# Physics 498

"The purpose of the classroom is to build a tool kit and to understand what we know in the hopes of uncovering something that we don't." Jedidah C. Isler, astrophysicist.

Instructor: Dr. Cecille Labuda Class time/location: 4:00 pm Lewis 109 Office hours: Lewis Hall MW 3–4 pm; 1031 NCPA by appt

#### Texts

- Phillip Ball. Serving the Reich: The Struggle for the Soul of Physics under Hitler: 978-0226204574
- Supplemental texts (will be provided).

## Description

This is a capstone course in which students review their overall knowledge of physics, solve problems involving all major areas of the undergraduate physics curriculum and develop their oral communication skills. The course is required for graduation as a physics major.

## **Prerequisites / Corequisites**

Senior standing.

## **Course Objectives**

- Development of a broad knowledge base of physics as a whole by uncovering the connections between different subject areas.
- Exposure to scientific ethics and ethos through science history studies, case studies and discussion of articles and writings.

## Grading

- $90\% \le A \le 100\%$
- $80\% \le \mathbf{B} < 90\%$
- 70% ≤ **C** < 80%
- $50\% \le \mathbf{D} < 70\%$
- **F** < 50%

# **Course Topics**

- Selected physics topics
- Social and professional issues in science

# **Evaluation**

## Attendance: 10%

Students who are absent for three or more classes, lose the full 10% attendance grade. If fewer than three classes are missed, the full 10% is awarded. Email: cpembert@olemiss.edu Phone: +16629153945 Last updated 12/06/2016

## Final Exam: 10%

Physics Major Fields Test. The MFT is a standardized test whose purpose is to evaluate the totality of your undergraduate instruction in physics. All students must take the test. Failure to take the Physics MFT will result in an F for the course. The MFT exam schedule will be posted when available.

#### Study Notebook: 40%

- Homework problems with complete solutions. Consult rubric for what is considered acceptable presentation and completeness.
- Derivations of core results as described in additional course documents.

#### Oral Presentations and Discussion: 40%

- Presentation and discussion of readings from selected texts and articles.
- Presentation and discussion of test and homework problems.
- Presentation and discussion of physics topics.

# Policies

## <u>Attendance</u>

Class attendance is strongly advised. University of Mississippi policy requires that attendance be verified for every student during the first two weeks of classes. In this course, verification will take place on the Monday of the second week of class, therefore all students must be present on that day. Students whose attendance is not verified will be automatically dropped from the course. No makeups of graded classroom exercises and presentations will be given except for absences due to verified university sanctioned activities. If you must be absent for tests, it is your responsibility to speak to me before the test to determine whether the absence will be excused and whether the test will be rescheduled. For unexpected test absences, you must contact me by email or telephone within 24 hours after the absence or the test will not be rescheduled under any circumstances

#### Academic Integrity

Every student of the University of Mississippi, by virtue of choosing to be part of the university community agrees to abide by the University of Mississippi Creed and the <u>UM Academic Integrity</u> <u>Policy</u> which covers academic integrity. Cheating on any assignment is forbidden and, in this course, will result in a zero grade on the given assignment. If a second case of cheating occurs, this will result in an F for the entire course. Please consult the M-Book, Academic Integrity document for details on university policy and the academic creed. *UM Creed* 

The University of Mississippi is a community of learning dedicated to nurturing excellence in intellectual inquiry and personal character in an open and diverse environment. As a voluntary member of this community:

- I believe in respect for the dignity of each person
- I believe in fairness and civility
- I believe in personal and professional integrity
- I believe in academic honesty
- I believe in academic freedom
- I believe in good stewardship of our resources
- I pledge to uphold these values and encourage others to follow my example

All materials distributed electronically and in hard copy in this class are protected under intellectual copyright. Any attempt to upload these documents onto the Internet (or to distribute them by some other means) or to profit from the distribution (by Internet or other means) of these documents constitutes theft and will be in violation of intellectual property law and the UM Academic Conduct Code unless expressly permitted for by the instructor. Accessing such materials for your own use is also in violation of the UM Academic Conduct Code. Additionally, the distribution of your own class notes via the Internet or other means, or access of such materials, encourages absence from class and is highly discouraged except for occasional loaning of notes to students <u>concurrently</u> enrolled in the class.

<u>University of Mississippi Access and Inclusion</u> The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation or to accurate assessment of your achievement, please contact the course instructor as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content, inaccessible web content or the use of non-captioned or nontranscribed video and audio files. Students must also contact Student Disability Services at 662-915-7128 so that office can 1) provide you with an Instructor Notification form, 2) facilitate the removal of barriers and 3) ensure you have equal access to the same opportunities for success that are available to all students.

## Audio and video recording

Audio and/or video recording of class lectures is not allowed unless explicit permission is given by the instructor. Permission will only be given if the student has a Student Disability Services request. In such cases, recordings may only be used by the student to whom permission is given and all recordings must be deleted at the end of the semester. Recordings may not be distributed online or elsewhere.

## **Important Dates**

- March 7 Midterm grades
- May 6 last day of class
- MFT Date to be announced