

PHYSICS 3700: Mathematics for Biomedical Physics

COURSE OUTLINE: FALL 2012

LECTURER: J. M. Wadehra

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OFFICE HOURS: Mondays and Wednesdays from 11:00 AM to 12:00 Noon or by appointment or, simply, drop by.

TEXT: Further Mathematics for the Physical Sciences by M. Tinker and R. Lambourne (John Wiley & Sons)

COURSE PREREQS: PHY 2130/2140 or PHY 2170/2180; MAT 2010; MAT 2020; current GPA more than 3.0

MEETING PLACE: Mondays and Wednesdays from 1:55 PM to 3:55 PM in Room 245, Physics Research Building

1. EXTRA READING.

The assigned text covers all the material for this course. A few reference books that cover similar materials at roughly the same level are:

Mathematical Methods in the Physical Sciences by M.L. Boas (John Wiley & Sons, 2006)

Basic Training in Mathematics by R. Shankar (Springer, 2006)

Mathematical Handbook of Formulas and Tables by M.R. Spiegel (McGraw-Hill, 2008)

You may wish to refer to these books for additional reading about topics that interest you.

2. HOMEWORK ASSIGNMENTS.

A few problems from the text and from other sources will be assigned almost every week. You are expected to work out these assignments *independently* and turn in the solutions for partial grading by due date. Late homework assignments will not be accepted.

3. EXAMS AND GRADING.

Your grade in the course will be determined, as follows, by your performance in three exams, in-class weekly quizzes and in solutions of assigned homework problems:

First Hourly Examination	100 points	A: 450-500 pts; A-: 425-449 pts;
Second Hourly Examination	100 points	B+: 400-424 pts; B: 375-399 pts;
Final Examination	200 points	B-: 350-374 pts; C+: 325-349 pts;
In-class Weekly Quizzes	50 points	C: 300-324 pts; C-: 275-299 pts;
Homework	50 points	D+: 250-274 pts; D: 225-249 pts;
TOTAL	500 points.	D-: 200-224 pts; F: 0-199 pts.

Tentative dates for hourly exams are Wednesday, October 3 and Wednesday, November 7; these exams will be held in the classroom. Results of the hourly exams as well as the graded homework problems/weekly quizzes will be handed back in the class. The final exam will be on Wednesday, December 12 from 1:20 PM to 3:50 PM in room 245 of Physics Research Building. The final exam will cover all the material of this course; however, there will be slight emphasis on material not covered by the first and the second hourly exams.

THERE WILL BE NO MAKE-UP EXAMS OR QUIZZES.

4. TOPICS TO BE COVERED.

I anticipate that we will be covering most of the topics of the textbook during this semester. Additional topics include Fourier series, Fourier transforms, probability and statistics.