

ENU 4934
Fundamentals of Nuclear and Radiological Engineering
Fall 2016

1. Catalog Description

Presentations and discussions on topics of current and continuing interest in nuclear engineering sciences.

2. Pre-requisites and Co-requisites

None.

3. Course Objectives

Provide students with the opportunity to learn introductory topics associated with the nuclear engineering program. Students will see lectures across the majority of technical expertise associated with the program, including lectures pertaining to the wide-variety of research within the Nuclear Engineering Program. In addition, students will learn about scholarship opportunities and will have the potential to learn about the nuclear power industry through occasional guest lectures.

4. Contribution of Course to Meeting the Professional Component (ABET only)

1. Graduates will have successful careers in Nuclear Engineering and related disciplines.
2. Graduates will pursue continuing education or advanced degrees.

5. Instructor

Dr. James E. Baciak
Interim Chair
100 Rhines Hall
273-2131
jebaciak@mse.ufl.edu

Office Hours: Monday, Period 2 (8:30 - 9:20 AM)
Wednesday, Period 4
Thursday, Period 9

6. Teaching Assistant

N/A

7. Meeting Times

Period 6 (12:50 - 1:40 PM)

8. Class Schedule

One (1) 50-minute lecture each week (Mondays)

9. Meeting Location

Lecture: 238 MAEB

10. Material and Supply Fees

None.

11. Textbooks Required

None. I may post materials from time to time for you to download off the course page.

12. Recommended Reading

None.

13. Course Outline

Date	Course Topic
August	22 Introduction, Course Goals and Objectives
	29 Lt. William Boyd: Introduction to the Nuclear Navy and the NUPOC Program
September	5 No Class – Labor Day Holiday
	12 What is Nuclear Engineering
	19 Introduction to Radiation Interactions – Gamma-Rays
	26 Guest Speaker
	3 Introduction to Radiation Interactions- Neutrons
October	10 Andreas Enqvist – Nuclear Safeguards Research
	17 Scholarship Opportunities
	24 Guest Speaker – Yong Yang
	31 Nuclear Reactors and the 6-Factor Formula
November	7 Guest Speaker
	14 Introduction to Fusion
	21 Introduction to Backscatter Radiography
	28 Guest Speaker
December	5 Introduction to Nuclear Security

* - Make-up classes may be scheduled, depending on if the class has fallen behind schedule. I also reserve the right to hold make-up classes due to forced cancellations (e.g., hurricanes). When possible, I will announce cancellations in advance along with the makeup dates.

14. Attendance and Expectations

Students are expected to attend each class period. Periods which may be missed should be brought to the attention of the Instructor as far in advance of the class period as possible. In the event of an unexcused absence, it is the student's responsibility to obtain and review the material that was covered during that class period.

15. Grading

Lecture Grading

Attendance	35%
Homework Sets	40%
Paper	25%

Attendance

Students are required to attend every lecture, and attendance will be recorded. Unannounced and unexcused absences are only allowed through prior requests or DOCUMENTED medical reasons.

Homework

You will have approximately 5-6 homework assignments during the course. Each assignment will consist of 1-3 problems based on items discussed in the class. Unless noted otherwise, you will be given one week to complete each assignment.

Paper

Students will be required to write an individual paper during the semester. We will discuss possible topics on October 17, but feel free to discuss your topic interests with the instructor at any time prior to the October 10 date. The paper will be due at 5 PM on **Monday, December 5**. Substantial penalties will result from plagiarism and data falsification including automatic course failure and possible expulsion. Grades for the final manuscripts will be based upon technical content and writing style.

16. Grading Scale

The grading scale is generally as follows:

94-100	A
90-93	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
0-59	E

Since I do not curve the grading scale, all students can receive an A (or an E)!

17. Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

18. Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

19. University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

20. Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

21. Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

22. Campus Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus:

https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.