PRINCE GEORGE'S COMMUNITY COLLEGE

TECHNICAL PHYSICS FOR ENGINEERING TECHNOLOGY

PHY 1570			Instructor:	Dr. D. Simpson
Section 4418			Office:	310-I Chesapeake Hall
Spring 2023			Office Hours:	Mon 5:30-6:00 pm
Lec. MW	6:00-7:15 pm	CH-305		Wed 5:30-6:00 pm
Rec. M	7:30-8:20 pm	CH-305	Telephone:	(301) 322-0990 ext. 4768
Lab W	7:30-9:15 pm	CH-305	Email:	DSimpson@pgcc.edu

Course Web site: http://www.pgccphy.net/1570

Textbook: Technical Physics, D.G. Simpson (PDF course notes)

Recommended References:

Technical College Physics, 3rd Ed., J.D. Wilson. Saunders Pub., 1992.

Technical Physics, 3rd Ed., F. Bueche. Harper & Row Pub., 1985.

The Feynman Lectures on Physics (3 vol.), R.P. Feynman, R.B. Leighton, and M.L. Sands. Addison-Wesley, 1963.

Course Description:

In this algebra-based overview of topics in technical physics, students explore a variety of concepts and principles, ranging from sound, optics, and remote sensing to force, gravitation and energy as well as basic mechanics. Students apply the principles of these various topics to solve problems, both theoretical and in a lab setting. Lab emphasis is on interpreting the experimental data, examining discrepancies between predicted and observed results and providing explanations for these discrepancies, including error analysis. Lastly, students discuss the role of ethics in the use of technology in physics.

Tentative Schedule

Week	Dates	Topics	Chapter
1	M 1/23	Measurement; Units	1-2
	W 1/25		
2	M 1/30	Technical Mathematics	4
	W 2/1		
3	M 2/6	Statics and Equilibrium	5
	W 2/8		
4	M 2/13	Kinematics	6
	W 2/15	Newton's Laws	7
5	M 2/20	- Washington's Birthday -	
	W 2/22	Mass and Force	8-9
6	M 2/27	Work, Energy, and Power	10
	W 3/1		
7	M 3/6	Properties of Materials	11
	W 3/8		
8	M 3/13	- Spring Break -	
	W 3/15	- Spring Break -	
9	M 3/20	Vibrations and Waves	12
	W 3/22		
10	M 3/27	Sound	13
	W 3/29		
11	M 4/3	Electricity	14
	W 4/5		
12	M 4/10	Magnetism	15
	W 4/12		
13	M 4/17	Electromagnetism	16
	W 4/19		
14	M 4/24	Light and Illumination	17
	W 4/26		

15	M	5/1	Mirrors and Lenses	18
	W	5/3		
16	M	5/8	Professional Ethics; Review	19
	W	5/10	No class (finals week)	
17	M	5/15	Final exam (6:00-8:20 pm)	

Homework:

Weekly problem assignments will usually be given on Mondays and will be due the following Monday at the beginning of class. No late homework will be accepted. The lowest homework score will be dropped in computing your homework grade.

Laboratory:

Each Wednesday we will have a laboratory section that will consist of a lecture and/or laboratory work. The material will be focused on learning remote sensing and how it is accomplished with modern spacecraft. Attendance at laboratory sessions is mandatory; you will not receive credit for laboratory sessions you did not attend.

Exams:

Two exams will be given during the semester and will be scheduled at least one week in advance. If you must be absent from an exam, consult with your instructor BEFORE the exam is given. There will be no need to memorize formulae for an exam; all the important formulae will appear on a formula page passed out with the exam.

Final Exam:

In addition to these two exams, there will be a comprehensive final exam on May 15 from 6:00 to 8:20 pm.

Grading:

Your final grade will be based on your scores on homework, lab work, the two exams, and the final exam, as follows:

Homework	20%
Laboratory work	15%
2 exams @ 20% each	40%
Final exam	25%

Grading will be determined by a class average. The following scores will be sufficient to earn the following grades:

A	90%
B	80%
C	70%
D	60%

Classroom Policies:

Academic honesty and integrity will be expected of you at all times -- for this course or any other. I will deal with infractions quite severely.

Photocopied assignments will not be accepted.

Please turn off all cell phones during the class lectures.

Disability Support Servies:

Students requesting academic accommodations are required to contact the Disability Support Services Office (M-1042) or call (301) 322-0838 (voice) or (301) 322-0122 (TTY) to establish eligibility for services and accommodations. Students with documented disabilities should discuss the matter privately with their instructors at the beginning of the semester and provide a copy of their Student/Faculty Accommodation Form.

Code of Conduct:

The Prince George's Community College Code of Conduct defines the rights and responsibilities of students and establishes a system of procedures for dealing with students charged with violations of the code and other rules and regulations of the college. A student enrolling in the college assumes an obligation to conduct himself/herself in a manner compatible with the college's function as an educational institution. Refer to the 2006-2007 Student Handbook, beginning on page 43, for a complete explanation of the Code of Conduct, including the Code of Academic Integrity and the procedure for dealing with disruptive student behavior.

Code of Academic Integrity:

The college is an institution of higher learning that holds academic integrity as its highest principle. In the pursuit of knowledge, the college community expects that all students, faculty, and staff will share responsibility for adhering to the values of honesty and unquestionable integrity. To support a community committed to academic achievement and scholarship, the Code of Academic Integrity advances the principle of honest representation in the work that is produced by students seeking to engage fully in the learning process. The complete text of the Code of Academic Integrity is in the 2006-2007 Student Handbook (pages 44-47) and posted on the college's website.