



**FLORIDA
ATLANTIC
UNIVERSITY**

COURSE CHANGE REQUEST Undergraduate Programs

Department Physics
College Science

UUPC Approval 3/27/23
 UFS Approval _____
 SCNS Submittal _____
 Confirmed _____
 Banner Posted _____
 Catalog _____

Current Course Prefix and Number PHZ 4113

Current Course Title Mathematical Methods for Physics

Syllabus must be attached for ANY changes to current course details. See [Template](#). Please consult and list departments that may be affected by the changes; attach documentation.

Change title to:
Quantum Mechanics

Change description to:

Change prefix

From: _____ **To:** _____

Change course number

From: _____ **To:** _____

Change credits*

From: 4 **To:** 3

Change grading

From: _____ **To:** _____

Change WAC/Gordon Rule status**

Add Remove

Change General Education Requirements***

Add Remove

*See [Definition of a Credit Hour](#).

**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See [WAC Guidelines](#).

***GE criteria must be indicated in syllabus and approval attached to this form. See [Intellectual Foundations Guidelines](#).

Change prerequisites/minimum grades to:

Change corequisites to:

Change registration controls to:

Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).

Effective Term/Year for Changes: Fall 2023

Terminate course? Effective Term/Year for Termination:

Faculty Contact/Email/Phone Korey Sorge / ksorge@fau.edu / 7-3380

Approved by

Date

Department Chair _____

3/16/23

College Curriculum Chair _____

3-16-23

College Dean _____

UUPC Chair Ethlyn Williams

3/27/23

Undergraduate Studies Dean Dan Meeroff

3/27/23

UFS President _____

Provost _____

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

PHZ 4113-001
Mathematical Methods for Physics

TR 4:00 – 5:20
3 credits

Semester, Year
Prof. XXXXX YYYYY
Office: XXXXX
Office hours: MWF 11-12
Classroom: XXXX
Telephone: 561-297-XXXX
Email: zzzzz@fau.edu



TA name	xxxxxx xxxxxxxxx
Office	xxxxxx
Office hours	MWF xx:xx – xx:xx
Telephone	561-297-xxxx
Email	xxxxxx@fau.edu

Catalog Description

This course develops applied mathematics for the physical sciences. It introduces integral transform, Green's function and orthogonal function expansion methods for solving differential equations. It also examines selected advanced topics, such as complex variables.

Instructional Method

In-Person: Traditional concept of in person. Mandatory attendance is at the discretion of the instructor.

Prerequisites / Corequisites

Prerequisite: MAP 3305

Course Objectives/Student Learning Outcomes

- To understand to the basic ideas involved in the mathematics covered by the course
- To be able to apply the mathematics
- To stimulate the curiosity of the student

Course Evaluation Method

- **Homework (45%)** – Collaboration on homework is permitted, even encouraged, but copying is of course not allowed.
- **Midterm Exam (15%)** – Will be in-class, and is open book and open note. No collaboration is allowed, but you can ask me questions.
- **Final Exam (30%)** – Will be take-home, and is open book and open note. No collaboration is allowed, but you can ask me questions.
- **In-class Group Projects (10%)** – If you cannot attend, make up is possible, though it is not guaranteed you will be able to work in a group in that case.

Course Grading Scale

>94%	A
90-94%	A-
87-90%	B+
84-87%	B
80-84%	B-
77-80%	C+
74-77%	C
70-74%	C-
67-70%	D+
64-67%	D
60-64%	D-
<60%	F

Policy on Makeup Tests, Late Work, and Incompletes (if applicable)

- **Make-up Policy:** Make-up exams are possible only with a documented, exceptionally good, excuse, with forewarning given me when possible.
- **Policy on Late Homework:** For each class period late, there will be a 15% penalty, up to a maximum 30% penalty. Late homework turned in after the final exam due date might not be accepted. (Thus, no matter how late the homework, as long as it is turned in by the final exam due date, not more than 30% will be taken off.)
- **Extra Credit:** I may designate certain homework problems or problems on exams as extra credit. This is the only extra credit in the course.

Classroom Etiquette Policy

University policy on the use of electronic devices states: “In order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular telephones and pagers, are to be disabled in class sessions.”

Policy on the Recording of Lectures (optional)

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University’s Student Code of Conduct and/or the Code of Academic Integrity.

Attendance Policy

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student’s responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student’s final course grade as a direct result of such absence.

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

Required Texts/Readings

- ML Boas, “Mathematical Methods in the Physical Sciences” (Third Edition)

Course Topical Outline

Dates	Topic	Assigned Reading
Week 1	Partial Differentiation	Chapter 4
Week 2	Vector Analysis 1	Chapters 4 and 6
Week 3	Vector Analysis 2	Chapters 6 and 7
Week 4	Fourier Series 1	Chapter 7
Week 5	Fourier Series 2	Chapter 7
Week 6	Fourier Transforms	Chapter 7
Week 7	The Laplace Transform	Chapter 8
Week 8	Review and Midterm Exam	
Spring Break		
Week 9	Greens Functions	Chapter 8
Week 10	The Gamma Function 1	Chapter 11
Week 11	The Gamma Function 2	Chapter 11
Week 12	Orthogonal Functions 1	Chapter 12
Week 13	Orthogonal Functions 2	Chapter 12
Week 14	Complex Analysis	Chapter 14
Final Exam		