

ENU 6106 Reactor Analysis (3 credits)

1. Catalog Description: 3 Credits.
2. Pre-requisite: None
3. Course Objectives: To become familiar with analytical, numerical, and computational aspects of nuclear reactor physics, understanding the applications and limitations of neutron diffusion theory, applications of neutron transport theory, and the principles and concepts of reactor physics, and time independent behavior of the neutron and gamma population in a nuclear reactor.
4. Instructor: Kelly Jordan, Assistant Professor, 106 UFTR. 352-294-2106, [kjordan@ufl.edu](mailto:kjordan@ufl.edu). Office hours: TBD
5. Teaching Assistant: N/A
6. Meeting Times: MWF 6, W 9
7. Class/laboratory schedule: 2 75-minute classes
8. Meeting Location: varies by year
9. Material and Supply Fees: none
10. Textbooks and Software Required: *Introduction to Nuclear Engineering* by J. LaMarsh and T. Baretta Addison-Wesley Publishing Company, Inc, 2001
11. Recommended Reading: *Nuclear Reactor Analysis* by J. J. Duderstadt, L. J. Hamilton, Wiley & Sons, ISBN number: 0-471-22363-8
12. Course Outline:

Y will learn the fundamentals of reactor physics, and gain a unique perspective on the derivation of the neutron transport equation, and understand some approximations to this equation, including neutron diffusion. We will solve many application problems that incorporate elements of nuclear physics, radiation interactions, criticality eigenvalues, diffusion theory, and transport theory.
13. Attendance and Expectations: You're a graduate student: attendance is not considered in the grade. However, some materials in the course will not be covered in the textbook or in the notes provided online -- only in class. Some example problems and complex figures fall into this category. Students are responsible for these materials..
14. Grading –Homework (20%), Midterm Exams (30% total), Final Project (50%).
15. Grading Scale:

93.0%+: A  
90.0-92.9%: A-  
87.0-89.9%: B+  
83.0-86.9%: B  
80.0-82.9%: B-  
77.0-79.9%: C+  
73.0-76.9%: C  
70.0-72.0%: C-  
67.0-69.9%: D+  
63.0-66.9%: D  
60.0-62.9%: D-  
59.9% and lower: E

“A C- will not be a qualifying grade for critical tracking courses. In order to graduate, students must have an overall GPA and an upper-division GPA of 2.0 or better (C or better). Note: a C- average is equivalent to a GPA of 1.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

16. Make-up Exam Policy: Make up work only allowed on exams/projects for university-sanctioned reasons. Altered due date made by arrangement with instructor.
17. 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.
18. 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.
19. UF Counseling Services –Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
  - UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
  - Career Resource Center, Reitz Union, 392-1601, career and job search services.
20. 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.