### COURSE DESCRIPTION
This course will present a broad survey of the principles of wave motion, sound, light, and mechanics with a minimum of mathematics. This course will illustrate the logic and reasoning upon which these principles are based. A great deal of emphasis will be placed on the understanding of these concepts. May not be used to meet graduation requirements by students majoring in the College of Sciences and Mathematics (except for students majoring in computer information systems or information technology). We hope that this course will make you aware of the fantastic natural phenomena that are occurring around you everyday. We will rediscover things that you have taken for granted and have not really paid much attention to since you were an inquisitive child.

You are expected to be prepared for each lecture period by reading the material to be covered in lecture prior to attending class. This will help you to better comprehend the material given during the lecture. You are encouraged to ask questions. If you are confused about the material, you can be sure that there are others with the same question. Do not be afraid to ask, I am always happy to clarify anything that is unclear and your classmates will thank you.

### COURSE CONTENT
The numbers at the bottom of the calendar cells refer to the chapters in the text. They are:

- **I. MECHANICS**
  - 2. Newton’s First Law of Motion: Inertia
  - 3. Linear Motion
  - 4. Newton’s Second Law of Motion: Force and Acceleration
  - 5. Newton’s Third Law of Motion: Action and Reaction
  - 6. Momentum
  - 7. Energy
  - 8. Rotational Motion
  - 9. Gravity
  - 10. Projectile and Satellite Motion

- **II. LIGHT**
  - 26. Properties of Light
  - 27. Color
  - 28. Reflection and Refraction
  - 29. Light Waves
  - 30. Light Emission

- **III. GENERAL EDUCATION CORE CURRICULUM**
  - By enrolling in Physics 1305 you are also enrolling in a Core Curriculum Course that fulfills the critical thinking skills, communication skills, teamwork and empirical and quantitative skills requirement. The chart below indicates: (a) The core objectives that are required to be taught in this course per the Texas Higher Education Coordinating Board (THECB), (b) How the required core objectives will be addressed.
GENERAL EDUCATION CORE CURRICULUM: The Texas Higher Education Coordinating Board has identified six core learning objectives: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives. The chart below indicates: (a) The core objectives that are required to be taught in this course per the Texas Higher Education Coordinating Board (THECB), (b) How the required core objectives will be addressed.

CORE CURRICULUM OBJECTIVE TABLE

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>How the Core Objective Willbe Addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Skills</td>
<td>To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.</td>
<td>D2L quizzes and four major examinations</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>To include effective development, interpretation and expression of ideas through written, oral, and visual communication.</td>
<td>Writing reports in the PHY 1105 corequisite laboratory</td>
</tr>
<tr>
<td>Empirical and Quantitative Skills</td>
<td>To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.</td>
<td>Recording and analysing data taken during experiments in the PHY 1105 corequisite laboratory</td>
</tr>
<tr>
<td>Teamwork</td>
<td>To include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.</td>
<td>Working with and interacting with lab partners in the PHY 1105 corequisite laboratory</td>
</tr>
</tbody>
</table>

EXAMS (125): There will be three major exams this semester in addition to the final exam. Each of these exams will count a maximum of 125 points each toward the point total. All of the exams will be taken on SCANTRON™ FORM NO. 882-E. These forms are available at the bookstore, and you are expected to bring your own to the exam. You will also need a #2 or softer pencil and a very good eraser. These exams will be given on the dates indicated on the calendar and will emphasize the material covered since the last test. Students will have three days after an exam is returned to discuss any possible errors made in the grading, thereafter no changes will be made in the grade. The student is expected to be present for all exams.

POP QUIZZES (5): From time to time, at the discretion of your instructor, pop quizzes will be given. These quizzes will count up to 5 points each as a bonus in calculating your final point total. To make use of them you must be present.

D2L QUIZZES (100): Before each lecture you are to complete the short quiz on D2L. The quiz will be a reading quiz over the material to be covered in that day’s lecture and / or material covered in the previous lecture. This quiz is open-book and open-notes. This D2L quiz will count a maximum of 100 points toward your point total.

FINAL EXAM (125): The final exam will be comprehensive with a large part of the exam over the material covered since the third exam and will count a maximum of 125 points toward the final grade. This exam will be given Thursday, December 14, 2023, from 8:00 a.m.-10:00 a.m.

LAB GRADE (200): The laboratory grade will count a maximum of 200 points toward the final grade (25% of the final grade). 100 points will come from the experiments and 100 points from the laboratory final exam given at the time of the lecture final exam, Thursday, December 14, 2023, from 8:00 a.m.-10:00 a.m. The lecture and lab grades will be combined into a single grade and the same grade will be recorded for the lecture and the lab.

FINAL GRADE (800): The maximum total points possible will be 800 and a final grade will be assigned according to the following:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>720-800</td>
</tr>
<tr>
<td>B</td>
<td>640-719</td>
</tr>
<tr>
<td>C</td>
<td>560-639</td>
</tr>
<tr>
<td>D</td>
<td>480-559</td>
</tr>
<tr>
<td>F</td>
<td>000-479</td>
</tr>
</tbody>
</table>

CREDIT HOUR JUSTIFICATION: Meets 3 hrs/wk for 15 weeks, and also meets for a 2-hour final examination. The lecture and lab combine for 6 hours of contact time each week. The work outside of class for the combined courses averages more than 12 hours.

ATTENDANCE: You are expected to be present each class day. If you miss three or more class days your grade will be reduced by one letter grade. If you come in late, please take the first available seat quietly. When you arrive late, it is very distracting to me and the other students. If you are habitually late, you will miss a large block of material. This will negatively affect you at test time and when I consider your class participation.

If you become ill or have a restroom emergency during the lecture, please excuse yourself quietly. If you need to study for another class, please excuse yourself quietly. If you need to study for another class, please excuse yourself quietly. If you need to study for another class, please excuse yourself quietly. If you need to study for another class, please excuse yourself quietly. If you need to study for another class, please excuse yourself quietly. If you need to study for another class, please excuse yourself quietly. If you need to study for another class, please excuse yourself quietly.

TAKE RESPONSIBILITY FOR YOUR SELF AND YOUR EDUCATION:

- Show up to class on time (awake and substance-free) ready to listen, participate, and learn.
- Buy the book and other required materials and bring them to class.
- Perform all readings and assignments and homework on time.
- Do the homework yourself.
- Ask questions in class.
- Don’t text, browse on your computer or perform other activities which might distract other students.
- Read the syllabus and ensure that you understand what is expected of you.
- Set aside sufficient time to study, include extra time for exams. You can expect to spend three hours outside of class preparing for every hour in class.
- Inform your professor immediately if an emergency prevents the completion of an exam, paper, or other assignment as scheduled.
- Be honest and ethical in the completion of class work, do not plagiarize or participate in other forms of academic dishonesty.

PROGRAM LEARNING OUTCOMES: This is a general education core curriculum course and no specific program learning outcomes for the physics program are addressed in this course.

STUDENT LEARNING OUTCOMES:

By the end of the course, successful students will be able to:

- Recognize that the world in which they exist can be described by a few natural laws.
- Demonstrate a basic familiarity with concepts of waves, sound, light, and mechanics.
- Describe natural phenomena in a conceptual manner.

ACADEMIC INTEGRITY: Academic Integrity is the responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways, including instruction on the components of academic honesty and abiding by university policy on penalties for cheating and plagiarism.

DEFINITION OF ACADEMIC DISHONESTY: Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are:
(1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/student-academic-dishonesty-4.1.pdf.

WITHHELD GRADES SEMESTER GRADES: Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

STUDENTS WITH DISABILITIES: To obtain disability-related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services promptly may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

STUDENT WELLNESS AND WELL-BEING: SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources: The Dean of Students Office (Rusk Building, 3rd floor lobby) www.sfasu.edu/deanofstudents 936.468.7249 dos@sfasu.edu

SFA Human Services Counseling Clinic Human Services, Room 202 www.sfasu.edu/humanservices/139.asp 936.468.1041

The Health and Wellness Hub “The Hub” Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

HEALTH SERVICES

• Counseling Services: Student Outreach and Support
  • Food Pantry
  • Wellness Coaching: Alcohol and Other Drug Education
  www.sfasu.edu/ethehub 936.468.4008 thehub@sfasu.edu

• Crisis Resources:
  Burke 24-hour crisis line: 1.800.392.8343
  National Suicide Crisis Prevention: 9-8-8
  Suicide Prevention Lifeline: 1.800.273.TALK (8255)
  johCrisis Text Line: Text HELLO to 741-741