

Energy and Environment EVSC 325 section 102 Spring 2025 Course Syllabus

NJIT Academic Integrity Code: All Students should be aware that the Department of Chemistry & Environmental Science (CES) takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the instructor.

COURSE INFORMATION: In-person Lecture

Course Description and Objectives Summary:

The course is a study about energy production and use, and the resulting climate and other environmental impacts.

The class will examine:

- International and national energy production and usage trends
- Primary forms of energy production: coal, oil, natural gas, nuclear and renewable energy (solar, offshore wind and renewable natural gas)
- Transmission, distribution, and electric utilities
- New Jersey energy programs
- Energy and climate policies
- Microgrids, energy storage and fuel cells
- Energy efficiency
- Electric vehicles
- Building electrification, including geothermal
- Transportation electrification
- Energy storage
- Microgrids
- Waste to energy
- Batteries, fuel cells and supercapacitors
- Climate change science, policy, and carbon pricing
- Climate resilience
- Sustainability
- Redeveloping landfills and brownfields with solar power
- Perspectives from industry and environmental groups
- The future of energy

Lecture: Attendance is taken for each lecture. You may miss one lectures without excuse. Beyond one absence evidence of an unavoidable situation (Doctors Note, Police Report of a car accident, Jury Duty summons, National Guard Orders will have to be **checked and approved by DoS and/or OARS at NJIT**) will be necessary to avoid loss of participation points for the class. All exams are given during Lecture Hours.

Number of Credits: 3

Prerequisites: EVSC 125. Fundamentals of Environmental Sciences and CHEM 125: General Chemistry I

Course-Section and Instructors

Course-Section	Day	Location & Time	Instructor
EVSC 325-102	Thursday	6:00pm to 8:50pm CKB 314	Dr. Xianyang Meng

Office Hours: 2:00 pm – 3:30 pm on Friday or by appointment

Dr. Meng's Webex space: <https://njit.webex.com/njit-en/j.php?MTID=m8709eb23b0f63ed12319be9a04f28398>

Textbook: All materials will be available on Canvas

Optional textbook

Title	Sustainable Energy, Choosing Among Options
Author	Jefferson W. Tester, Elisabeth M. Drake, Michael J. Driscoll, Michael W. Golay and William A. Peters
Edition	Second Edition
Year	2012
Publisher	MIT Press
ISBN #	978 0 262 01747 3

Also Required:

Scientific calculator: capable of handling logs & exponentials. No cell phone, programmable or any other communications/internet active calculator will be permitted on exams.

University-wide Withdrawal Date: The last day to withdraw with a **W** is Monday, April 7 2025. It will be strictly enforced.

POLICIES

All CES students must familiarize themselves with, and adhere to, all official university-wide student policies. CES takes these policies very seriously and enforces them strictly.

Grading Policy: The final grade in this course will be determined as follows:

Assignments	24%
Participation	16%
Midterm Exam	30%

Final Exam	30%
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Participation: 0 to 16 points will be awarded by instructor, based on your attendance, quality and quantity of your work and discussion.

Quizzes/ homework: Totally 4 homework assignments will be given in this course.

Exams: A midterm exam and one final exam. Refer to the class website for exam dates and times.

Makeup Exam Policy: There will normally be NO MAKE-UP QUIZZES OR EXAMS during the semester. In the event that a student has a legitimate reason for missing a quiz or exam, the student must contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the instructor that the exam will be missed. If a make-up is allowed by DoS and OARS.

Cellular Phones: All cellular phones must be silenced during class times.

Final Grade	Overall (100%)
A	Above 90
B+	85-89
B	80-84
C+	75-79
C	70-74
D	60-69
F	Below 60

ADDITIONAL RESOURCES

Accommodation of Disabilities: Office of Accessibility Resources and Services (*formerly known as Disability Support Services*) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

The OARS office goal is to enhance the educational experience for students with disabilities at NJIT. OARS is committed to promoting accessibility, inclusivity and awareness as a resource to all members of NJIT.

If you need an accommodation due to a disability please contact the Office of Accessibility Resources and Services at OARS@NJIT.EDU, or visit us in Kupfrian Hall 201 to discuss your specific needs. A Letter of Accommodation Eligibility from the office authorizing student accommodations is required.