

**ENU 6937: Plasmas and Fusion (3 Cr) - Spring 2018**  
**ENU 4930: Plasmas and Fusion (3 Cr) - Spring 2018**

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INSTRUCTOR	<b>Dr. Leigh Winfrey</b> 170 Rhines Hall winfrey@mse.ufl.edu 352.273.0297
LECTURE	Mondays, Period 8, 3:00 pm - 3:50 pm, Florida Gym 0285 Mondays, Period 9, 4:05 pm - 4:55 pm, Florida Gym 0285 Mondays, Period10, 5:10 pm - 6:00 pm, Florida Gym 0285
OFFICE HOURS	Tuesdays, 1:00 pm - 3:00 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 plasma physics, science, and engineering and their application to fusion based energy sources.
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 <b>Canvas</b> site, found at <a href="https://elearning.ufl.edu/">https://elearning.ufl.edu/</a> .
ATTENDANCE POLICY	Though attendance is not graded students are highly encouraged to attend regularly as class will include group exercises, discussions, and ad-hoc problem solving as class only meets one day per week.
CANCELLATION POLICY	Barring emergencies, the instructor will give students prior notice of cancelled classes and office hours. Should an emergency occur, the instructor will 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 may come via Canvas, email, or written postings in the class room or instructor's office.
GRADING SCALE	Detailed information on University of Florida Grading Policies may be found at: <a href="https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx">https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx</a> . Grades will be rounded up to the next higher number grade if their decimal is 0.45 or higher. Assignments and exams will be weighted as follows:  20% Quizzes 10% Exam 1 10% Exam 2 60% Projects

As	Ranges	Bs	Ranges	Cs	Ranges	Ds	Ranges	E	Range
A	95 - 100	B+	87 - 92	C+	77 - 79	D+	67 - 69	E	0 - 60
A-	90 - 94	B	83 - 86	C	73 - 76	D	63 - 66		
		B-	80 - 82	C-	70 - 72	D-	60 - 62		

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.

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

**HOMEWORK** Homework assignments will be posted on Canvas and announced in class. Students may conduct homework and study sessions in groups. The purpose of these problems will be to provide practice material in the time between classes.

**QUIZZES** Announced quizzes will be given approximately weekly through the semester in class and potentially on Canvas. All quizzes will be closed book and closed notes with the calculator policy specified at the time of the announcement. Students may generally assume that quizzes cover the most recent home work and previous weeks' lectures and suggested homework problems.

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 *rescheduling must take place prior* to be counted as an excused absence.

**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.

**PROJECTS** Students will be formed into groups of approximately 4 people. Groups will make presentations and turn in a technical lab report. Projects will be assigned through out the semester and will likely include spectroscopy experiments, evaluation of modern fusion and plasma experiments, and design of a tokamak.

**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](http://www.dso.ufl.edu/students.php) found at <http://www.dso.ufl.edu/students.php>.

SPECIAL  
REQUIREMENTS

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.

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](http://www.dso.ufl.edu/drc/) 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.

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.