

LIU – POST

PHY 12

College Physics II, Spring 2018

4 credits

Classes Tu/Th | §1: 2:00–4:50, PH209.

Website <http://arvind-borde.org/courses/phy12/>

Instructor Arvind Borde | arvind.borde@liu.edu | <http://arvind-borde.org/>

Office LS 239; telephone: (516) 299 2447. Hours: T, Th, 12:30–2:00 pm, or by appointment.

Bulletin Physics 12 is the second half of an introductory, non-calculus physics course covering electricity, magnetism, optics and an introduction to modern physics.

Text, etc. *Physics: Principles with Applications*, Seventh Edition. Douglas C. Giancoli. Publisher: Addison-Wesley (2014).

Rules **Do:** attend all classes/labs, come on time, stay for the duration, pay attention.
Don't: talk among yourselves (except in lab), be disruptive, text, have your phone out. Violating any of these will be marked as an absence and will lead to further disciplinary action. Three or more violations will lead to an automatic F. You may use a computer or tablet to take notes, but must be prepared to sit in the first row if asked.

Homework & Tests Weekly homework is on the website. You must attempt it the day it is assigned. If you have difficulties, see me or a tutor *that week itself*. HW will be discussed in the lecture immediately following. Specific questions will be answered in class, but not general ones about the whole assignment. You must have the homework available in a separate notebook or folder, with your name on each assignment, or clearly marked as such in the class notebook. You must bring the homework and class notebook with you if you want extra help in my office. It is your responsibility to catch up on material you miss for any reason. You should expect to spend 6 hours a week on this course outside class.

You may use one 3×5 index card (both sides) on tests and must submit it with the test. Tests will be based mainly on material and homework covered since the previous test, but familiarity with all material covered up to that point is expected. You will need a dedicated calculator (not cell phone or tablet computer) on all tests. *There are no make-up tests. If you miss a test for any reason you will get a score of -1 on it.* You must keep all your tests through the term. The complete test schedule is on this syllabus.

Grades First see the rules above. There will be 6 tests. Your 5 best scores each count 15% toward your grade. The labs count for 25%. There will be a grade boost if you have regularly done the homework over the term.

Note Last day to drop: February 2. Last day to withdraw: April 6.

I have understood the syllabus, course requirements, grading method, and rules, and agree to abide by them. I have retained a copy of this syllabus for my records. I have filled out the form overleaf.

Signature: _____ Date: _____

Name: _____

Name (print clearly):

Major:

Last physics, other science, and math classes taken (what, when, where):

Career goals:

Dream goals (If earning money were not an issue what would your perfect life be like?):

Math/science weaknesses (if any):

Math/science strengths:

Anything in particular that you wish to learn in this course:

LIU – POST









PHY 12

College Physics II, Spring 2018

4 credits

<i>Classes</i>	Tu/Th §1: 2:00–4:50, PH209.
<i>Website</i>	http://arvind-borde.org/courses/phy12/
<i>Instructor</i>	Arvind Borde arvind.borde@liu.edu http://arvind-borde.org/
<i>Office</i>	LS 239; telephone: (516) 299 2447. Hours: T, Th, 12:30–2:00 pm, or by appointment.
<i>Bulletin</i>	Physics 12 is the second half of an introductory, non-calculus physics course covering electricity, magnetism, optics and an introduction to modern physics.
<i>Text, etc.</i>	<i>Physics: Principles with Applications</i> , Seventh Edition. Douglas C. Giancoli. Publisher: Addison-Wesley (2014).
<i>Rules</i>	Do: attend all classes/labs, come on time, stay for the duration, pay attention. Don't: talk among yourselves (except in lab), be disruptive, text, have your phone out. Violating any of these will be marked as an absence and will lead to further disciplinary action. <u>Three or more violations will lead to an automatic F.</u> You may use a computer or tablet to take notes, but must be prepared to sit in the first row if asked.
<i>Homework & Tests</i>	Weekly homework is on the website. You must attempt it the day it is assigned. If you have difficulties, see me or a tutor <i>that week itself</i> . HW will be discussed in the lecture immediately following. Specific questions will be answered in class, but not general ones about the whole assignment. You must have the homework available in a separate notebook or folder, with your name on each assignment, or clearly marked as such in the class notebook. You must bring the homework and class notebook with you if you want extra help in my office. It is your responsibility to catch up on material you miss for any reason. You should expect to spend 6 hours a week on this course outside class. You may use one 3×5 index card (both sides) on tests and must submit it with the test. Tests will be based mainly on material and homework covered since the previous test, but familiarity with all material covered up to that point is expected. You will need a dedicated calculator (not cell phone or tablet computer) on all tests. <i>There are no make-up tests. If you miss a test for any reason you will get a score of -1 on it.</i> You must keep all your tests through the term. The complete test schedule is on this syllabus.
<i>Grades</i>	First see the rules above. There will be 6 tests. Your 5 best scores each count 15% toward your grade. The labs count for 25%. There will be a grade boost if you have regularly done the homework over the term.
<i>Note</i>	Last day to drop: February 2. Last day to withdraw: April 6.

**PLEASE PLACE THIS COPY AT THE FRONT OF YOUR NOTEBOOK/FOLDER
YOU MUST HAVE IT WITH YOU IN EVERY CLASS**

Week 1	<i>Tuesday, January 23</i> Course introduction and review. Ch. 16: Electric charge and electric field.	<i>Thursday, January 25</i>  Lab 1: Static electricity.	
Week 2	<i>Tuesday, January 30</i> Ch. 17: Electric potential.	<i>Thursday, February 1</i>  Lab 2: The electric field.	
Week 3	<i>Tuesday, February 6</i> Ch. 18: Ohm's law	<i>Thursday, February 8</i> Test 1: Chapters 16 & 17	<div style="border: 1px solid black; padding: 2px; display: inline-block;">score</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">%</div>
Week 4	<i>Tuesday, February 13</i> Ch. 19: DC circuits.	<i>Thursday, February 15</i>  Lab 3: Ohm's law.	
Week 5	<i>Tuesday, February 20</i> Ch. 20: Magnetism.	<i>Thursday, February 22</i> Test 2: Chapters 18 & 19	<div style="border: 1px solid black; padding: 2px; display: inline-block;">score</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">%</div>
Week 6	<i>Tuesday, February 27</i> Ch. 21: Electromagnetic induction.	<i>Thursday, March 1</i>  Lab 4: Resistors in series & parallel	
Week 7	<i>Tuesday, March 6</i> Ch. 22: Electromagnetic waves.	<i>Thursday, March 8</i> Test 3: Chapters 20 & 21	<div style="border: 1px solid black; padding: 2px; display: inline-block;">score</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">%</div>
Spring Break			
Week 8	<i>Tuesday, March 20</i> Ch. 23: Light as a ray.	<i>Thursday, March 22</i>  Lab 5: Capacitors in series & parallel	
Week 9	<i>Tuesday, March 27</i> Ch. 24: Light as a wave.	<i>Thursday, March 29</i>  Lab 6: Snell's law. Test 4: Chapter 22 & 23	<div style="border: 1px solid black; padding: 2px; display: inline-block;">score</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">%</div>
Week 10	<i>Tuesday, April 3</i> Ch. 25: Optical instruments.	<i>Thursday, April 5</i>  Lab 7: Thin lenses.	
Week 11	<i>Tuesday, April 10</i> Ch. 26: Special relativity.	<i>Thursday, April 12</i> Test 5: Chapters 24 & 25	<div style="border: 1px solid black; padding: 2px; display: inline-block;">score</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">%</div>
Week 12	<i>Tuesday, April 17</i> Ch. 27: Early quantum theory.	<i>Thursday, April 19</i>  Lab 8: Diffraction.	
Week 13	<i>Tuesday, April 24</i> Course review.	<i>Thursday, April 26</i> Test 6: Chapters 26 & 27	<div style="border: 1px solid black; padding: 2px; display: inline-block;">score</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 10px;">%</div>
Week 14	<i>Tuesday, May 1</i>	Final: TBA	

Letter Grade Key

%:	50–64	65–71	72–77	78–79	80–83	84–87	88–89	90–93	94+
Grade:	D	C [–]	C	C ⁺	B [–]	B	B ⁺	A [–]	A