

## SYLLABUS FOR UNLV PHYSICS 180.1002

Welcome to *Physics for Scientists and Engineers I*, offered to you by UNLV's Physics Department for your enrichment and enjoyment. You will find below a summary of the goals and structure of Physics 180. **YOU ARE EXPECTED TO READ THIS SYLLABUS CAREFULLY, AND TO UNDERSTAND ITS CONTENTS.**

You are required to get your own WebCampus account and login at <http://webcampus.nevada.edu>. Web campus is only used to post exam grades.

This class has a course discussion forum ([www.piazza.com](http://www.piazza.com)). It's free and worth every penny! This allows you to attend **Virtual Office Hours**, using your laptop or smartphone. Students can help each other work physics problems. **Copies of the syllabus, calendar, and other handouts can be found at the piazza website.** Join using your Rebelmail email address ([joseph.harris@unlv.nevada.edu](mailto:joseph.harris@unlv.nevada.edu)). **Sign up at [piazza.com/unlv.nevada.edu/fall2016/phys1801002](http://piazza.com/unlv.nevada.edu/fall2016/phys1801002)**

**Textbook:** *Physics for Scientists and Engineers* by Randall D. Knight (Pearson Education, 3rd or 4th edition). **FEEL FREE TO BUY A USED TEXTBOOK.**

**Homework:** We use the online homework system **The Expert TA** ([www.theexpertta.com](http://www.theexpertta.com)) Go to the website and register <https://www.theexpertta.com/registration>. NOTE it's https not http. NOTE the double-e and double-t in the URL. Student class code is USY30NV-C42F5D-1F3 (this number identifies the class). The homework website is free for the first week or so, but later you have to pay \$27.50

Students use clickers (personal response systems). You have a choice: EITHER (1) purchase a physical clicker (looks like a TV remote control, available from clicker, bookstore, or ebay) OR (2) download an app for your smartphone (droid or iPhone). Download the REEF polling app, which is free to download but costs to activate.

### Student learning outcomes

- Students will achieve an understanding of the basic concepts of mechanics that is deep enough and accurate enough to analyze simple physical situations properly;
- Students will develop and enhance their technical skills and will be able to calculate accurately numerical solutions of problems in mechanics assigned in this course, encountered later in other technical courses, and faced in their future careers;
- Students will obtain effective levels of self-discipline, motivation, and confidence that will help develop their technical potential to its fullest.
- As the first course in the calculus-based physics sequence for scientists and engineers, Physics 180 will prepare students for a wide range of engineering and science courses.

## SYLLABUS FOR UNLV PHYSICS 180.1002

- Physics 180 will provide long-term benefits for our students who we hope will become future leaders in their professions, using the technical expertise required by twenty-first century civilization. *We want you to succeed and prosper in a multi-faceted life after UNLV.*

### Phenomena that commonly hinder a student from achieving these goals

- Insufficient development of good study skills in high school;
- Deleterious effects of past experiences in courses where simply “trying hard” received lots of points under the misguided philosophy that all answers have some validity;
- Difficulties in pacing oneself, and leaving assignments or studying to the last moment;
- Use of only cursory internal checks of individual understanding, within the context of group studying or reliance on others;
- Over-extended in studies, extra-curricular activities, employment, or social life.

### Some observations and aphorisms

- You have the innate intelligence and technical insight to do well in this course;
- Nature operates in a well-prescribed mathematical way, regardless of what you feel it should do;
- There is one, and only one, right answer to any physics problem assigned in this course;
- Others may guide you in the acquisition of knowledge and skill, but in the end you teach yourself as a privilege and a responsibility;
- Learn from mistakes, both specific and general, as well as successes;
- There is nothing wrong if you discover you're ignorant about something important, but there is something wrong if you *remain* ignorant;
- A person who stays on a particular path gets to where he or she is headed – make sure your destination is one you truly desire.

**Major Components of Course** - The course is organized to help and encourage you to gain mastery of the material. The major components that support this endeavor are:

- **Lectures** review important concepts and ideas in the reading assignment that are commonly misunderstood, missed, or not fully appreciated upon first reading. You are expected to have read the reading assignment for a given lecture *before* the lecture. Homework-like problems will be solved to illustrate physical principles and problem-solving techniques. **BRING YOUR CLICKER TO CLASS!**

- **Physics Learning Center** ([www.physics.unlv.edu/plc](http://www.physics.unlv.edu/plc)) is an open learning environment where you can solve problems as informal student groups, get help and insight in a relaxed setting, and prepare for homework, exercises, and exams. You can come at *any* time during its hours of operation (room and time listed at the website). At least one physics instructor will be there to help you.

## SYLLABUS FOR UNLV PHYSICS 180.1002

**Course schedules and assignments:** The calendar for lectures, tests, and holidays in this course can be found at the piazza website (<http://www.piazza.com>)

### Some Official UNLV Announcements

#### **Course Mail through WebCampus Statement**

You are expected to check your email account daily for this course to see if there are any emails from your instructor. This will be the instructor's official way of contacting you and for making announcements (including any corrections or changes). **Please do not contact the instructor by any other email system, or your email may be lost in the anti-spam filter.**

**Withdrawal from Course** - If you withdraw/drop the course after the first week of class, a grade of W will be entered on your transcript for it.

#### **Sources of Course Points**

You have the opportunity to earn points in this course in a variety of ways:

- **Hour Tests** given only on the test dates listed in the course *Calendar*. Examinations are closed book, but a formula sheet will be provided. Your own calculators are not allowed on examinations, but simple calculators will be provided. To get full credit in solving a problem, you *must* follow the procedure outlined in the handout *Expert Technique* distributed at the beginning of the course.
- **Final Exam** given on **Monday, December 12, from 10:10 AM - 12:10 PM, in BPB 106.**
- **In-class paper tests** of solving problems. To get full credit in solving a problem, you *must* follow the procedure outlined in the handout *Expert Technique* distributed at the beginning of the course.
- **Mini-Test**, given with the Final Exam.
- **Reading-Assignment Quizzes**, given in class (unannounced beforehand) on the reading material indicated in the Calendar for that lecture. These can be given during any lecture. You are responsible to read a chapter in the textbook completely before the chapter is first discussed in lecture (see course *Calendar*).
- **Home work Assignments** are assigned and completed online at theexpertta ([www.theexpertta.com](http://www.theexpertta.com)), where you will get immediate feedback.
- Participation points for participating in the Peer Instruction during class, **regardless of whether your answer is right or wrong.**

#### **Points are available in the following manner:**

Highest 3 scores of {three Hour Tests & Final, each 200 points}	=	600	(Tests in lecture on dates listed in course <i>Calendar</i> ) (Final given on date/time given in course <i>Calendar</i> )
End-material MiniTest	=	50	(given concurrently with the Final Exam)
Reading Quizzes	=	50	(lowest dropped, others scaled)
Homework (online)	=	150	(lowest dropped, others scaled)
Participation points (in class)	=	150	(answering ConcepTests)
Total	Possible	Points	
		1000	

## SYLLABUS FOR UNLV PHYSICS 180.1002

### Absolute Grading Scale

Grades are given for a variety of reasons, two of which are:

- They allow you to judge your performance on national and international scales;
- They are motivational tools that “encourage” you to develop your potential more fully.
- Retrievable points (!! ) by dropping lowest exam score.
- Absolute scale encourages cooperative study (not competitive study)
- If you need to understand the last one, just think about basketball coaches of successful teams
- or drill instructors in the volunteer army, who practice *caring sternness* with their “clients”.
- The teaching staff truly cares about your success, now and in the future.

Grades are earned based on the following grade cuts (points to three significant figures):

<b>A</b>	for 93% of total possible points	$\geq$	930 pts (Excellent performance)
<b>A-</b>	for 86% of total possible points	$\geq$	860
<b>B+</b>	for 79% of total possible points	$\geq$	790
<b>B</b>	for 72% of total possible points	$\geq$	720 (Very good performance)
<b>B-</b>	for 65% of total possible points	$\geq$	650
<b>C+</b>	for 58% of total possible points	$\geq$	580
<b>C</b>	for 51% of total possible points	$\geq$	510 (Good performance)
<b>C-</b>	for 44% of total possible points	$\geq$	440
<b>D+</b>	for 37% of total possible points	$\geq$	370
<b>D</b>	for 32% of total possible points	$\geq$	320 (Underperformance)
<b>D-</b>	for 25% of total possible points	$\geq$	250
<b>F</b>	for less than 25% of possible pts	$<$	250 (Re-examine academic attitudes & goals)

### Some Important Course Rules

- **If you miss an hour test for an officially excused reason (major religious holiday, documented major illness or family emergency, or official university business),** your make-up test score will consist of the appropriately scaled portion of the Final Exam that covers the material of the hour exam you missed.
- **If you miss any assignment at the time it is due for any reason, a zero will be recorded for that assignment.** However, the drop policies outlined above for non-exam assignments cover such “bad day” situations *once* for each type of assignment without stress or penalty to you. However, these are not offered to compensate for “low performance” days, which is NOT beyond your control.
- **Requests for re-grades and gradesheet corrections must be submitted no later than the next class meeting after the assignments general return in class.** A grader will sometimes miss or misread something you have written down correctly but takes off points for your not having it. You may request a re-grade in these circumstances. Carefully think through what you actually wrote,! not what you would have like to have said or meant. If you still believe it warrants regrading, compose a detailed written statement on a separate sheet of paper explaining why what you wrote was correct. Attach the sheet to the front of the full assignment and submit it to your instructor at the next class

## SYLLABUS FOR UNLV PHYSICS 180.1002

- meeting after it returned in class. It will then be put into the re-grade bin for the course. *If you make a single mistake in what you have written, no change will be made in your score for the entire assignment.* There are also some rare instances in which a score is not entered correctly in the electronic record, which your instructor can also correct.
- **Academic dishonesty, insufficient integrity, or disruptive behavior will not be tolerated** (see [www.unlv.edu/studentlife/judicial/student.html](http://www.unlv.edu/studentlife/judicial/student.html)).

### Learning Assistance

The faculty member associated with this course has had much experience with teaching engineering physics. The format of the course is a result of that experience, with additional elements introduced to improve its constructive impact. There is nothing wrong with asking for help and assistance. In fact, it is foolish not to.

*Utilize the Physics Learning Center.*

*Hours are listed at (<http://www.physics.unlv.edu/plc>).*

### Statements of University Policy

**Academic Misconduct** — Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the Student Academic Misconduct Policy (approved December 9, 2005) located at: <https://www.unlv.edu/studentconduct/student-conduct>.

**Copyright** — The University requires all members of the University Community to familiarize themselves **with** and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

**Disability Resource Center (DRC)** — The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you

## SYLLABUS FOR UNLV PHYSICS 180.1002

provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

**Religious Holidays Policy** — Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

**Transparency in Learning and Teaching** — The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information:

<https://www.unlv.edu/provost/teachingandlearning>

<https://www.unlv.edu/provost/transparency>

**Incomplete Grades** — The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

**Tutoring and Coaching** — The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call 702-895- 3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

**UNLV Writing Center** — One-on- one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>.

**Rebelmail** — By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been

## SYLLABUS FOR UNLV PHYSICS 180.1002

admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. **Emailing within WebCampus is acceptable.**

**Library Resources** — Students may consult with a librarian on research needs. For this class, the subject librarian is [https://www.library.unlv.edu/contact/librarians\\_by\\_subject](https://www.library.unlv.edu/contact/librarians_by_subject). UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu/>.

**Final Examinations** — The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: <http://www.unlv.edu/registrar/calendars>.

SAMPLE