SYLLABUS

COURSE TITLE: PHY3101.001S25 Modern Physics **CREDIT HOURS:** 3

MEETING TIMES: Monday and Wednesday 12:30pm-01:45pm **CLASSROOM:** ISA 2023 Interdisciplinary Science Building

INSTRUCTOR:

Dr. Darío Arena Office: *ISA 4210*

Email: *darena@usf.edu*

(Messages through CANVAS is the best way to contact. If at all you need to send an Email, please make sure that you include PHY-3101 Modern Physics in your subject line.)

OFFICE HOURS: Monday 02:00pm-03:00 pm (*after lecture*)

Highly recommended video: https://www.youtube.com/watch?v=yQq1-_ujXrM

COURSE INFORMATION

DESCRIPTION	"Special relativity. Interaction of radiation with matter. Particle-wave duality. Atomic and x-ray spectra and Bohr model of atom. Schrodinger wave equation. Introduction to solid state physics." **Source**: USF Catalog.
OBJECTIVES	(1) Introduction to general physics concepts developed in the early 20th century. (2) Students will study a variety of interesting phenomena in the limits of ultra-fast speeds and ultra-small sizes; while learning the mathematical tools needed to understand and predict them.
PREREQUISITES	PHY 2049, MAC 2283 or MAC 2313.
REQUIRED TEXT	Modern Physics, 2nd edition, by John R. Taylor, Chris D. Zaratos, and Michael A. Dubson.

SYLLABUS NOTES: Many thanks to Dr. Humberto Gutierrez , Ph.D. for the syllabus template.

IMPORTANT DATES:

Friday	Jan. 17	End of Drop/Add
Monday	Jan. 20	USF Holiday (MLK Jr. Day)
Tuesday	Mar. 4	Midterm grades due
Mon.-Sun.	March 17–23	Spring Break
Saturday	Mar. 29	Last day to withdraw w\"W"
Friday	May 2	Last day of classes

EXAMS SCHEDULE. Tentative (subject to change) , but please plan accordingly.

Exam 1	Monday	10 Feb. 2025	12:30pm-01:45pm
Exam 2	Monday	10 Mar. 2025	12:30pm-01:45pm
Exam 3*	Monday	28 Apr 2025	12:30pm-01:45pm
Final Exam†,	**Wednesday**	**07 May 2025**	**10:00 am - 12:00 pm**

***** Possible date change as per USF no-exam week policy. Alternate date: Wed., 23 Apr 2025.

† Scheduled per the official Final Exam Matrix (https://www.usf.edu/space/documents/final-exam-matrix.pdf)

‡ Make up exam; optional (see below)

COURSE GRADING: Your score in this course will be based on three regular exams, and homework. They will be weighted as follows:

Homework	10%
Test-1	30%
Test-2	30%
Test-3	30%
Total Score	**100%**
Retake Exam	**30%**

Important: The Final exam time will be used to retake one of the previous three exams. ***If*** *four exams are taken by the student, only the top three grades will be used to compute the final grade.*

GRADING SCALE: Your course total score will be converted to a letter grade using the scale listed below. Note that rounding of the course total score is to the nearest integer.

97 ≥ **A**$^{+}$	67 ≤ **D**$^{+}$ < 70
90 ≤ **A** < 97	60 ≤ **D** < 67
87 ≤ **B**$^{+}$ < 90	**F** < 60
80 ≤ **B** < 87	
77 ≤ **C**$^{+}$ < 80	
70 ≤ **C** < 77	

ATTENDANCE: This is an advanced course; I expect that you will be in class and engaged for every scheduled class meeting. I believe in a value-added classroom experience and will do everything I can to provide you that opportunity. There are no opportunities to make-up a missed classroom experience. I do understand that there are valid & justifiable reasons for missing class. Even so, you remain responsible for everything that we cover in class. You should get notes from a classmate upon your return. *Students who anticipate missing exams due to religious observance should inform the instructor by the second class meeting.*

POLICY ON LATE WORK, MISSED EXAMS: Late work of any kind, including exams, generally ***will not be accepted***. *Late* is defined to be work submitted **anytime** after it has been collected by the instructor or is due online. For homework assignments due during class meetings, the assignment is due at the beginning of class. Assignments turned in in the middle or at the end of class will be considered late. A score of zero will be entered into the grade book for late work unless arrangements have been made with the instructor in advance. For exams, make up exams will not be given without prior arrangement or a verified medical absence. Verification is generally provided from student health services. Other forms of medical validation of absences from exams are subject to additional verification from the instructor. When possible, such verification should occur ***before*** the exam.

Please note that making "arrangements" requires a 2-way communication between the student and instructor. For 2-way communication, face-to-face communication is always best, ***followed by e-mail***, and lastly by telephone. *Do not assume that arrangements are mutually agreed upon unless you receive an e-mail confirmation from the course instructor*.

ACADEMIC HONESTY: Knowledge and maintenance of the academic standards of honesty and integrity as set forth by the University are the responsibility of the entire academic community, including the instructional faculty, staff and students. I take this seriously and am sure that you do as well.

NO EXTRA CREDIT: There will be many opportunities (HW, midterm exams, and final exam) for you to demonstrate your mastery of the material, thus making extra credit unnecessary. The professor reserves the right to decide if opportunities for extra credits will be offered at the end of the semester (BUT this is very unlikely since the lowest exam can be dropped).

IN CLASS "ACTIVITIES:" I expect you to be engaged in what we are doing when you are in class. That means no texting, chatting, web surfing, holding conversations, sleeping, etc. This is not only because many of these activities would be rude to the rest of the class and to me (although they are). More fundamentally: *You cannot learn physics (or most other subjects) while 'multi-tasking'.*

RECORDING OF LECTURES: Do not record lectures without explicit written permission from me (which will generally not be given without a documented cause).

FKL STATEMENT:
"This course is part of the University of South Florida's Foundations of Knowledge and Learning (FKL) Core Curriculum. It is certified for the physical-science general-education dimension. Students enrolled in this course will be asked to participate in the USF General Education assessment effort. This might involve submitting copies of writing assignments for review, responding to surveys, or participating in other measurements designed to assess the FKL Core Curriculum learning outcomes."

STANDARD UNIVERSITY POLICIES:
Policies about Covid-19 procedures, disability access, religious observances, academic grievances, academic integrity and misconduct, academic continuity, food insecurity, and sexual harassment are governed by a central set of policies that apply to all classes at USF. These may be accessed at: https://www.usf.edu/provost/faculty-success/resources-policies-forms/core-syllabus-policy-statements.aspx

TECHNOLOGY AND MEDIA

Canvas: This course will use Canvas for posting announcements and information related to the course such as this syllabus, PowerPoint lectures, links to MS TEAMS online meetings, links to online Homework, etc. Students should login at least twice a week to search for updated information.

If you need help learning how to perform various tasks related to this course or other courses being offered in Canvas, please find useful information in this link: https://www.usf.edu/atle/technology/canvas-training.aspx