Physics 2425

University Physics I

Dr. L. Estep

Faculty Information

Office Hours	
Campus Office Hours:	TBD
Online Office Hours:	TBD

Name: Dr. Lee Estep

E-Mail: lestep@odessa.edu

Phone: 432 - 335 - 6321

Office: Wood Bldg. Rm 208a

About Your Instructor

I began teaching at OC in the Fall of 2011, after a lengthy professional career with the US government and commercial aerospace firms. I also taught in earlier years at Texas State University and Sul Ross University. Here at OC, I teach College Physics I & II, University Physics I & II, Astronomy I & II, Engineering Statics, and Engineering Dynamics. I both enjoy teaching these subjects and interacting with my students.

Preferred Method of Communication:

The preferred method of communication is by email: lestep@odessa.edu. However, phone calls are good too (432-335-6321).

Expectations for Engagement for Instructor:

As an instructor, I understand the importance of clear, timely communication with my students. In order to maintain sufficient communication, I will

- provide my contact information at the beginning of the syllabus;
- respond to all messages within 24 hours if received Monday through Thursday, and within 48 hours if received Friday through Sunday; and,
- notify students of any extended times that I will be unavailable and provide them with alternative contact information (for me or for my supervisor) in case of during the time I am unavailable.

As an instructor, I understand that my students will work to the best of their abilities to fulfill the course requirements. In order to help them in this area, I will

- provide clear information about grading policies and assignment requirements in the course syllabus, and
- communicate any changes to assignments and/or to the course calendar to students as quickly as possible.

As an instructor, I understand that I need to provide regular, timely feedback to students about their performance in the course. To keep students informed about their progress, I will

- post grades for discussion postings within one week of the discussion thread closing.
- provide grades for major assignments within 2 weeks of the due date or at least 3 days before the next major assignment is due, whichever comes first.

Textbook Information and Required Hardware Software

Textbook(s):

smartPhysics – Classical Mechanics, by G. Gladding, M. Selen, and T. Stelzer; W.H. Freeman, N.Y. 2012
Also, a smartPhysics access card is required to engage online content at the smartPhysics website.

Hardware:

Computer access to the internet is needed to access OC Blackboard (BB), the student will access the online OC BB content for course work files, discussion board, and announcements. Further, a link is present that allows students to access the smartPhysics site via the course BB. For class and lab, a scientific calculator is required.

Software:

Beyond standard MS office or its equivalent, there is no specialized software needed.

Key Websites:

The smartPhysics webpage is found at www. SmartPhysics.com
Also, Mechanical Universe videos are found at www.learner.org/resources/series42.html

Information about the Course

Course Description

A study of classical mechanics, and thermodynamics for students aspiring to professional academic degrees in the fields of physical science, various engineering specialties, and mathematics. The student will be involved in reading information or problems and using critical thinking skills and mathematics to organize the information or to arrive at an answer; also

requires student writing skills in order to communicate the information acquired in a written format. Lab fee required. (ICOs1, 2, 3, 4)

Course Prerequisites:

Prerequisite: MATH 2413

Course Topical Outline:

I. Linear Dynamics
II. Conservation Laws
III. Rotational Dynamics
IV. Waves and Harmonic Motion

Grading

Type of Assignment	*Percentage/Points*	*Learning Objective*
Class Participation	5%	Use of Discussion Board and in Class Discussion of Key Concepts
Homework Online/Text	25%	Apply Concepts to Problems sets to build understanding
Laboratory	20%	Hands on experience of major Physical Concepts
Research Report	5%	Produce original written report on a personage or concept studied during the semester
Exams	45%	Assessment
	100%	**TOTAL**

Grading Scale:

A	**100 - 90**
B	**89 - 80**
C	**79 - 70**
D	**69 - 60**
F	**59 - 0**

Grading Policy:

Please understand that this is a required course for several Science and Engineering programs in order to prepare you to go further with your professional studies. Quality work and active participation is expected and not to be negotiated. As a general policy, grades will be taken in class. Any written assignments or tests will be graded outside of class. You can expect feedback on assignments within a week's time.

Student Course Participation

As a student, I understand that I am responsible for keeping up with the course. To help with this, I will

- identify alternative computer and internet access in case my primary computer crashes or my internet service is unavailable;
- recognize that the college provides free wi-fi and computer labs during regular campus hours to help me with accessing my course; and,
- understand that my instructor does not have to accept my technical issues as a legitimate reason for late or missing work if my equipment or service is unreliable.

As a student, I understand that it is my responsibility to communicate quickly with the instructor any issue or emergency that will impact my involvement with or performance in the class. This includes, but is not limited to

- getting "kicked off" of the system during tests or quizzes;
- having trouble submitting assignments; and
- dealing with a traumatic personal event.

As a student, I understand that it is my responsibility to understand course material and requirements and to keep up with the course calendar. While my instructor is available for help and clarification, I will

- seek out help from my instructor and/or from tutors;
- ask questions if I don't understand; and
- access my course several times during the week to keep up with assignments and announcements.

As a student, I understand that I will have the opportunity to provide feedback on my experience in this course through an end-of-course Student Evaluation of Instruction (SEI).

Course Policies

Disclaimer

This syllabus is tentative and subject to change in any part at the discretion of the instructor. Any changes will be in accordance with Odessa College policies. Students will be notified of changes, if any, in timely manner.

Original Effort

The work submitted for this course must be original work prepared by the student enrolled in this course. Efforts will be recognized and graded in terms of individual participation and in terms of ability to collaborate with other students in this course.

Digital Protocol

Cell phones must be placed on either *vibrate* or *silent* mode and are to be accessed in emergency cases only. The use of laptops or any other digital device is permitted in order to facilitate note-taking relative to instruction. Any written assignments will be submitted electronically on Blackboard. **The electronic recording of the time on Blackboard will be considered the time of assignment submission. Take necessary steps to ensure that your assignments are submitted on "Blackboard" time.** Back-up and/or additional copies of all assignments submitted is encouraged. **Computers/printers are available to OC students in the LRC (301-303); therefore, not having access to a computer due to technical issues (crash; corrupted files) will not be considered as an acceptable reason for not completing assignments.** If there is a loss of server connection with Odessa College due to maintenance, then an email will be sent to student with pertinent information and status reports. Assignments submitted electronically need to be **WORD documents (doc or docx).**

Attendance Policy

Students are expected to attend class regularly. Roll will be taken in class.

Grade Inquiry Policy

It is the responsibility of the student to keep track of assignment submissions and grades. At any point, you are welcome to meet with the instructor to discuss your academic progress. Contact the instructor to schedule an appointment.

General Course Requirements

1. Attend class and participate.
2. Contribute and cooperate with civility.
3. **Please submit assignments on time. Some late work will be considered only with valid excuse for the absence and if turned in for grading not later than 1 week from the due date. Late work will be graded at 50% credit.**

Incomplete Policy

An 'Incomplete' grade may be given only if:

1. The student has passed all completed work
2. If he/she has completed a minimum of 75% of the required coursework. A grade of an "I" will only be assigned when the conditions for completions have been discussed and agreed upon by the instructor and the student.
3. An Incomplete form is submitted

Course Schedule -- ***(Tentative and Subject to Change)***

Topics	Units	Labs
Introduction Linear Dynamics Newton's Law	1 - 6	X 1 2 Exam 1 3
Conservation Laws Work and Energy Impulse & Momentum Rotary Dynamics Torque, Moment of Inertia	7 - 13	4 5 Exam 2 6 8
Oscillatory Motion Waves Harmonic Motion	14 - 23	7 Exam 3 9 10 X
Final Exams		Exam 4

General Education – Core Objectives (COs)

(Note to course instructor: Delete this entire section if this course is not part of the Core Curriculum or General Education courses.)

Description of Core Objectives (CO's)

Given the rapid evolution of necessary knowledge and skills and the need to take into account global, national, state, and local cultures, the core curriculum must ensure that students will develop the essential knowledge and skills they need to be successful in college, in a career, in their communities, and in life. Therefore, with

the assistance of the Undergraduate Education Advisory Committee, the Coordinating Board has approved guidelines for a core curriculum for all undergraduate students in Texas.

Through the application and assessment of objectives within the institution's core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning. Appropriate Odessa College faculty periodically evaluates all of the courses listed in the descriptions on the following pages of this catalog and keys them to Odessa College's Institutional Core Objectives (COs), as defined by the Texas Higher Education Coordinating Board (THECB). (Source: *Odessa College Catalog of Courses)*

Odessa College's Core Objectives (COs):

1. *Critical Thinking Skills* - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. *Communication Skills* - to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. *Empirical and Quantitative Skills* - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. *Teamwork* - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
5. *Personal Responsibility* - to include the ability to connect choices, actions and consequences to ethical decision-making
6. *Social Responsibility* - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

Discipline Core Statement

Physics

Each course included in the Core Curriculum for Physical Sciences was selected based upon its ability to satisfy the requirements of this Foundational Component Area. Lab courses were selected to provide students with options that are likely to transfer in cases where the student does not complete the Core.

● = Required Core Objectives

Foundational Component Area	SCH	CT	COM	EQS	TW	SR	PR
University Physics I	**4**						
Courses in the Physical Sciences focus on describing, explaining, and predicting natural phenomena using the scientific method. These courses also involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.							

Student Learning Outcomes (SLOs)

Student Learning Outcome(s)	Core Objectives (CO's)
Upon program completion, students will be able to apply some of the techniques used by scientists in acquiring such an understanding of basic scientific concepts	*Critical Thinking Skills* - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
Upon program completion, students will be able to communicate to others, orally or in writing, a basic knowledge of physical principles.	*Communication Skills* - to include effective development, interpretation and expression of ideas through written, oral and visual communication
Upon program completion, students will be able to use appropriate formulae to compute answers to problems using data provided them.	*Empirical and Quantitative Skills* - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
Upon program completion, students will have experienced teamwork in laboratory and group study sessions for homework and exams.	*Teamwork* - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

Program-Level Student Learning Outcomes (SLOs)

Program-Level Student Learning Outcome(s)	Course Learning Outcomes
Upon successful completion of the program, students will be able to apply basic physical principles to a variety of physical occurrences that include both mechanical and	Students will be able to: (1) Setting up the problem in terms of

wavelike related events.	physically conceptualizing basic principles (2) Application of relevant equations and use of supplied data to solve a given problem (3) Ability to state verbally what the solution of the problem means physically.

Odessa College Policies

Tuition Discounts

The ***"First Course is Free"*** discount waives standard tuition and fees for the first 3 credit hours taken at Odessa College. The discount applies to high school graduates taking their first class at Odessa College as well as transfer students taking their first class at Odessa College.

The ***"Academic Progress Discount"*** provides a 10% tuition discount upon completion of 30 credit hours unt il reaching 45 credit hours. It provides a 20% discount upon completion of 45 credit hours until reaching 60 credit hours. Student must maintain a 2.0 GPA to remain eligible for the discount.

Academic Policies

Note that the OC Student Handbook states (page 32) that "[i]n cases of academic dishonesty, the instructor has the authority to impose appropriate scholastic penalties. Complaints or appeals of disciplinary sanctions may be filed in accordance with the college due process procedure. Copies of the college due process procedure are available in the office of The Director of Student Life (CC104)."

For more information on your rights and responsibilities as a student at Odessa College, please refer to the following: *The 411 of OC: Student Handbook; Student Rights & Responsibilities http://www.odessa.edu/dept/studenthandbook/handbook.pdf*

Scholastic Dishonesty

Scholastic dishonesty shall constitute a violation of these rules and regulations and is punishable as prescribed by board policies. Scholastic dishonesty shall include, but not be limited to, cheating on a test, plagiarism and collusion.

"Cheating on a test" shall include:

- Copying from another student's test paper
- Using test materials not authorized by the person administering the test.
- Collaborating with or seeking aid from another student during a test without permission from the test administrator.
- Knowingly using, buying, selling, stealing or soliciting, in whole or in part, the contents of an unadministered test.
- The unauthorized transporting or removal, in whole or in part, of the contents of the unadministered test.
- Substituting for another student, or permitting another student to substitute for one's self, to take a test.
- Bribing another person to obtain an unadministered test or information about an unadministered test.
- "Plagiarism" shall be defined as the appropriating, buying, receiving as a gift, or obtaining by any means another's work and the unacknowledged submission or incorporation of it in one's own written work.
- "Collusion" shall be defined as the unauthorized collaboration with another person in preparing written work for fulfillment of course requirements. (Source: *Odessa College Student Handbook)*

Special Populations/Disability Services/Learning Assistance

Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

Odessa College affirms that it will provide access to programs, services and activities to qualified individuals with known disabilities as required by **Section 504 of the Rehabilitation Act of 1973 and Title II of the Americans with Disabilities Act of 1990 (ADA)**, unless doing so poses an undue hardship or fundamentally alters the nature of the program or activity Disabilities may include hearing, mobility or visual impairments as well as hidden disabilities such as chronic medical conditions (arthritis, cancer, diabetes, heart disease, kidney disorders, lupus, seizure disorders, etc.), learning disabilities or psychiatric or emotional disabilities. A student who comes to Odessa College with diagnosed disabilities which may interfere with learning may receive accommodations when the student requests them and submits proper documentation of the diagnosis. A Request for Accommodations form and guidelines for beginning the request process are available in the OC Help Center or on the Odessa College web site at http://www.odessa.edu/dept/counseling/disabilities/index.htm. The college strives to provide a complete and appropriate range of services for students with disabilities such as assistance with testing, registration, information on adaptive and assistive equipment, tutoring, assistance with access and accommodations for the classroom where appropriate. For information regarding services, students with disabilities should contact

the Office of Disability Services in the OC Help Center located in Room 204 of the Student Union Building or call 432-335-6433. (Source: *Odessa College Catalog of Courses 2012-2013, page 52)*

Dropping a Course or Withdrawing from College

Students wishing to drop a non-developmental course may do so online using WebAdvisor, at the Wrangler Express, or Registrar's Office. A student wishing to drop a developmental course or withdraw from college should obtain a drop or withdrawal form from the Wrangler Express or the Registrar's Office. Students are encouraged to consult with instructors prior to dropping a class. Students may not completely withdraw from the college by use of the Web. Students must drop a class or withdraw from college before the official withdrawal date stated in the class schedule. Students who are part of the Armed Forces Reserves may withdraw with a full refund if the withdrawal is due to their being ordered into active duty. A copy of the student's orders must be presented to the Registrar's Office at the time of the withdrawal. For details, please contact the Office of the Registrar. **No longer attending class does not automatically constitute withdrawal from that class, nor does a student's notification to an instructor that the student wishes to be dropped. Failure of a student to complete the drop/withdrawal process will result in a grade of "F."** (Source: *Odessa College Catalog of Courses 2012-2013, page 36)*

Student Support Services and Technical Support

Blackboard Support

I can't log into my Blackboard Course, who do I contact?
Contact the Student Success Center: 432-335-6673 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm. The SSC can provide you with your Blackboard login name. If you are not sure what your password is, they can reset your password.

I'm having a problem in my Blackboard Course, who do I contact?
For any problem that you have in your online course, always contact your Instructor first. Refer to the Instructor's Contact Information area of the Syllabus for their preferred method of contact and the expected response time.

Additional Blackboard Help Resources:

Service	Assistance Provided	Available
Blackboard Help for Students	Website with a searchable list of topics on how to navigate and use Blackboard for online courses.	Online **Click here.**
Blackboard On Demand Learning Center for Students	This website provides an extensive list of short tutorial videos for student activities performed in Blackboard.	Online **Click here.**
Blackboard Collaborate: First Time Users	If you have never used Blackboard Collaborate before, this website provides a system requirements check, configuration instructions, and training and resources area.	Online **Click here.**
Blackboard Collaborate:	This website provides essential information for Participants of	Online

Essentials for Participants	Collaborate sessions. Any Collaborate user, whether first-time or experienced, would benefit from reviewing the information here.	**Click here.**

Student E-mail Support

How do I set up, access, or update my Odessa College Student E-mail account? Go to this website and follow the directions on the page: http://www.odessa.edu/gmail/.

I can't access my student email! I forgot my password!
Contact the Student Success Center: 432-335-6673 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm. They can provide you with assistance in accessing your student email (created by OC) and can also assist with resetting your student email password. Make sure to have your student ID number available!

Your Blackboard login name is associated with your OC created student email account. All Correspondence for this course will be submitted using your Odessa College student email address.

Support for Students with Disabilities

How do I contact the Office of Special Populations?

Main Number	432-335-6861
Campus Location	SUB 204N in the Student Union Building
Email	Becky Rivera-Weiss - brivera@odessa.edu
Website	To find out more about services provided by the Special Populations office, please visit: http://www.odessa.edu/dept/counseling/disabilities/index.htm

Learning Resources Center (LRC; Library)

How do I contact the Learning Resource Center?

Main Number	432-335-6640
FAQ Service	LibAnswers: http://libanswers.odessa.edu
Contact a Specific OC Librarian	Pat Quintero at 432/335-6350 or pquintero@odessa.edu Donna Clark at 432/335-6645 or dclark@odessa.edu Carolyn Petersen at 432/335-6641 or cpetersen@odessa.edu
LRC Services and Guidelines Website	https://www.odessa.edu/dept/library/services/index.htm

Equipment and Services Provided:
The Murry H. Fly Learning Resources Center (LRC) supports the college's curriculum resulting in a primary emphasis on each student's individual study and research needs. The faculty and staff work with the LRC's Technical Services and Public Services Departments in choosing materials to support all college programs. More than 59,000 books, 50,000 electronic books, 350 current periodicals, 6,700 media holdings, eight newspapers, and 60 databases are available to enhance the educational process.

Equipment/Services Available	Used For	Available
Books, videos, CDs	Research	On Campus and Online
Specialized databases not available online for free	Research	On Campus and Online
Magazines, newspapers, & scholarly journals	Research	On Campus and Online
Computers	Research & word processing	On Campus
Selected textbooks for short-term use	Course work	On Campus
Trained staff	Answer "where do I find…?"	On Campus and Online
Tutorials	Tips for research strategies	On Campus and Online
Photocopiers, VHS/DVD players, FAX service	For course work	On Campus
Quiet study areas	For course work	On Campus

Student Success Center (SSC) / AVID Center

How do I contact the Student Success Center?
Appointments are preferred, but walk-ins will be served as soon as possible.

Main Number	432-335-6673
Campus Location	1st floor of the Library
Website with Additional Help and Information	http://www.odessa.edu/dept/ssc/
Live Online Assistance / Chat	Click Here *(If no one is currently available, please put your email and question(s) in the appropriate areas of the form and hit 'send.' Your question(s) will be addressed as soon as an SSC staff member becomes available.)*

Equipment and Services Provided:
The purpose of the Odessa College Student Success Center is to provide assistance to students in meeting

their academic and career goals. The SSC strives to continually provide new and updated resources that will empower all Odessa College students to succeed at OC and beyond.

Equipment/Services Available	Used For	Available
Tutoring by CRLA & Avid trained tutors	Understanding course work and motivation	On Campus and Online Click here for more information.
Student Information Seminars (SIS)	Demo email, Blackboard and SSC resources	On Campus and Online Click here for more information.
Study Skills	Tools needed to succeed	On Campus and Online Click here for more information.
Basic Technology	To navigate classes, email, etc.	On Campus and Online
Plato Web	Practice for TEAS test and basic math, science, etc.	On Campus and Online Click here for more information.
Project T.I.E.	Practice for GED/COMPASS	On Campus and Online Click here for more information.
Student Orientation/Tour	Show individual students where their classes will be. SIS presentation	On Campus
M.O.R.E. Mentoring Program	Networking, tips to navigate college life successfully	On Campus Click here for more information.
Smart thinking	Online tutoring service. Connect with an e-structor and interact with a live tutor.	Online Click here for more information.

Veterans Support

How do I contact the office for Veteran's Outreach?

Main Number	432-335-6833
Campus Location	204M (Help Center) in the Student Union Building

Email	Gloria Rangel - grangel@odessa.edu
Website	To find out more about services provided by the Veteran's Outreach office, please visit: http://www.odessa.edu/dept/counseling/veterans/index.htm