Quick information:
Lectures: MTWRF 9:15AM to 10:25AM in Duane G1B20
Recitations: MTWRF 11A-12:15PM in Duane G2B60, 63, and 64
Lecturer: Dr. Mik Sawicki
   Office: Duane Physics, Gamow Tower F217.
   Phone: (303) 492-6952 (Main Physics Office, leave a message.)
   E-mail: mikolaj.sawicki@colorado.edu
   Office hours: Check the course web page for updated office hours.
Course web page: http://www.colorado.edu/physics/phys1120/phys1120_sm16/
Help is available daily during instructors' office hours held in the Physics Help Room G2B90 - see the main course page for schedule.

Course materials (available at the CU Bookstore)
2. Tutorials in Introductory Physics, by Lillian C. McDermott, Peter S. Shaffer, and the Physics Education Group, to be used in the recitation sections (blue book).
3. Homework: Introductory Physics, by Lillian C. McDermott, Peter S. Shaffer, and the Physics Education Group, written homework sets (red book).
   Note: These are the same Tutorials used in Physics 1110 in Session A.
4. Audience response ‘clicker’, for participating in the in-class conceptual questions.
5. FlipItPhysics login packet to be purchased either directly from the publisher or at the CU Bookstore. Get registered on the FlipItPhysics website with your 9 digit student ID number, the course name PHYS1120 SM16 University Physics II and the access key 1120SM16.

Overview
Physics 1120, General Physics 2, is the second semester of a two semester sequence in introductory physics. The material is presented at a level that requires some calculus, algebra, and trigonometry. Topics covered include electromagnetism (electrostatics, electric current, simple resistive and RC circuits, magnetism, electromagnetic induction, RL and LC circuits, alternating current circuits, electromagnetic waves) and optics (both geometrical optics and wave optics). The summer course is taught with daily lectures and recitations.

IMPORTANT ADVICE: This is a standard 15 week class, squeezed into 4½ weeks of a Summer session. The pace will be extremely fast. Every day will be a challenge, and you'll find yourself working nights and weekends to stay current. All this is doable, but please, think long and hard if you really want to take this class during the Summer.
The text
We will use the "Essential University Physics" Vol. 2, by Richard Wolfson. I will cover Chapters 20 through 32 in Wolfson at a rate of roughly two chapters per week. The textbook is one of the best tools you have in the class. READ CHAPTERS BEFORE WE COVER THEM IN CLASS. If you do, you'll get much more out of the lectures.

The recitation tutorials
Recitations are used to enhance your understanding of key principles presented in class, and sharpen your reasoning skills. You will work at your own pace through assigned tutorial worksheets from the blue book in a small group setting with fellow students and trained teaching assistants. It is more important for you to understand the material than to "cover" all the questions. **You must take responsibility for your own learning!** If you find yourself ahead of your partners, try to explain some physics to them. (It is a known fact that explainers learn even more when explaining than listeners.) Remember to bring your workbook to tutorial every recitation. You will receive participation points for taking part in each tutorial.

Tutorial homework
Twice a week you will submit assigned tutorial homework worksheets from the red book. The tutorial homework assignments are due on Thursdays and Mondays at the beginning of your tutorial session.

CAPA homework
We will be using the CAPA on-line system for homework assignments. CAPA sets are typically due Thursday at 11:59 PM and Sunday at 11:59 PM. The CAPA system is available on the internet at [http://www.colorado.edu/physics/CAPA/Cindex.html](http://www.colorado.edu/physics/CAPA/Cindex.html) or from the course home page at [http://www.colorado.edu/physics/phys1120/phys1120_sm16](http://www.colorado.edu/physics/phys1120/phys1120_sm16). CAPA is a tool that provides you with immediate feedback on your solutions to homework problems. If you take the time to start homework early, there is no reason why you cannot have a perfect homework score by the end of the class. CAPA assignments emphasize technical aspects of the concept presented in lectures and qualitatively discussed during tutorials, and are in addition to two written Tutorial Homework assignments each week mentioned above.

In-class 'Clicker' responses
We will also be using an audience response system to allow in-class questions and answers to conceptual questions during lecture. Typically, we will have brief periods of lecture, followed by a series of multiple choice questions. Class discussion is encouraged. After a short period for discussion, you will use your 'clicker' (an electronic transmitter used for audience feedback during lecture. Purchase your clicker at the CU bookstore to answer the question. You receive 1 participation point for an answer, and for occasional questions 3 points for the correct answer.

The internet resources, web page, and e-mail
The web page for Physics 1120 provides information on the class activities, contact information for all the staff, course notes, access to the CAPA system, and access to a variety of online resources. I strongly encourage you to use the Physics 1120 web site and provide me with feedback on course services that you’d like to see included. E-mail and the webpage are essential channels of communication in this course. Be sure to check your email for important messages at least once a day. Your scores and items such as exam solutions will be posted on our Desire2Learn site.
Things to do before each lecture

1) Watch a FlipItPhysics PreLecture. This is a 15-minutes long set of animated clips covering the material that will be presented in the lecture. Lectures themselves will provide only general ideas and will be moving very fast, so you need to watch these clips to understand the material better.
2) Review Power-Point presentation posted to D2L that I’ll go over in class.
3) Review Dr. Dubson’s Lecture Notes.

Again, you must take responsibility for your own learning!

Exams
There will be four Exams and the Final Exam, scheduled as follows:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>Monday, July 11</td>
<td>11:00 AM</td>
<td>Duane G1B20</td>
</tr>
<tr>
<td>Exam 2</td>
<td>Monday, July 18</td>
<td>11:00 AM</td>
<td>Duane G1B20</td>
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<tr>
<td>Exam 3</td>
<td>Monday, July 25</td>
<td>11:00 AM</td>
<td>Duane G1B20</td>
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<tr>
<td>Exam 4</td>
<td>Monday, August 1</td>
<td>11:00 AM</td>
<td>Duane G1B20</td>
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<tr>
<td>Final Exam</td>
<td>Friday, August 5</td>
<td>9:15 AM</td>
<td>Duane G1B20</td>
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Exams will be closed book. You are allowed to bring a single 8.5” x 11” formula sheet to the exam. You can write anything you want on the formula sheet (on both sides), but must write it by hand - no Xeroxing or typing allowed. You should bring a calculator to every recitation and exam. There will be no sharing of calculators during exams and quizzes.

There will be no early or late exams given, and no make-up exams or quizzes. However, arrangements will be made for students with special needs as defined by the University of Colorado at Boulder policies listed below.

Grading
Your course grade will be determined by a combination of your performance on exams, tutorial homework, CAPA homework and in class participation. The final grades in the course will be calculated as follows

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>4 Exams @ 13% each:</td>
<td>52%</td>
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<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
<tr>
<td>Tutorial Participation</td>
<td>2%</td>
</tr>
<tr>
<td>Tutorial Homework</td>
<td>10%</td>
</tr>
<tr>
<td>CAPA Homework</td>
<td>12%</td>
</tr>
<tr>
<td>FlipItPhysics answers</td>
<td>2%</td>
</tr>
<tr>
<td>Clicker participation</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
</table>
How to succeed in this course
The course topics in Physics 1120 count among the greatest intellectual achievements of humans, so don't be surprised if you have to think and work hard to master the material. However, try to remember that humans like you and me CAN understand all of this information. You can perform very well in this class if you follow this time-tested system:

1. Read the chapter material before lecture. If you read it first, it'll sink in faster during lecture.
2. Take notes on your reading and try to write down questions you may have. If you ask those questions in class, I will try to answer them.
3. Come to class. Stay involved in class and recitation. Come to office hours.
4. Start the homework early. Give yourself ample time to work and understand.
5. But first: Do the reading. Don’t try the homework until you finish the reading.
6. Work together. Physicists often work in groups. You need to do your own thinking, but talking to others is a great way to sort out your own thoughts.
7. Don’t get behind. It’s very hard to catch up.
8. Don’t give up. YOU CAN MASTER THIS MATERIAL AS HAVE OTHER HUMANS! Thousands of CU students successfully passed this Summer class before.

Students with documented disability: If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services (303-492-8671, Willard 322) at least 5 days before such accommodation is to be provided, so that your needs may be addressed. It is the Disability Services that determine accommodation needs and levels, not me.

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please contact me as soon as possible if you require special arrangements.

Other important campus policies.

Classroom behavior: Students and faculty have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty has the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to faculty with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

Academic integrity: All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation
of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion).

**Discrimination and harassment:** The University of Colorado at Boulder policy on Discrimination and Harassment, the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550.

**Change of registration:** See the class main page for important drop/add and withdraw deadlines.

*June 2016.*