

Introduction to Nuclear Engineering
ENU 1000, Class 16642, Section 1009, Fall 2025
F 1145-1235 (UF Period 5)
LAR 330
No Final Exam

1 Instructor

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Office Hours: TBD, and by appointment. Beginning and end times of office hours will be enforced strictly. If you would like to meet on Zoom, please send me a message on Teams.

2 Course Description

Introduction to the nuclear engineering field and careers in the nuclear industry. Topics include engineering ethics, nuclear history, elementary nuclear and reactor physics, reactor types, nuclear safety, nuclear fuel cycle and radiation protection.

3 Course Prerequisites

None

4 Course Objectives

This course provides introductions to nuclear engineering, UF's nuclear engineering major, nuclear careers, and engineering ethics.

5 Relation to Program Outcomes (ABET)

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics (low coverage)
2. n/a
3. n/a
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts (low coverage)
5. n/a
6. n/a
7. n/a

6 No Textbook

7 Required Computer

Recommended Computer Specifications: <https://it.ufl.edu/get-help/student-computer-recommendations/>

HWCOE Computer Requirements: <https://www.eng.ufl.edu/students/advising/fall-s-emester-checklist/computer-requirements/>

8 Course Schedule

Date	Due	Material
Aug 22		Intro/Syllabus Review (Module 1)
Aug 29		What Do Nuclear Engineers Do?
Sep 5	HW 1	History & Milestones of Nuclear
Sep 12	HW 2	Nuclear Physics Part 1
Sep 19		Nuclear Physics Part 2
Sep 26		Radiation and Risk
Oct 3	HW 3 & Topic Submission	Nuclear Applications
Oct 10	HW 4	Nuclear Reactors
Oct 17		Homecoming (No Class)
Oct 24	HW 5	Nuclear Fuel Cycle
Oct 31	HW 6 & Draft Submission	Safeguards & Security
Nov 7	HW 7	Engineering Ethics
Nov 14		Future of Nuclear
Nov 21	Essay Submission	Nuclear Jeopardy
Nov 29		Thanksgiving (No Class)

9 Grading

Assessments in this course are worth a total of 1000 points broken down as follows:

- (7) Homework Assignments – 700 points
- (1) Topic Submission – 25 points
- (1) Draft/Outline Submission – 75 points
- (1) Final Project Submission – 200 points

Grades will be assigned based on the following scale:

- A: 920+ points
- A-: 900 - 919 points
- B+: 880 - 899 points
- B: 800 - 879 points
- C: 700 - 799 points
- E: < 700 points

10 Course Policies

10.1 Attendance

Skip at your own risk. Attendance is not required and is not directly considered in the grade.

Pursuant to HWCOE policy, the following statement is required: Excused absences are consistent with university policies in the undergraduate catalog. <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx> and require appropriate documentation.

10.2 Assignments

The following restrictions apply for submission format:

- All assignments must be submitted as a single PDF via Canvas.
- Use pencil or black/dark-blue ink and either white paper (lined or not) or engineering paper. You may typeset your homework using Microsoft Word, L^AT_EX, or other appropriate typesetting software.
- Use a one-column layout. Each problem should appear beneath the previous or on a new sheet of paper, not next to other problems.
- Submissions, or any part thereof, that are unreadable will earn zero credit.
- Submissions that are only readable with unusual effort, difficulty, or unpleasantness (e.g., text too small to read comfortably, writing too light to see, poor penmanship, etc.) and those that violate the first, second, and/or third bullet point in this list will be subject to a 10% deduction for the first instance, followed by a 30% deduction for the second, and zero credit for the third and further instances. These progressive penalties apply to these issues as a set. For example, a 10% penalty for multiple PDFs will be followed by a 30% penalty for a multi-column layout.

The following restrictions apply for submission deadlines and excused absences:

- Assignments are due by 2359 on the specified date.
- A grace period until 0800 the following day is set for each assignment. Students may submit assignments within this grace period without penalty.
- After 0800 the following day, the assignment closes on Canvas and no submissions are allowed, unless there is an approved excused absence.
- For excused absences, you must contact me via email as soon as conditions permit and provide a reason for your excused absence. I reserve the right to require documentation (except for religious holidays), consistent with university policy. Upon approval of an excused absence, I will modify the “open until” date in Canvas to allow you to make up the assignment.

10.3 Electronic Communication and Course Website

Canvas is used extensively for the course including, but not limited to:

- Distributing and storing the course syllabus, along with any syllabus updates
- Maintaining student grades
- Regular communication with students through announcements

- Providing access to course materials

Microsoft Teams is used for this course including, but not limited to:

- Communication between students and instructor through the “Chat” feature.

10.4 Changes to Syllabus

Changes to this syllabus will be provided via the Canvas platform. Such changes may include those required by policy changes, changes in the speed of course coverage, university closure, or errors in previous syllabus versions.

11 Standardized Syllabus Content

The following statements were required to be inserted into all syllabi by the HWCOE and/or UF. While you may ask me questions about the statements, I may have to refer you to the appropriate UF unit responsible for the statement.

11.1 Academic Policies & Resources

To support consistent and accessible communication of university-wide student resources, instructors must include this link to academic policies and campus resources: <https://go.ufl.edu/syllabuspolicies>. Instructor-specific guidelines for courses must accommodate these policies.

11.2 Commitment to a Positive Learning Environment

The Herbert Wertheim College of Engineering values varied perspectives and lived experiences within our community and is committed to supporting the University’s core values.

If you feel like your performance in class is being impacted, please contact your instructor or any of the following:

- Your academic advisor or Undergraduate/Graduate Program Coordinator
- HWCOE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@ufl.edu

12 Changelog

[1.0] - 2025-08-01

- Original version