AP/Dual Credit Physics 2

Instructor Contact Information:
Joshua R. Dalrymple
Room # TU 200
Email – joshua.dalrymple@saisd.org
Phone – (325) 659-3400 x259
Tutorial/Office Hours – TWRF 7:40-8:10, 1:06-1:33, 4:00-4:30
Remind – class codes will be provided during the first week of school

This course is a full-year course that is the equivalent of a second-semester introductory college course in algebra-based physics. The primary focus of this course is to help students develop a deep understanding of the foundational principles that shape classical mechanics and modern physics. Students will be asked to explain relationships, apply and justify the use of mathematical routines, design experiments, analyze data, and make connections across multiple topics within the course. This course requires a conceptual understanding of the material rather than the simple memorization of facts. Students will be challenged not simply to learn facts, but to become fluent in the processes and skills used by physicists to test and expand upon existing scientific knowledge.

RESOURCES

Textbook

Other Resources
Internet access

TEACHING RESOURCES

GRADING POLICY AND ASSIGNMENTS

Tests – 40%
Labs – 30%
Quizzes – 20%
Homework – 10%

All students will take the fall semester exam (i.e., there will be no exemptions). Students who register for and take the AP Physics 2 Exam (currently scheduled for May 7) will be exempt from the spring semester exam.

Homework and Quizzes-
You will be assigned readings and homework regularly. Many of these assignments will be available through our textbook’s Master Physics site or through the College Board’s AP Classroom. You will be given instructions on how to access these resources during the first week of school. I encourage you to work in study groups, but it is imperative that you understand the answers you provide, and all written work needs to be your own.

You will be given quizzes covering the assigned readings and homework. It is your responsibility to know how to do the homework problems so that you are prepared for the quizzes. If you are struggling with a particular assignment, you are the only one who can take the necessary steps to correct the situation: ask questions, work with classmates, and/or attend tutorials!

Notes -
You are expected to take notes over assigned readings, videos, presentations, and activities, and your notes may sometimes be used on quizzes. Your notes will not be graded directly, so you are welcome to use whatever format works best for you. If you keep lecture notes, reference materials, and your work organized, you will find it very valuable when studying for class tests and for the AP exam. If you are having difficulty taking effective, useful notes, I will be happy to discuss with you methods and resources which may help.

Tests -
It is important that you keep up with your assignments and work on studying a little bit each day. This course focuses on applying knowledge, as opposed to simply memorizing facts, which makes “cramming” an ineffective strategy. You are more likely to retain information and recognize applications when you review, study, and practice a little bit each day.

Exam questions will mirror the questions that you will find on the AP exam. Many questions will present you with data and/or experiments that you have not seen before, and you will be expected to apply the information you have learned in class. Exam questions will be based on class discussions and activities, homework assignments, labs, and assigned readings from our textbook.

There will be opportunities to correct tests. Directions for correcting will be given after the first exam.

Final Examination for Angelo State Dual Credit will be May 10-14, 2021 during scheduled class

All SAISD Advanced Academic policies will be strictly adhered to. Please make sure you are fully aware of all these policies.
## Course Outline and Correlation to Textbook

<table>
<thead>
<tr>
<th>Unit</th>
<th>Unit Name</th>
<th>Chapter</th>
<th>Chapter Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fluids</td>
<td>13.1 - 13.6</td>
<td>Fluids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.1</td>
<td>Transforming Energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.3 - 11.8</td>
<td>Using Energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12.1 - 12.3</td>
<td>Thermal Properties of Ideal Gases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12.8</td>
<td>Heat Transfer</td>
</tr>
<tr>
<td>2</td>
<td>Thermodynamics</td>
<td>20</td>
<td>Electric Fields and Forces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21.1 - 21.5</td>
<td>Electric Potential</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21.7 - 21.8</td>
<td>Capacitors</td>
</tr>
<tr>
<td>3</td>
<td>Electric Force, Field, and Potential</td>
<td>22</td>
<td>Current and Resistance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23.1 - 23.7</td>
<td>Circuits</td>
</tr>
<tr>
<td>4</td>
<td>Electric Circuits</td>
<td>24</td>
<td>Magnetic Fields and Forces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25.1 - 25.4</td>
<td>Electromagnetic Induction</td>
</tr>
<tr>
<td>5</td>
<td>Magnetism and Electromagnetic Induction</td>
<td>25.5 - 25.7</td>
<td>Electromagnetic Waves</td>
</tr>
<tr>
<td>6</td>
<td>Geometric and Physical Optics</td>
<td>17</td>
<td>Wave Optics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18</td>
<td>Ray Optics</td>
</tr>
<tr>
<td>7</td>
<td>Quantum, Atomic, and Nuclear Physics</td>
<td>27</td>
<td>Relativity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>Quantum Physics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>29</td>
<td>Atoms and Molecules</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td>Nuclear Physics</td>
</tr>
</tbody>
</table>

### Lab Assignments [CR5]

Directions for formal lab write-ups will be given to you before the first lab. You will not prepare a formal report for every lab. In the event of an absence, requirements for making up labs will vary depending on the lab in question. In any case, you will still be responsible for completing written portions of the lab, and keep in mind that test questions can be based on labs.
Student Disability Services

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website at www.angelo.edu/ADA. The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Ms. Dallas A. Swafford
Director of Student Disability Services

- 325-942-2047
- dallas.swafford@angelo.edu
- Houston Harte University Center 112

Title IX

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.
You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Boone, J.D. You may submit reports in the following manner:

- Online: www.angelo.edu/incident-form
- Face to Face: Mayer Administration Building, Room 210
- Phone: 325-942-2022
- Email: michelle.boone@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State’s policy please visit: www.angelo.edu/title-ix.

Student Absence of Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the Statement of Academic Integrity

Plagiarism

Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.
Copyright Policy

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook
- Angelo State University Catalog