

**Physics 2311**  
**Spring 2012, Science Hall 105**  
**Time: Monday, Wednesday & Friday 10:00-10:50AM.**  
**Text Book: "Mathematical Methods in the Physical Sciences" by M. L. Boas (3<sup>rd</sup> ed.)**

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**Instructor: Prof. Muhammad N. Huda**

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Office Hours: 11:00 AM - 12 AM. Wednesday or by appointment.

You are highly encouraged to discuss the problems with the instructor. The earlier the better!

**Course Prerequisites:** Familiarity with high-school algebra, trigonometry, calculus.  
Freshman Physics courses.

**Course Contents:**

***The main content of the course is mathematical in nature. You are expected to do a lot of Math! This course will introduce mathematical techniques those are important for undergraduate Physics. The goal is to build math skills relevant to physics.***

Chapters from the Textbooks:

1. Infinite series, power series; 2. Complex numbers; 3. Linear algebra; 4. Partial differentiation; 6. Vector analysis; 8. Ordinary differential equations; 9. Calculus of variations; 11. Special functions.

**Exams:**

Two exams will be given during the regular class period and a final exam (A total of three exams):

1<sup>st</sup> Exam: 02/27/11 (class time)

2<sup>nd</sup> Exam: 04/09/11 (class time)

3<sup>rd</sup> Exam: 05/07/11 9:00AM to 10:00AM

Final exam (the third one) will be of the same weight as the other in-class exams, and will not be comprehensive, i.e., it will cover only the part that has not been included in the previous exams.

These exams will include concept questions as well as problems like those in the text and the homework. Students must take the exams in class on the days listed. **A missed exam cannot be made up unless a request was made to an instructor well before the scheduled exam. A makeup will be granted only in cases of documented illness, family emergency, or UTA athletic competition out of town.**

**Exam Rules:**

Exams will be closed book. You may not use notes or other aids. Students should not talk or communicate in any way with each other during exams. You must enter your name and 4 last digits of your ID number on the exam sheet. You may be asked to show your ID.

**Homework:**

Homeworks in this course have the same weight as each of the regular exam.

**Late Homework will not be accepted and graded**, unless there is a valid documented reason. It is your responsibility to make sure that you have submitted **ALL** the HW.

**Grading:**

Partial credit will be given on tests.

No special credit will be allowed.

Letter grades will be assigned using the following guideline:

**A:** 90- 100; **B:** 80- 89; **C:** 70- 79;

**D:** 60- 69; **F:** 0- 59.

**W:** Drop by drop-date deadline.

**Total grading: 100% = Exam1 (23%) + Exam2 (23%) + Exam3 (23%) + HW (23%) + Class (8%)**

**Study Suggestions:**

You should read the material to be covered in class before coming to class. Coming to class with questions prepared is strongly encouraged. Start working on your homework as soon as it is available. Get help if you have trouble understanding the material. The importance of doing the homework assignments (*and understanding them*) cannot be overemphasized. Exam problems will resemble the homework problems.

**Attendance:**

Attendance is required. Absences should be discussed with the instructor - preferably, before they occur. Random attendance will be taken, and this will constitute the last 8% of the grades.

**Drops:**

Students wishing to drop this class or resign from the university during the semester must do it themselves, but should consult the instructor in advance to determine the course grade to be reported.

**Drop for Non-Payment of Tuition:**

If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office. You may not continue to attend class until your Enrollment Loan has been applied to outstanding tuition fees.

**Academic Dishonesty:**

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts."

**Disabilities:**

The Univ. of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public law 93112-The Rehabilitation Act of 1`973 as

amended. With the passage of new federal legislation entitled Americans with Disabilities Act - (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens. As a faculty member, I am required by law to provide **“reasonable accommodation”** to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with **informing faculty at the beginning of the semester and in providing authorized documentation through designated administrative channels.**

**Student Support Services Available:**

The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.