Instructor:	Howard Haber
Office:	ISB 326
Phone Number:	459-4228
Office Hours:	Mondays 2–4 pm
E-mail:	haber@scipp.ucsc.edu
Webpage:	`http://scipp.ucsc.edu/~haber`

COURSE WEB PAGE:

`http://scipp.ucsc.edu/~haber/ph116A/index.html`

CLASS HOURS:

Lectures: Tuesdays and Thursdays, 1:30–3:05 pm, Thimann Lecture Hall 001
Discussion Sections (in ISB 231/235):
Mondays, 4–5:30 pm
Wednesdays, 10:40–11:45 am
Wednesdays 4–5:30 pm

CLASS TEACHING ASSISTANT:

TA:	Joseph "Zippy" Connell
Office:	ISB 314
E-mail:	jomaconn@ucsc.edu

REQUIRED TEXTBOOK:

Mathematical Methods in the Physical Sciences, 3rd edition, by Mary L. Boas

Other introductory texts:

Mathematical Methods for Physicists, 7th edition, by George B. Arfken, Hans J. Weber and Frank E. Harris

Advanced Engineering Mathematics, by Erwin Kreyszig

Mathematical Methods for Scientists and Engineers, by Donald A. McQuarrie

PREREQUISITES:

Prerequisite math course: Mathematics 23A.

It is assumed that you are familiar with the material in Boas, sections 4 and 5 of Chapter 3.

Course Outline for Physics 116A

Topic	Reading
1. Infinite series and power series	Boas, Chapter 1
2. Complex numbers and complex functions	Boas, Chapter 2
3. Matrices, linear algebra and vector spaces	Boas, Chapter 3
4. Eigenvalue problems and matrix diagonalization	Boas, Chapter 3
5. Ordinary Differential Equations	Boas, Chapter 8

Course Grading and Requirements

45% Weekly Homework (9 problem sets)
20% Midterm Exam (Tuesday, November 5, 2019, 1:30–3:05 pm)
35% Final Exam (Thursday, December 12, 2019, 12–3 pm)

Homework assignments will be posted on the course website on a weekly basis, and are due each Thursday at the beginning of class. (Due to the Thanksgiving holiday, the final two homework sets will be due on the two Tuesdays following Thanksgiving.) The homework problem sets are not optional. You are encouraged to discuss the class material and homework problems with your classmates and to work in groups, but all submitted problems should represent your own work and understanding. In order that homework can be graded efficiently and returned quickly, there will be a 50% penalty for late homework. This penalty may be waived in special circumstances if you see me before the original due date. Homework solutions will be made available one or two days after the official due date; no late homeworks will be accepted after that.

The midterm and final exams will be held in the same classroom as the lectures. The final exam will be three hours long and cover the entire course material. You must take the final exam to pass the course. You will be permitted to consult the class textbook, your own handwritten notes, and any class handout during the exams.