ENU 4934
Nuclear Radiation Detection and Instrumentation
Fall 2015

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 Progrm. 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
Associate Professor
100 Rhines Hall
273-2131
jebaciak@mse.ufl.edu

Office Hours: Monday, Period 2 (8:30 - 9:20 AM)
Wednesday, Period 4 (10:40-11:30 AM)
Thursday, Period 9 (4:05-4:55 PM)

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: 227 NSC (Nuclear Science Building)

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	24	Introduction, Course Goals and Objectives
	31	What is Nuclear Engineering?
September	7	**No Class – Labor Day Holiday**
	14	Reactors and the Six-Factor Formula
	21	Dr. Leigh Winfrey – Plasma Physics and Fusion Research at UF
	28	LT Christopher Minick - NUPOC
October	5	Dr. Andreas Enqvist – Introduction to Radiation Detection
	12	Scholarship Opportunities
	19	Tour of the University of Florida Training Reactor
	26	Dr. Yong Yang: What is Nuclear Materials?
November	2	Dr. Tony Ferrar - TBD
	9	Dr. Wesley Bolch: Introduction to Medical Physics
	16	Dr. Kelly Jordan: So a Neutron Walks Into a Bar …
	23	Dr. Sedat Goluoglu – TBD
	30	Dr. DuWayne Schubring – Introduction to Thermal Hydraulics
December	7	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	40%
Homework Sets	35%
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 3-4 homework assignments during the course. Each assignment will consist of 2-3 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. This paper can be on a number of topics in nuclear engineering. We will discuss possible topics on October 12, but feel free to discuss your topic interests with the instructor at any time prior to the October 12 date. The paper will be due at 5 PM on **Monday, December 7**. 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:

93-100	A
90-92	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)! Note: this scale may be adjusted from semester-to-semester by a couple of points depending on topics covered and difficulty of exams.

17. Make-up Exam Policy

Even though this class does not have any exams, you should still be aware of the general policy for make-up exams in the Nuclear Engineering Program. Make-up Exams are only allowed through prior requests or DOCUMENTED medical reasons. In cases where students will be out of town, a reasonable attempt to take the exam before the scheduled exam date will be performed.

18. Honesty Policy

All students admitted to the University of Florida have signed a statement of academic honesty, committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

19. Accommodation for Students with Disabilities

Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

20. UF Counseling Services

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- University Counseling Center, 301 Peabody Hall, 392-1575, Personal and Career Counseling.
- SHCC mental Health, Student Health Care Center, 392-1171, Personal and Counseling.
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
- Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

21. Software Use

All faculty, staff and student 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.