**CEGR 3141: Introduction to Environmental Engineering**

**Lectures:** Tuesdays and Thursdays 9:30 a.m. – 10:45 a.m. EPIC 3222

**Instructor:** Dr. Olya Keen

Office hours: Mondays and Wednesdays 10:00-12:00 p.m. or by appointment

EPIC 3171

Contact: okeen@uncc.edu; 704-687-5048

http://coefs.uncc.edu/okeen/

**TA:** Nicole Neth

 Office hours: Tuesdays 11:00-2:00 p.m., EPIC 3175

 Contact: nkenned7@uncc.edu

**Textbook:** M. L. Davis and D. A. Cornwell, Introduction to Environmental Engineering,

5th ed.; ISBN 978-0-07-340114-0

**Grade distribution:**

|  |  |
| --- | --- |
| *Item* | *Grade allocation* |
| Homework (approximately 10 sets) | 20% |
| Exam 1 | 20% |
| Exam 2 | 20% |
| Quizzes | 10% |
| Final | 30% |

**Grading:**

The overall grade will not be curved, although grades for individual assignments might.

A: 90.0-100%

B: 80.0-89.9%

C: 70.0-79.9%

D: 60.0-69.9%

F: < 60.0%

**Attendance:**

Attendance is not mandatory in this class and will not be checked. However, it is in your best interests to attend. I use blackboard for teaching, so you would have to count on your friends to take good notes or learn the material on your own, if you choose to skip classes. In addition, unannounced quizzes will be given occasionally.

**Homework:**

There will be approximately 10 sets of homework, each covering a topic or a set of topics. The homework will be disbursed at the beginning of the new topic and will be due a week from the distribution date (e.g. if it was distributed at the beginning of class Tuesday Sept 3rd, it will be due at the beginning of class Tuesday Sept 10th). Late homework will only be accepted with a documentable emergency reason until the graded homework is returned. Students may discuss the homework with each other, but each student must perform his/her own calculations individually. Copying someone else’s work is cheating and will be dealt with in accordance with the University Academic Integrity Policy.

Your homework must be in neat, legible handwriting, with the problems in the same order as they are listed on the assignment, and stapled. I reserve the right to take off points from homework submissions that do not adhere to these standards. All calculations must be shown for partial credit.

**Exams:**

Exams will consist of multiple choice, short answer and quantitative problems. A review session will precede each exam. Final exam is cumulative. Exams will be in-class and a formulae sheet will be provided and made available for preview during the exam review session. All calculations must be shown for partial credit.

**Student Conduct & Academic Integrity Policy:**

You are expected to attend all lectures and will be responsible for all material presented in class. You are encouraged to work together and discuss homework problems. However, copying another student’s work, solutions manual or information from references, internet sources or other information is strictly forbidden and will constitute a violation of the UNC Charlotte Code of Student Academic Integrity.

Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty they become aware of to the instructor who is responsible for dealing with them. Students have the responsibility to know and observe the requirements of the UNCC Code of Student Academic Integrity which is available from the Dean of Students Office or online at: <http://legal.uncc.edu/policies/up-407>. This code forbids cheating, fabrication or falsification of information, multiple submission of academic work, plagiarism, abuse of academic materials, and complicity in academic dishonestly. Faculty may ask students to produce identification at examinations and may require students to demonstrate that graded assignments completed outside of class are their own work.  ***All acts of academic dishonesty will be reported to the Dean of Students Office and the settlement procedure outlined in the Code will be initiated. First offenses will result in a formal warning, an F on the assignment, and at least one letter grade reduction in the final course grade (after the failed assignment has been factored in) based on the nature of the offense.*** Whatever the penalty, a form that has been signed by both the student and the instructor recording the settlement will be kept for eight years in the Office of the Dean of Students.

**Tentative schedule (any changes to exam dates will be announced in advance):**

|  |  |  |
| --- | --- | --- |
| Date | Topic | Reading |
| 25-Aug | Class overview | Ch. 1 |
| 27-Aug | Mass balance and reactor design | Ch. 2 |
| 1-Sep | Mass balance and reactor design continued |  |
| 3-Sep | Environmental measurements and chemistry review | Ch. 5 |
| **8-Sep** | **Keen out at a conference, no class** |  |
| 10-Sep | Chemistry concepts continued/ Water treatment I | Ch. 6.1-6.5 |
| 15-Sep | Water treatment II |  |
| 17-Sep | Water treatment III | Ch. 6.6-6.10 |
| 22-Sep | Water treatment IV |  |
| 24-Sep | Biology concepts | Ch. 7.2, 7.4-7.5 |
| 29-Sep | Exam 1 - review |  |
| 1-Oct | Exam 1  |  |
| 6-Oct | Stream ecology | Ch. 7.3 |
| 8-Oct | Wastewater treatment I | Ch. 8.2-8.6 |
| **13-Oct** | **Fall break - no class** |  |
| 15-Oct | Wastewater treatment II | Ch. 8.7 |
| 20-Oct | Wastewater treatment III |  |
| 22-Oct | Wastewater treatment IV | Ch. 8.8-8.12 |
| 27-Oct | Wastewater treatment V |  |
| 29-Oct | Exam 2 - review  |  |
| 3-Nov | Exam 2  |  |
| 5-Nov | Air pollution I  | Ch. 9.4-9.6, 9.9-9.11 |
| 10-Nov | Air pollution II | Ch. 9.7-9.8 |
| 12-Nov | Contaminant phase partition |  |
| 17-Nov | Toxicity and risk assessment | Ch. 3 |
| 19-Nov | Exposure |  |
| 24-Nov | Solid waste  | Ch. 11 |
| **26-Nov** | **Thanksgiving - no class** |  |
| 1-Dec | Hazardous waste+ ionizing radiation | Ch. 12, Ch.14 |
| 2-Dec | Hydrology and site design | Ch. 4, Ch. 7.6 |
| 8-Dec | Final exam review session |  |
| 17-Dec | Final exam 8:00-10:30 |  |