<td>Nov 10</td>
<td>Second exam (through solid waste management)</td>
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<tr>
<td>Nov 12, 17, 19</td>
<td>Hazardous waste management</td>
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<td>Nov 24, Dec 01</td>
<td>Noise pollution</td>
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<tr>
<td>Dec 03</td>
<td>Review session</td>
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<tr>
<td>Dec 10, 10:00 – 12:00</td>
<td>Final exam (comprehensive)</td>
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TENTATIVE DUE DATES FOR ASSIGNMENTS, EXAMS

<table>
<thead>
<tr>
<th>ASSIGN/EXAM</th>
<th>TOPIC</th>
<th>DUE DATE</th>
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<tbody>
<tr>
<td>1</td>
<td>Mass balance, reactors</td>
<td>9/03</td>
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<td>2</td>
<td>Water pollution</td>
<td>9/15</td>
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<tr>
<td>3</td>
<td>Water chemistry/treatment</td>
<td>9/24</td>
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<td>4</td>
<td>Air pollution</td>
<td>10/29</td>
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<td>5</td>
<td>Solid waste management</td>
<td>11/05</td>
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<tr>
<td>First test</td>
<td>Through WW treatment</td>
<td>9/29</td>
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<tr>
<td>Second test</td>
<td>Through solid wastes</td>
<td>11/10</td>
</tr>
<tr>
<td>Final exam</td>
<td>Comprehensive</td>
<td>12/10</td>
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TEXTBOOKS AND OTHER MATERIAL

c. Handouts

CRITERIA FOR GRADING, GRADING STANDARDS

There will be three exams (two mid-term tests and the final exam, each with the same weight), worth 70 percent of the grade, and assignments (at least six) worth 30 percent of the grade. The assignments are not optional; they are mandatory. For every day of late submission of an assignment you will lose 10 points (in a 100-point scale).

The final letter grade is computed as follows: The overall numerical grade will be divided by the highest score in class, so that the best possible normalized score will be 100 points. If the normalized score is more than 90 points the grade will be an A; from 80 - 89, the grade will be a B; from 70 – 79, the grade will be a C; from 60 - 69, D; below 60, F.

ATTENDANCE POLICY

Attendance is required. If you cannot attend class for some reason, call the instructor or the engineering administrative assistant and explain why.

ACADEMIC DISHONESTY POLICY

Students are expected to conduct themselves according to the principles of academic integrity as defined in the statement on Academic Dishonesty in the UNO Student Code of Conduct. Any student or group found to have committed an act of academic dishonesty shall have their case turned over to the Office of Student Accountability and Advocacy for disciplinary action, which may result in penalties as severe as indefinite suspension from the University. Academic dishonesty includes, but is not limited to: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, fabrication, or misrepresentation, and being an accessory to an act of academic dishonesty.

ACCOMMODATIONS FOR 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.
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:

Academic Dishonesty Policy

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