# Physics 2326 Sec. 01

Technical Physics II (PHYS 2325)

**DEPARTMENT OF PHYSICS ASTRONOMY AND ENGINEERING**

<table>
<thead>
<tr>
<th>Week</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AUG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>V1 C16</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>V2 C5</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11 X1</td>
<td>V2 C7</td>
</tr>
<tr>
<td><strong>SEPT</strong></td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>V2 C7</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>V2 C8</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>V2C 9-10</td>
<td>V2C 9-10</td>
<td>V2C 9-10</td>
<td>V2C 9-10</td>
<td>V2C 9-10</td>
<td>V2C 9-10</td>
</tr>
<tr>
<td><strong>OCT</strong></td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9 X2</td>
</tr>
<tr>
<td>V2C 11</td>
<td>12</td>
<td>13</td>
<td>14 1/2</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>V2C 12</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>V2 C13</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30 X3</td>
</tr>
<tr>
<td>V2C 14</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>V2C 15</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>V2 C16</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20 X4</td>
</tr>
<tr>
<td>V3 C2</td>
<td><strong>DEC</strong></td>
<td><strong>30</strong></td>
<td>V3 C3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>V3 C3-4</td>
<td>3</td>
<td>4</td>
<td>V3 C4</td>
<td><strong>FINAL</strong></td>
</tr>
</tbody>
</table>
| 8 | V3 C2 | 9 | 10 | 11 | **½ Oct 14, 2020: Midterm**
| **ó Oct 21, 2020: Last day to drop without WP or WF** | **Nov 30, 2020: Last day to withdraw** | **Dec 7, 2020: Final Exam 10:45 a.m. - 1:15 p.m.** |

**MEETING TIME:** 11:00 am - 11:50 am MWF and 12:00p.m.-12:50p.m. Friday

**MEETING PLACE:** 208 Cole STEM Bldg.

**INSTRUCTOR:** Walter L. Trikosko

**CONTACT:** wtrikosko@sfasu.edu tel: 468-3001

**OFFICE:** 207-C Cole STEM Bldg.

**STUDENT HOURS:** 9:00-10:00 a.m. MWF and 2:00-3:00 p.m. TWR or by appointment.

**TEXT:** OPENSTAX University Physics Vols. 1, 2 and 3

**ALSO:** Expert TA homework website.

**PREREQUISITES:** (Course or Test: PHY 241 #MTH233

**COREQUISITES:** PHY 242 L

**UNIVERSITY COVID-19 MASK POLICY:** Masks (cloth face coverings) must be worn over the nose and mouth at all times in this class and appropriate physical distancing must be observed. Students not wearing a mask and/or not observing appropriate physical distancing will be asked to leave the class. All incidents of not wearing a mask and/or not observing appropriate physical distancing will be reported to the Office of Student Rights and Responsibilities. Students who are reported for multiple infractions of not wearing a mask and/or not observing appropriate physical distancing may be subject to disciplinary actions. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/social-distancing.html

**COURSE DESCRIPTION:** Presentation of the principles of sound, electricity, magnetism and optics. Lecture and laboratory grades are combined averages more than 12 hours. Lecture and laboratory grades are combined courses averages more than 12 hours. Lecture and laboratory grades are computed into one grade and the same grade is recorded for both lecture and lab.

**PROGRAM LEARNING OUTCOMES:** The program learning outcomes addressed in this course are
1. critical thinking skills and the empirical
2. quantitative skills activity
and these will be accessed in the laboratory component of this course.

**CREDIT HOUR JUSTIFICATION:** Meets 3 hrs/wk for 14 weeks, and also meets for a 2-hour final examination. This is a problem oriented class and lab with homework problems. 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.

Suggestions for making a good grade:
- reading the book
- working homework problems
- rewriting and annotating lecture notes
- studying for exams
- reading the lab manual
- to prepare for the lab experiments done each week
- writing the lab reports

**STUDENT LEARNING OUTCOMES:**
- To understand and apply method and appropriate technology to the study of physical science
- To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry, and to communicate findings, analyses, and interpretation both orally and written.
- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies
- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture

**COURSE CONTENT:** The chapters on the calendar refer to the chapters in the text. They are
- V1 Chap. 16 Wave motion
- V1 Chap. 17 Sound
- V2 Chap. 5 Electric Charge and Field
- V2 Chap. 6. Gauss’ Law
- V2 Chap. 7 Electric Potential
- V2 Chap. 8 Capacitors
- V2 Chap. 9 Current and Resistance
- V2 Chap. 10 DC Circuits
V2 Chap. 11 Magnetic Forces and Fields
V2 Chap. 12 Sources of Magnetic Fields
V2 Chap. 13 Electromagnetic Induction

V2 Chap. 14 Inductance
V2 Chap. 15 Alternating-Current Circuits
V2 Chap. 16 Electromagnetic Waves
V3 Chap. 1 The Nature of Light

V3 Chap. 2 Geometric Optics and Image Formation
V3 Chap. 3 Interference
V3 Chap. 4 Diffraction

ATTENDANCE: You are expected to attend every class. If you have more than three unexcused absences, your grade will be decreased by one letter grade. If you arrive more than 10 minutes late you will be marked as tardy and three tardy marks count as an absence.

If you become ill or have a restroom emergency during the lecture, please excuse yourself quietly. If you need to study for another class, the library is available. If you need to nap, that is best done at home – not in the classroom.

SUGGESTIONS FOR MAKING A GOOD GRADE:
• Read your textbook.
• Attend classes regularly and punctually.
• Do your homework yourself.
• Review lecture material daily (Don’t cram).
• Develop and practice good note taking skills.
• Ask questions in class.
• Read your textbook.

HOMEWORK (100): Throughout the semester, problems are assigned which are intended to illustrate the principles covered in class and the text. These problems represent the minimum number that the student should work in order to obtain some understanding of the concepts. Homework will be completed online. You must register at http://goeta.link/USQ45TX. Homework will count a maximum of 100 points toward your final grade.

General Education Core Curriculum
This course has been selected to be part of Stephen F. Austin State University’s core curriculum. The Texas Higher Education Coordinating Board has identified six objectives for all core courses: 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.

Assessment of these objectives at SFA will be based on student work from all core curriculum courses. This student work will be collected in D2L through LiveText, the assessment management system selected by SFA to collect student work for core assessment. LiveText accounts will be provided to all students enrolled in core courses through the university technology fee. You will be required to register your LiveText account, and you will be notified how to register your account through your SFA e-mail account. If you forward your SFA e-mail to another account and do not receive an e-mail concerning LiveText registration, please be sure to check your junk mail folder and your spam filter for these e-mails. If you have questions about LiveText call Ext. 1267 or e-mail SFAliveText@sfasu.edu.

EXAMS (400): There will be three exams as indicated on the calendar. These exams will consist of several problems taken from the problems at the end of the chapter, from the examples worked out in the text or from other sources. These exams will be given in room 334 at 6:00 p.m. on the dates indicated.

EXAM #1 Waves→Gauss’ Law
EXAM #2 Electric Potential→DC Circuits
EXAM #3 Magnetic Fields→Induction
EXAM #4 Inductance→Nature of Light

The student is expected to know and understand the equations required for the exams. These exams will count a maximum of 100 points each toward the final grade. Students will have one week after an exam is returned to discuss any possible errors made in the grading thereafter no changes will be made in the grade. You are expected to be present for all exams.

FINAL EXAM (100): The Final Exam will be comprehensive with emphasis on the material covered after Exam #4. The Final will be worth a maximum of 10 points toward the final grade and will be given online through Expert TA, Monday Dec 7, 2020 from 10:45 a.m. - 1:15 p.m.

LAB GRADE (200): The laboratory grade will count a maximum of 200 points toward the final grade (25% of the final grade). 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:
- 720-800 A
- 640-719 B
- 560-639 C
- 480-559 D
- 000-479 F

ACADEMIC INTEGRITY (A-9.1): Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as 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/academic_integrity.asp

COURSE ASSESSMENT: The lecture part of the course requirements and method of evaluation are set by the individual instructor for the course. The method of evaluation is frequently based on outside exercises (homework) and scores from in-class and/or take-home examinations. In the determination of the final grade for both the lecture and the lab, the laboratory grade carries a weighting factor of one whereas the lecture part of the final grade carries a weighting factor of three. The same grade is recorded for both the lecture and the laboratory.

WITHHELD GRADES SEMESTER GRADES POLICY (A-54): 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 course work 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 for the purpose of computing the grade point average.

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 in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/
<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment</th>
<th>Date Due in LiveText</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking Skills (CO 1)</td>
<td>To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.</td>
<td>Addressed week 3</td>
<td></td>
</tr>
<tr>
<td>Communication Skills (CO 2)</td>
<td>To include effective development, interpretation and expression of ideas though written, oral, and visual communication.</td>
<td>Addressed week in co-requisite 242 lab week1</td>
<td></td>
</tr>
<tr>
<td>Empirical and Quantitative Skills (CO 3)</td>
<td>To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.</td>
<td>Addressed in the “AC Circuits” Experiment in the co-requisite 242 lab. Weeks 10 and 11</td>
<td>MARCH 23</td>
</tr>
<tr>
<td>Teamwork (CO 4)</td>
<td>To include the ability to consider different points of view and to work</td>
<td>Addressed week 1 in co-requisite 242 lab</td>
<td></td>
</tr>
<tr>
<td>Personal Responsibility</td>
<td>To include the ability to connect choices, actions and consequences to ethical decision-making.</td>
<td>Addressed week 1 while discussing course syllabus</td>
<td></td>
</tr>
<tr>
<td>Social Responsibility</td>
<td>To include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.</td>
<td>Addressed week 1 while discussing course syllabus</td>
<td></td>
</tr>
</tbody>
</table>