PHYS252, UNIVERSITY PHYSICS II

**COVID-19-RELATED COURSE REQUIREMENTS**
Currently (as of January 10, 2022), NDSU is strongly recommending that all people wear masks in indoor spaces when social distancing cannot be maintained. In case of any changes, you will be notified and this syllabus will be updated. Consistent with NDSU’s recommendations, mask will be “Required” in all classroom settings including this class. Thus, in this class all participants, including those who are fully vaccinated, are “Required” to wear a face covering. If you fail to properly wear a face covering, you will not be admitted to the classroom. Given the changing conditions associated with the pandemic, this class’ faculty member has reserved the right to modify the mask status of the class during the semester. The following will be used as needed: referral to Dean of Students Office or administrative removal from class.

- Students who cannot wear a face covering due to a medical condition or disability, or who are unable to remove a mask without assistance may seek an accommodation through the Disability Services (701-231-8463; https://www.ndsu.edu/disabilityservices/).
- In accordance with NDSU Policy 601, failure to comply with instructions, including the mask requirement, may be handled according to the Code of Student Conduct resolution process and may result in disciplinary sanctions.

**BASIC INFORMATION**
Course prefix, catalog number, and title: PHYS 252, 10744, University Physics II
Number of credits: 4 credit hours
Term and year: Spring 2022
Classes: Mon, Wen, Fri 9:00 – 9:50 AM (AGHILL CTR 112), Mon 10:00 – 10:50 AM (AGHILL CTR 112)

Instructor’s name: Prof. Yongki Choi
Office location: South Engineering 220A or Zoom (by appointment)
Office hours: WF 10:00 – 10:50 AM and by appointment
Phone Number: 701-231-8968
Email Address: yongki.choi@ndsu.edu

Physics Teaching Assistants Office Hours: https://www.ndsu.edu/physics/students/current_students/ta_office_hours/
Student Success Program Tutoring Hours: https://www.ndsu.edu/ace/

**BULLETIN DESCRIPTION**
Electric charge, field, potential, and current; magnetic field; capacitance; resistance; inductance; RC, RL, LC and RLC circuits; waves; optics
Prerequisite: PHYS 251 or ME 222, Corequisite: MATH 166

**COURSE OBJECTIVES**
After completing this course, you should be able to:
- Explain concepts in electricity, magnetism, wave, and optics
- Demonstrate the ability to analyze and solve conceptual and practical problems
- Construct quantitative models and descriptive predictions of physical behavior

**REQUIRED STUDENT RESOURCES**
Other required materials:
- Clicker or Turning Point website or app: https://kb.ndsu.edu/page.php?id=101669
- Scientific calculator

**SYLLABI ON WEB PAGES**
Syllabus, Announcements, and Notes will be posted on our Blackboard course homepage: https://bb.ndsu.nodak.edu

Source: NDSU Academic Affairs Committee
Updated: 09/26/2014
**HOMEWORK ASSIGNMENTS**
Weekly homework will be posted on the web-based LON-CAPA homepage (http://www.ndsu.edu/physics/lon_capa). All homework assignments are due on the dates specified. *Late submission will not receive credit.* Follow the login instructions to access our course.

LON-CAPA instruction: Your username will be your **firstname.lastname** in your NDSU email. For example, if your NDSU email is albert.einstein@ndsu.edu, then your username is **albert.einstein**. You will establish a password by selecting the “Forgot password?” when you first log-in to the system. For help using LON-CAPA, please contact Physics staff, **Paul Omernik** (paul.omernik@ndsu.edu, South Engineering 110).

**COURSE SCHEDULE/OUTLINE/CALENDAR OF EVENTS**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading /Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>Coulomb’s Law</td>
<td>Chapter 21</td>
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<td>2</td>
<td>Electric Field</td>
<td>Chapter 22</td>
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<tr>
<td>3</td>
<td>Gauss’ Law</td>
<td>Chapter 23</td>
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<tr>
<td>4</td>
<td>Electric Potential</td>
<td>Chapter 24</td>
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<td>5</td>
<td>Capacitance</td>
<td>Chapter 25</td>
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<td>6</td>
<td>Current and Resistance</td>
<td>Chapter 26</td>
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<td>7</td>
<td>Circuits</td>
<td>Chapter 27</td>
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<tr>
<td>8</td>
<td>Magnetic Fields</td>
<td>Chapter 28</td>
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<tr>
<td>9</td>
<td>Magnetic Fields Due to Currents</td>
<td>Chapter 29</td>
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<tr>
<td>10</td>
<td><strong>Spring Break</strong></td>
<td>Mar 15-19</td>
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<tr>
<td>11</td>
<td>Induction and Inductance</td>
<td>Chapter 30</td>
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<tr>
<td>12</td>
<td>Electromagnetic Oscillations and Alternating Current</td>
<td>Chapter 31</td>
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<td>13</td>
<td>Maxwell’s Equations; Magnetism of Matter</td>
<td>Chapter 32</td>
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<td>14</td>
<td>Electromagnetic Waves</td>
<td>Chapter 33</td>
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<tr>
<td>15</td>
<td>Images</td>
<td>Chapter 34</td>
</tr>
<tr>
<td>16</td>
<td>Interference/Diffraction</td>
<td>Chapter 35</td>
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<tr>
<td>17</td>
<td>Review</td>
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<tr>
<td></td>
<td>Exam 1-4 (covering 3-4 chapters)</td>
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*HOLIDAY – NO CLASS: JAN 17 (MLK DAY), FEB 21 (PRESIDENTS’ DAY), SPRING BREAK (MAR 14-18), SPRING RECESS (APR 15-18)*

**EVALUATION PROCEDURES AND GrADING CRITERIA**
Final letter grades for the course will be computed using the following weights:
- Homework Assignment 200 points (correct responses to 80% of the homework will earn max. 200 pts)
- Five Exams 400 points (your best 3 out 4 exam scores)
- Total Points 600 points
- Extra credit: Midterm survey (10 points)

**NO MAKE-UP EXAMS ARE ALLOWED**

Grades: A: > 90 %, B: 80 to < 90%, C: 70 to < 80 %, D: 60 to < 70%, F: < 60 %

**EMAIL COMMUNICATION**
Please follow following guidelines:
- Use your NDSU email, not your yahoo or gmail account
- Type Phys252 and the subject of your email in the subject line (e.g. “Phys252 missing homework”)
- Sign your email with your name and student ID number

**SPECIAL NEEDS**
Any students with disabilities or other special needs, who need special accommodations in this course, are invited to share these concerns or requests with the instructor and contact the Disability Services Office (www.ndsu.edu/disabilityservices) as soon as possible.
**ACADEMIC HONESTY**

The academic community is operated on the basis of honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at www.ndsu.edu/academichonesty.

**ATTENDANCE EXPECTATIONS**

According to NDSU Policy 333 (www.ndsu.edu/fileadmin/policy/333.pdf), attendance in classes is expected. Veterans and student service members with special circumstances or who are activated are encouraged to notify the instructor as soon as possible and are encouraged to provide Activation Orders.

- Students are expected to attend every class and remain in class for the duration of the session when it is safe to do so in accordance with NDSU guidance regarding COVID19.
- I will be flexible regarding deadlines for students who are experiencing illness related to COVID-19. Please contact me as early as possible if you think you may not be able to complete an assignment or participate in the course due to illness.
- If you are unable to attend class at the regularly scheduled time due to illness, you can view the lecture notes (or may be lecture recordings) and ask any questions you have via email or zoom session.

**COPYRIGHT OF COURSE MATERIALS**

According to NDSU Policy 190 (Intellectual property):

- In this course recording the lectures is prohibited with your own personal devices (without prior express approval from the instructor).
- In this course recording the lectures for anything other than personal use is prohibited.

*The instructor reserves the right to adjust or modify this syllabus if it is deemed beneficial to student learning*