# *Course Syllabus*

**Course Information**

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|---|---|
| *Course Number/Section* | Physics 1301-501 |
| *Course Title* | College Physics I |
| *Term* | Fall 06 |
| *Days & Times* | TR 5:30 – 6:45 pm |

**Professor Contact Information**

| | |
|---|---|
| *Professor* | Mrs. B. Rasmussen |
| *Office Phone* | (972) 883-2842 |
| *Email Address* | bearas@utdallas.edu |
| *Office Location* | FO2.708A |
| *Office Hours* | TR 2-4 pm |

**Course Pre-requisites**

none

**Course Description**

An introductory course on the basic fundamentals of physics. This is an algebra based course. Students will learn about the following topics: mechanics, heat and thermodynamics.

**Student Learning Objectives/Outcomes**

Upon completing this course, students will:

1. Be able to compute the sum, scalar multiplication, and vector multiplication of vectors
2. Be able to analyze and explain the components of linear and rotational motion (displacement, velocity, acceleration) including graphs and their interrelationships
3. Be able to apply different forces and work force problems including the fundamental force of gravity and Newton's laws
4. Be able to classify the different forms of energy and use the conservation of energy to work problems
5. Be able to define impulse, momentum and collisions, center of mass and rigid body motion
6. Be able to give examples of rotational variables and the relationship between linear and rotational variables
7. Explain simple harmonic motion and waves including their properties.
8. Identify and describe fluids in motion and at rest.
9. Classify heat absorption and heat transfer mechanisms
10. Interpret the three laws of thermodynamics and classify the heat absorption and transfer mechanisms

**Required Textbooks and Materials**

College Physics, 8th edition, by Young & Geller

**Assignments & Academic Calendar**

| Date | Lecture | Reading Assignment |
|---|---|---|
| **8/17** | **L1 (Basic math)** | **1.1-5** |
| **8/22 T** | **L2 (Vectors)** | **1.7-8** |
| **8/24** | **L3 (Representations, 1D Motion)** | **2** |
| **8/29 T** | **L4 (2D Motion, Relative Motion)** | **3.1-3, 3.5** |

| | | |
|---|---|---|
| **8/31** | **L5 (Uniform Circular & Rotational Motion)** | **3.4, 6.5, 9.1-3** |
| **9/5 T** | **Exam 1 (Motion)** | |
| **9/7** | **L6 (Fields and Forces)** | **6.3-4, 4** |
| **9/12 T** | **L7 (More Forces)** | **5, 6.1-2** |
| **9/14** | **L8 (Center of mass, Rotational Inertia)** | **8.6, 9.4** |
| **9/19 T** | **L9 (Torque)** | **10.1-2** |
| **9/21** | **L10 (Equilibrium, Elasticity)** | **10.6, 11.1** |
| **9/26 T** | **Exam 2 (Forces)** | |
| **9/28** | **L11 (Work, Kinetic Energy, Power)** | **7.1-4, 7.8, 10.3** |
| **10/3 T** | **L12 (Potential Energy)** | **7.5** |
| **10/5** | **L13 (Conservation of Energy)** | **7.6-7** |
| **10/10 T** | **L14 (Impulse, Momentum and Angular Momentum)** | **8.1-2, 8.5, 10.4-5** |
| **10/12** | **L15 (Collisions)** | **8.2-4** |
| **10/17 T** | **L16 (Static Fluids)** | **13.1-3** |
| **10/19** | **L17 (Dynamic Fluids)** | **13.4-8** |
| **10/24 T** | **Exam 3 (Energy & Momentum)** | |
| **10/26** | **L18 (Simple harmonic motion)** | **11.2-6** |
| **10/31 T** | **L19 (Waves)** | **12.1-8** |
| **11/2** | **L20 (Sound)** | **12.9-14** |
| **11/7 T** | **L21 (Heat Absorption)** | **14.1-6** |
| **11/9** | **L22 (Heat Transfer)** | **14.7** |
| **11/14 T** | **L23 (1$^{st}$ law of thermodynamics, kinetic theory)** | **15** |
| **11/16** | **L24 (2$^{nd}$ law of thermodynamics, Engines)** | **16** |
| **11/21 T** | **Review for final** | |
| **11/23** | **Thanksgiving Holiday** | |
| **11/30** | **Final Exam @ 5 pm** | |

**Grading Policy**

Final grades are determined from a combination of the below items. **There will be no curving.**

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|---|---|---|---|
| Homework/Quizzes/Attendance | 30% | 90-100 | A (A+, A, A-) |
| 3 Exams | 45% | 80-89.9 | B |
| Final Exam | 25% | 70-79.9 | C |
| TOTAL | 100% | 60-69.9 | D |
| | | Below 60 | F |

**Course Policies**

*Exams*

**Valid picture ID must be on your desk during exams. These will be checked. Also calculators will be necessary** for all exams. **Graphing calculators and programmable calculators will not be allowed in the exams**. A little scientific calculator that has trig functions can be obtained very inexpensively and should be all that is used on the exams.

All exams will be **closed book**. **Formulas will be provided with the exam**. You must know the concepts and vocabulary for the exams. **Calculators will be necessary** for all exams. **Exams will cover both in-class examples and homework**. **Exams must be done in ink.**

The final exam will be **cumulative** and will be based on the exams, homework, and any new material. The final exam will have all rules of a regular exam still in effect.

During the exam periodic information will be given on the overhead like time updates and any clarifications necessary. A verbal warning of 10 minutes remaining will be given.

When time is up I will request everyone to put their pens down and pass their exams to the right and leave to the left.

Exams will consist of a conceptual section and a problem section. You will be responsible for all the reading assignments even if we do not discuss them in class. You must **show all your work especially equations** for the problems. No partial credit will be given on the conceptual section, but there will be for the problems based on the work shown including equations.

Makeup exams will only be offered once at the end of the semester and only in the case of documented, extenuating circumstances. You can only make up one exam; so don't miss more than one.

Any question about an exam grade must be addressed by the next class day after handing out of the exam to the class. After that all grades are final.

*Homework/Extra Credit*

Homework assignments due each Tuesday are given on the website http://www.masteringphysics.comJust go to the website and login as a student following the directions.

**Be aware my course ID for this class is MCPRASMUSSEN0003 and for your student ID use the first 3 letters of your first name + the first 3 letters of your last name. Make sure the name you give the website matches your name of record.**

This homework **will** be graded. No handwritten homework will be accepted.

An extra credit assignment may be assigned on the website.

*Late Work*

Late homework will be accepted **but with a penalty**. Do not get behind.

*Daily Quizzes/Class Attendance*

There will be short reading quizzes at the beginning of each class based on the reading assignment above. The reading assignment includes the relevant sections from the chapters given above and the lecture notes available on WebCT. They are graded and part of your final grade. Therefore you must **read the chapters before the lecture**. You can keep a physics notebook of facts and formulas that you can use on the quizzes.

You can also go to the course under WebCT and download part of the lectures. Be careful these lectures are not complete and will not be enough to pass the class. **Come to Class**.

*Classroom Citizenship*

Cell phones are not allowed in class. A cell phone going off in an exam results in a zero on that exam.

Do not disrupt the class by getting up and leaving during the class. If you need to leave for some reason, let me know and sit be the door to minimize the disruption.

**Student Conduct & Discipline**

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, *A to Z Guide*, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the *Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3*, and in Title V, Rules on Student Services and Activities of the university's *Handbook of Operating Procedures*. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and

administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

## Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

## Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

## Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

## Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's *Handbook of Operating Procedures.*

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

## Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the

course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of **F**.

## Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:

The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

## Religious Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

## Off-Campus Instruction and Course Activities

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address given below. Additional information is available from the office of the school dean. (http://www.utdallas.edu/Business Affairs/Travel_Risk_Activities.htm)

***These descriptions and timelines are subject to change at the discretion of the Professor.***