

ENU 6937: Plasmas and Fusion (3 Cr) - Spring 2017
ENU 4930: Plasmas and Fusion (3 Cr) - Spring 2017

INSTRUCTOR	Dr. Leigh Winfrey 170 Rhines Hall winfrey@mse.ufl.edu 352.273.0297
LECTURE	Mondays, Period 6, 12:50 pm - 1:40 pm, MAE-C 238 Mondays, Period 7, 1:55 pm - 2:45 pm, MAE-C 238 Wednesdays, Period 6, 12:50 pm - 1:40 pm, MAE-C 238
OFFICE HOURS	Tuesdays, Period 6 and 7, 12:50 pm - 2:45 pm, Rhines 170 Additional office hours may be scheduled by appointment.
PREREQUISITE	None
USEFUL TEXTS	<i>Plasma Physics and Controlled Fusion</i> , Francis F. Chen <i>Introduction to Electrodynamics</i> , David J. Griffiths
COURSE DESCRIPTION	Basic principles of radiation shielding, and the study of radiation sources and shielding design for radiation facilities.
COURSE PURPOSE	This course will cover concepts in plasma physics, basics of thermonuclear reactions, charged particle collisions, single particle motions and drifts, radiation from plasmas and plasma waves, fluid theory of plasmas, formation and heating of plasmas, plasma confinement, plasma diagnostics fusion devices and other plasma applications.
COURSE COMMUNICATION	Communication from the instructor will come in class, via email and through the course Canvas site, found at https://elearning.ufl.edu/ .
ATTENDANCE POLICY	There is no attendance requirement, however students are encouraged to regularly attend class.
CANCELLATION POLICY	Barring emergencies, the instructor will give students prior notice of cancelled classes and office hours. Should an emergency situation occur, the instructor will attempt to notify the class as soon as possible. Office hours that are cancelled in advance will be covered or rescheduled. Notifications of class or office hour cancellation will come via email.
GRADING POLICY	A 10 point grading scale will be used for this course. Detailed information on University

of Florida Grading Policies may be found at:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Range	Grade	Range	Grade
95 - 100	A	73 - 76	C
90 - 94	A-	70 - 72	C-
87 - 89	B+	67 - 69	D+
83 - 86	B	63 - 66	D
80 - 82	B-	60 - 62	D-
77 - 79	C+	0 - 60	E

Assignments and exams will be weighted as follows:

20% Homework Assignments
20% Exam 1
20% Exam 2
20% Design Project

Partial credit will be given on all assignments, projects, and quizzes unless otherwise specified. Errors in calculating a student's grade for an assignment, project, or quiz will be corrected promptly if they occur.

Re-grading or re-assigning points on a homework assignment, project, or quiz will be made at the discretion of the instructor. To receive a re-grade, students must return the assignment or examination to the instructor within two business days of receiving the graded work and include a brief written explanation of the requested re-grade; ***the entire assignment will be re-graded*** and returned to the student no sooner than two days after re-submission.

HOMWORK

Homework assignments will be posted on Canvas and announced in class. Students may conduct homework and study sessions in groups. However, each person must ***independently*** write up and submit his or her own work. Copying is not permitted. It is the student's responsibility to ensure homework is legible; at the discretion of the instructor ***unreadable homework may receive no credit***. Students should expect that homework assignments will included the preparation of problems to present to the class.

All homework is due at the beginning of class. Late homework will be accepted up to 5:00 PM on the day after the due date. Late homework may be turned in either to the instructor in person or to the instructor's box (104 Rhines Hall). ***Late homework may receive a 10% grade penalty.*** Makeup homework or late homework turn-in in the event of illness or travel can be arranged on discussion with the instructor; this should be arranged prior to the due date when possible. Homework assignments will be graded with 20% of the score available for completing all problems and one problem selected for complete marking for the remaining 80%.

EXAMS

Two exams will be given through the semester at approximately the midpoint and at the endpoint of the semester. These will be take home. Students will not be allowed to work together on these exams.

DESIGN PROJECT	Students will be formed into groups of approximately 4 people. Groups will make presentations and turn in a technical lab report. The Design Project will center on the design of a tokamak reactor and will be assigned near spring break.
QUIZZES	<p>Announced quizzes will be given through the semester. All quizzes will be closed book and closed notes with the calculator policy specified at the time of the announcement. Quizzes and their topics will be announced in class and on Canvas at least one class period in advance, but students may generally assume that quizzes cover the most recent home work and previous weeks' lectures.</p> <p>Makeup quizzes will be given under limited circumstances. Excused absences consist of university-sanctioned absences, or other justified absences, verified and approved by the instructor. If the absence or conflict is known in advance, the student must notify the instructor prior to the quiz, and <i>rescheduling must take place prior</i> to be counted as an excused absence.</p>
HONOR CODE	The University of Florida Policy on Academic Misconduct will be observed and strictly enforced. Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code found at http://www.dso.ufl.edu/students.php .
SPECIAL REQUIREMENTS	<p>Any student with special needs, disabilities, or requiring accommodations should schedule a meeting with the instructor to discuss his or her needs as soon as possible.</p> <p>Further, from the University of Florida Policy on Accommodating Students With Disabilities, students requesting accommodation for disabilities must first register with the Dean of Students Office found at http://www.dso.ufl.edu/drc/. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.</p>
CHANGES IN THE SYLLABUS	This syllabus represents current plans and objectives. As the semester progresses, those plans may need to change to enhance the class. Such changes will be communicated clearly, are not unusual and should be expected.