

University Physics I
COURSE 21:750:213
Fall 2019

Instructors: Dr. Sheehan Ahmed; sheehan.ahmed@rutgers.edu; Smith Hall 368
Physics Office Hours: Monday 1:00-2:20 (in Smith 206)
Appointment Only Office Hours: Wednesday 11:30-12:30 (in Smith 368)
Dr. Tatiana Morozova; tm575@newark.rutgers.edu
Office Hours: Wednesday 2:30-3.50 (in Smith 206)

Learning Assistants (LAs) & Office Hours:

Dory Castillo: dory.castillo@rutgers.edu
Office Hours: Monday 4:00-5:20 (in Smith 206)
Huang Hongning; hh399@scarletmail.rutgers.edu
Office Hours: Thursday 10:00-11:20 (in Smith 102)

*Students are encouraged to work with peers on HW during LA office hours.
*If Smith 206 is in use by the physics department please go to Smith 102.

Class Time & Location:

Lecture: Tuesday & Thursday 4:00-5:20 SMT 220 (Ahmed)
Recitation: 01: W 11:30-12:50 Smith 244 (Morozova)
02: W 4:00-5:20 Hill 106 (Morozova)

Required Materials:

- 1) Textbook: Etkina, E., Planinsic, M., Van Heuvelen, A. *College Physics: Explore and Apply, 2nd Edition*. Pearson. ISBN: 0134601823 (*You can get the ebook from Pearson for \$60; rent from Amazon for \$28; scan at the library for free (the textbook is on reserve at the library and may be scanned for personal use on the free textbook scanners in the library).
- 2) Textbook: Hugh D. Young, Roger A. Freedman, *University Physics with Modern Physics, 14th Edition*. It is perfectly acceptable to use an older edition as a reference text.
- 3) **Print the weekly Handout and bring to class (or save and write on it electronically).**
- 4) iClicker (iClicker+ or Clicker2 only; or app. Register at www1.iclicker.com under course name **PHYS213_Ahmed_2019**)
- 5) Calculator (smartphone, tablets, computers, etc. may not be used on exams)

Physics Tutoring:

Rutgers Learning Center, Bradley 140. Drop-in or by appointment (search "Rutgers Newark Tutortrac" on Google & log in with NetID.) If you work with a tutor be sure you are doing the work, not them. Ask the tutor to look at your work and listen to your thinking.

Course Description: Physics 213 is the first course of the Physics 213 and Physics 214 calculus-based introductory physics course sequence. Students will develop both conceptual and

mathematical understandings of physical phenomena and apply understandings to new scenarios. The course is interactive and being present is essential.

Course Goals:

1. Develop conceptual and quantitative models of physical phenomena.
2. Apply models to solve problems and understand physical scenarios. Apply calculus to these scenarios.
3. Justify thinking using logic and mathematical statements, orally and written.
4. Collaborate with others to deepen understandings and improve solutions.

Topics:

1. Introducing Physics (EPH Chapter 1) (Y&F Chap 1)
 2. Kinematics (EPH Chapter 2) (Y&F Chap 2 & 3)
 3. 1D Dynamics (i.e. Forces) (EPH Chapter 3) (Y&F Chap 4 & 5)
 4. 2D Dynamics (i.e. Forces Continued) (EPH Chapter 4) (Y&F Chap 4 & 5)
 5. Uniform Circular Motion (EPH Chapter 5) (Y&F Chap 3 & 5)
- Exam 1: Chapters 1-4**
6. Impulse & Momentum (EPH Chapter 6) (Y&F Chap 8)
 7. Work & Energy (EPH Chapter 7) (Y&F Chap 6 & 7)
 8. Collisions (EPH Chapter 6 & 7) (Y&F Chap 8)
- Exam 2: Chapters 5-7**
9. Statics (i.e. Torque) (EPH Chapter 8) (Y&F Chap 10)
 10. Rotational Motion. (EPH Chapter 10) (Y&F Chap)
 11. Vibration & Waves (EPH Chapter 10&11) (Y&F Chap 14,15 & 16)
 12. Gases (EPH a Chapter 12) (Y&F Chap 18 & 19)
 13. Static Fluids (EPH Chapter 13) (Y&F Chap 4 & 5)
 14. Dynamics of Fluids (EPH Chapter 14) (Y&F Chap 12)

Final Exam: EPH Chapters 1-14 + Corresponding Y&F chapters

Course Structure:

Large Room Meeting (i.e. Lecture): Each week has a corresponding Handout with LRM I, SRM, and LRM II activities. Please print the handout, bring it to class, write on it, 3-hole punch it, and store it in a 3 ring binder to study (or, save handouts electronically and write on them using a computer or tablet). Participation in these activities with your peers will facilitate the construction of knowledge in physics. Please sit directly next to 1-2 students each class to form groups of 2-3. LRMs also include clicker questions to assess your thinking and a reflection survey at the end of class to think about your thinking.

Small Room Meeting (i.e. Recitation): Each recitation begins with a quiz on the previous week’s learning. While you take the quiz the instructors and LAs will grade your homework at your desk. You must be present at the beginning of recitation to take the quiz and get credit for your homework. You will submit homework corrections the following week. You will then work with your peers on SRM activities. Please sit directly next to 1-2 students each class to form groups of 2-3.

Homework: After participation in LRM I, SRM, LRM II, and lab, you will read the textbook and complete problems from the textbook. Reading the textbook will help synthesize your

developing knowledge in physics. Solving problems will give you practice applying new ideas. You should schedule time in your calendar each week to do homework, and you are encouraged to work with peers. For extra support, come to physics office hours or go to tutoring at the Rutgers Learning Center. Ask instructors, LAs, tutors, and peers to look at your work and listen to your thinking.

Activities: *You must attend class to earn credit for engagement in and completion of activities.* Class activities are printed in the weekly Handout. Meaningful engagement includes thinking, discussing thoughts with peers, and recording ideas.

Clicker Questions: *You must attend LRMs to earn clicker question credit.* LRM activities are interspersed with clicker questions to check your understanding. Your performance on these questions provides valuable information to you and the instructor. Each question is worth 1 point for participation and 1 point for correctness. **Students sharing clickers (i.e. one student clicking for other students) will each lose all clicker question credit for the semester.**

Learning Survey: *You must attend LRMs to earn learning survey credit.* At the end of each LRM you will reflect on your learning. You will earn credit for completion.

Homework: *You must attend recitation to submit your homework. Homework is due at the beginning of recitation. Homework will not be accepted outside of recitation.* Homework covers the past week's content and includes reading and a problem set. While you are encouraged to work in groups, each student is expected to submit their own unique work. Your homework will be checked for completion and immediately returned to you. You will then check your homework for correctness using an answer key posted online. You will correct your homework in a different colored pen and submit it the following week. You receive half credit for submitting your homework and the other half for submitting corrections.

Quizzes: *You must attend recitation to take the quiz. Quizzes occur at the beginning of recitation.* You will need a calculator. You may bring one 4x6" index card before Exam 1, two index cards before Exam 2, and three index cards before the Final Exam. Quizzes assess your thinking after a week's worth of learning (LRM I, SRM, LRM II, Lab, & Homework). Your performance on quizzes provides valuable information to you and the instructors.

Exams: Two exams and a final will be given to assess what you have learned in the course. You will need a calculator. You may bring one 4x6" index card for Exam 1, two index cards for Exam 2, and three index cards for the Final Exam. You can write anything on the index cards (both sides) that you think you might want during the exam. The Final covers the entire course.

Grading Philosophy: When doing physics, show your thinking that leads to your response. Your reasoning or rationale is the "meat" of the answer. An answer without work is like a thesis statement with no essay. An answer means nothing without rationale to support it. Physics is based on logic. Physics problem solving involves representing what you know and using representations to solve for variables. This logic should be apparent in your work. It is your responsibility to show your work clearly.

Grading Scheme:

	%
Activities	10
Clicker Questions	10
Learning Survey	5
Homework	10
Quizzes	5
Exam 1	20
Exam 2	20
Final Exam	20

Overall Grade:

Letter Grade	Range
A	90.0+
B+	87.0 - 89.9
B	80.0 – 86.9
C+	77.0 – 79.9
C	70.0 – 76.9
D (not passing)	60.0 – 69.9
F (not passing)	< 60.0

Organization Strategies: You will need an organization system. We recommend:

- 1) Print the weekly Handout, bring it to class, write on it, 3-hole punch it, and store it in a 3-ring binder to study (or, save handouts electronically and write on them using a computer or tablet).
- 2) Do all homework in a graph paper composition notebook. Do not tear out the homework – the instructor will return it to you (or, do homework on loose leaf, staple, and keep in 3-ring binder).
- 3) Keep graded quizzes in a 3-ring binder.
- 4) Keep graded exams in a 3-ring binder.

Submissions: Please write your name, section number, and assigned student number (#1-45 for SRM) or seat number (#1-240 for LRM) on all submissions (homework, quizzes, exams). Your assigned student number and/or seat number is determined alphabetically and will be given to you by your instructor.

Attendance & Other Course Policies: You are expected to attend all classes. Each *clicker question* must be performed during LRMs, and each *homework* and *quiz* must be submitted in your assigned SRM.

Only absences due to significant special circumstances **with documentation** are excused, such as death in the family or illness with doctors note. Unfortunately, we are unable to accommodate lateness or absences due to traffic.

Because issues do arise, students are permitted one absence from LRM and one absence from SRM. This means that at the end of the semester I will drop three *clicker question* sessions (to account for technical difficulties as well), one *homework*, and one *quiz*, no questions asked. If you have no absences, I will drop your lowest grade.

For religious holidays, please report your absence using the Self-Reporting Absence Application: <https://sims.rutgers.edu/ssra/>. Your absence will be excused and your daily grade (*clicker question* or *homework* and *quiz*) will be dropped.

If you are absent from a day of class, you should keep up with the course content by doing the class activities in the Handout on your own time.

Make-up midterm exams will not be administered. If you have an excused absence (with documentation) on the day of a midterm exam, your Final Exam score will count twice.

Student attendance is recorded in LRMs and SRMs. **Students with more than four absences will automatically receive a failing grade.** If you think attendance may be a problem for you due to outside obligations, please meet with the instructor at the beginning of the semester or prior to your absences to discuss possible accommodations or solutions.

Grade disputes must be brought to the instructor within 2 weeks of receiving the grade. For example, a grade complaint about Exam 1 will not be considered at the end of the semester.

Rutgers Academic Integrity Policy: As an academic community dedicated to the creation, dissemination, and application of knowledge, Rutgers University is committed to fostering an intellectual and ethical environment based on the principles of academic integrity. Academic integrity is essential to the success of the University's educational and research missions, and violations of academic integrity constitute serious offenses against the entire academic community. The entire Academic Integrity Policy can be found here:
<http://academicintegrity.rutgers.edu/academic-integrity-policy/>

Rutgers Inclusion Resources: Rutgers University Newark (RU-N) is committed to the creation of an inclusive and safe learning environment for all students. RU-N has identified the following resources to further the mission of access and support:

- **Students with Disabilities:** Rutgers University welcomes students with disabilities into all of the University's educational programs. The Office of Disability Services (ODS) is responsible for the determination of appropriate accommodations for students who encounter barriers due to disability. In order to receive consideration for reasonable accommodations, a student with a disability must contact ODS, register, have an initial appointment, and provide documentation. Once a student has completed the ODS process (registration, initial appointment, and documentation submitted) and reasonable accommodations are determined to be necessary and appropriate, a Letter of Accommodation (LOA) will be provided to the student. The student must give the LOA to each course instructor, followed by a discussion with the instructor. This should be completed as early in the semester as possible as accommodations are not retroactive. More information can be found at ods.rutgers.edu. Contact ODS: (973) 353-5375 or ods@newark.rutgers.edu.
- **Religious Holiday Policy and Accommodations:** Students are advised to provide timely notification to instructors about necessary absences for religious observances and are responsible for making up the work or exams according to an agreed-upon schedule. The Division of Student Affairs is available to verify absences for religious observance, as needed: (973) 353-5063 or DeanofStudents@newark.rutgers.edu.
- **Counseling Services:** Counseling Center Room 101, Blumenthal Hall, (973) 353-5805 or <http://counseling.newark.rutgers.edu/>.

- **Students with Temporary Conditions/Injuries:** Students experiencing a temporary condition or injury that is adversely affecting their ability to fully participate in their courses should submit a request for assistance at: <https://temporaryconditions.rutgers.edu>.
- **Students Who are Pregnant:** The Office of Title IX and ADA Compliance is available to assist students with any concerns or potential accommodations related to pregnancy: (973) 353-1906 or TitleIX@newark.rutgers.edu.
- **Gender or Sex-Based Discrimination or Harassment:** Students experiencing any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking, should know that help and support are available. To report an incident, contact the Office of Title IX and ADA Compliance: (973) 353-1906 or TitleIX@newark.rutgers.edu. To submit an incident report: tinyurl.com/RUNReportingForm. To speak with a staff member who is confidential and does NOT have a reporting responsibility, contact the Office for Violence Prevention and Victim Assistance: (973) 353-1918 or run.vpva@rutgers.edu.

Physics 213 Sections 1-2 Fall 2019 Calendar

*Calendar is tentative and subject to change as instructor sees fit.

Week 1 (9/3-9/6)	Due	Topics & Activities
Large Room Meeting I (no class Monday)		Introducing Physics (EPH Chap 1): Pretest
Small Room Meeting		Introducing Physics (EPH Chap 1): Community Building
Large Room Meeting II		Introducing Physics (EPH Chap 1): Investigative Science Learning Environment
Week 2 (9/9-9/13)	Due	Topics & Activities
Large Room Meeting I		Kinematics (EPH Chap 2): 2.2.2, 2.2.4, 2.2.5, 2.3.2, 2.4.3, 2.5.1, 2.6.1, 2.6.3
Small Room Meeting	HW 1: Read EPH Chap 1. Make a list of important features of the book and say how they will help you learn physics. Read Y&F Chapter 1. Refresh your ideas on vectors. Quiz 1: Introducing Physics (Chapter 1)	Kinematics (EPH Chap 2): 2.1.1, 2.2.6, 2.2.7, 2.3.3, 2.6.5, 2.6.6 (Y&F Chap 2.1-2.2)
Large Room Meeting II		Kinematics (EPH Chap 2): 2.7.2, 2.7.3, 2.8.1, 2.8.2, 2.9.1, 2.9.2 (Y&F Chap 2.3-2.6)
Week 3 (9/16-9/20)	Due	Topics & Activities
Large Room Meeting I		1D Dynamics (EPH Chap 3): 3.4.1, 3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.6.1, 3.7.1 (Y&F Chap 4.1-4.4)
Small Room Meeting	HW 2: Read EPH Chap 2. Do Question #18 & Problems #5, 6, 12, 17, 27, 40, 45, 71 Read Y&F Chap 2. Do Exercise #2.15, 2.36, 2.51 Quiz 2: Kinematics (Chapter 2)	1D Dynamics (EPH Chap 3): 3.3.4, 3.3.5, 3.3.6, 3.3.7
Large Room Meeting II		1D Dynamics (EPH Chap 3): ALG 3.8.1; 3.8.2 Textbook Conceptual Example 3.6; Textbook Example 3.8; Textbook Questions #4-13 (Y&F Chap 4.4-4.6)
Week 4 (9/23-9/27)	Due	Topics & Activities
Large Room Meeting I		2D Dynamics (EPH Chap 4): ALG 4.3.1, 4.3.2, 4.3.3, 4.4.3, 4.4.4, 4.4.5, 4.4.6, 4.4.7 (Y&F Chap 5.1-5.3)

Small Room Meeting	<p>HW 2 Corrections</p> <p>HW 3: Read EPH Chap 3. Do Question #19 & Problems #15, 21, 22, 23, 24, 32, 39</p> <p>Read Y&F Chap 4. Do Exercise #4.23, 4.51</p> <p>Quiz 3: 1D Dynamics (Chapter 3)</p>	2D Dynamics (EPH Chap 4): ALG 4.1.1 (do the exp), 4.1.2, 4.1.3, 4.4.1
Large Room Meeting II		2D Dynamics (EPH Chap 4): ALG 4.4.10, 4.4.11, 4.4.12, 4.4.14 (Y&F Chap 5.1-5.3)
Week 5 (9/30-10/4)	Due	Topics & Activities
Large Room Meeting I		Uniform Circular Motion (EPH Chap 5): ALG 5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.2.1, 5.2.2, 5.2.3, 5.2.9, 5.3.1, 5.3.2 (Y&F Chap 5.4)
Small Room Meeting	<p>HW 3 Corrections</p> <p>HW 4: Read Chapter 4. Do Questions #12-14 & Problems #6, 20, 25-27, 40, 46, 52, 56</p> <p>Quiz 4: 2D Dynamics (Chapter 4)</p>	Uniform Circular Motion (Chapter 5): ALG 5.2.5, 5.2.6, 5.2.7, 5.2.8, 5.2.9, 5.4.1, 5.4.2, 5.4.8
Large Room Meeting II		Uniform Circular Motion (EPH Chap 5): ALG 5.5.1, 5.5.2, 5.5.3, 5.5.5
Week 6 (10/7-10/11)	Due	Topics & Activities
Large Room Meeting I		EXAM 1 CHAPTERS 1-4
Small Room Meeting	<p>HW 4 Corrections</p> <p>HW 5: Read Chapter 5.1-5.4. Do Questions #2, 24 & Problems #5, 9, 15, 24, 25, 32, 33, 36</p> <p>Quiz 5: Uniform Circular Motion (Chapter 5)</p>	Impulse & Momentum (EPH Chap 6): ALG 6.1.2, 6.1.4, 6.2.1, 6.2.2
Large Room Meeting II		Impulse & Momentum (EPH Chap 6): ALG 6.2.3, 6.2.4 (prepare data), 6.3.1, 6.3.3, 6.4.1, 6.4.2
Week 7 (10/14-10/18)	Due	Topics & Activities
Large Room Meeting I		Work & Energy (EPH Chap 7): ALG 7.1.1-7.1.7 Y&F(Chap 6 & 7): 6.1

Small Room Meeting	<p>HW 5 Corrections</p> <p>HW 6: Read Chapter 6.1-6.6. Do Questions #7, 12, 13, 14 & Problems #4, 7, 8, 23, 25, 34, 35</p> <p>Quiz 6: Impulse & Momentum (Chapter 6)</p>	Work & Energy (EPH Chap 7): ALG 7.2.2-7.2.5
Large Room Meeting II		<p>Work & Energy (EPH Chap 7): ALG 7.3.1, 7.4.1, 7.4.2, 7.5.1, 7.5.2</p> <p>Y&F (Chap 6 & 7): 6.3</p>
Week 8 (10/21-10/25)	Due	Topics & Activities
Large Room Meeting I		Work & Energy (EPH Chap 7): ALG 7.5.2; Textbook table 7.5; Textbook example 7.8; Textbook discussion on page 198 (going upstairs)
Small Room Meeting	<p>HW 6 Corrections</p> <p>HW 7: Read EPH Chapter 7.1-7.6. Do Questions #3, 11, 22 & Problems #13, 15, 28, 40, 41, 42, 46. Read Y&F Chap 6. Do Example: 6.1. Exercise: 6.8, 6.11, 6.36, 6.62</p> <p>Quiz 7: Work & Energy (Chapter 7.1-7.6)</p>	Work & Energy (EPH Chap 7): ALG 7.6.7, 7.6.8, 7.6.10
Large Room Meeting II		Work & Energy (EPH Chap 7): ALG 7.7.4, 7.7.5
Week 9 (10/28-11/1)	Due	Topics & Activities
Large Room Meeting I		Statics (EPH Chap 8): ALG 8.1.1 - 8.1.4, 8.2.1, 8.2.2
Small Room Meeting	<p>HW 7 Corrections</p> <p>HW 8: Read Chapter 7.7-7.9 Do Chapter 6 Problems #49, 50, 64 & Chapter 7 Problems #49, 52, 53, 57, 66</p> <p>Quiz 8: Work & Energy (Chapter 7.7-7.9)</p>	Statics (EPH Chap 8): ALG 8.2.3, 8.2.5, 8.2.6, 8.2.7
Large Room Meeting II		Statics (EPH Chap 8): ALG 8.3.1, 8.4.1, 8.4.2, 8.4.3, 8.5.1

Week 10 (11/4-11/8)	Due	Topics & Activities
Large Room Meeting I		EXAM 2 CHAPTERS 5-7
Small Room Meeting	<p>HW 8 Corrections</p> <p>HW 9: EPH Read Chapter 8.1-8.5. Do Chapter 8 Questions #11, 18 & Problems #2, 8, 20, 23, 28, 56, 59</p> <p>Y&F Read Chapter 10.1. Do Chapter 10 Exercises: 10.1, 10.2, 10.3</p> <p>Quiz 9: Statics (Chapter 8.1-8.5)</p>	Statics (EPH Chap 8): ALG 8.5.7; Textbook section 8.6; ALG 8.6.1, 8.6.3, 8.6.4
Large Room Meeting II		Rotational Motion (EPH Chapter 9): ALG 9.1.1, 9.1.2, 9.1.5, 9.2.1, 9.4.1, 9.4.2, 9.5.1
Week 11 (11/11-11/15)	Due	Topics & Activities
Large Room Meeting I		Vibrations (EPH Chap 10): ALG 10.1.1, 10.1.5, 10.2.1, 10.2.2, 10.2.4, or Section 10.2 in EPH. Y&F Chapter 14.
Small Room Meeting	<p>HW 9 Corrections</p> <p>HW 10: Read Chapter 9.1-9.5. Do Chapter 9 Questions #1, 4, 7, 8, 11 & Problems #1, 4, 6, 19, 23, 42, 51</p> <p>Quiz 10: Rotational Motion (Chapter 9.1-9.5)</p>	Vibrations (EPH Chap 10): ALG 10.2.5, 10.2.6, 10.3.4, 10.4.2, 10.4.3, 10.5.3, 10.5.4
Large Room Meeting II		Vibrations (EPH Chap 10): ALG 10.3.1, 10.3.2, 10.3.3, 10.4.1, 10.5.1, 10.5.3
Week 12 (11/18-11/22)	Due	Topics & Activities
Large Room Meeting I		Waves (EPH Chap 11): ALG 11.1.3-11.1.6, 11.2.1-11.2.5, 11.2.7, 11.3.1, 11.6.1-11.6.6
Small Room Meeting	<p>HW 10 Corrections</p> <p>HW 11: Read EPH Chapter 10. Read Chapters 10.3-10.5. Do Chapter 10 Questions #5, 6, Problems #2, 5, 6, 9, 11, 15, 21, 24, 33, 37</p> <p>Read Y&F Chapter 14. Do Exercise: 14.8, 14.34, 14.36</p> <p>Quiz 11: Chapter 10 Vibrations</p>	Waves (EPH Chap 11): ALG 11.2.7, 11.6.1, 11.6.2, 11.6.4, 11.6.5, 11.6.6
Large Room Meeting II		Waves (EPH Chap 11): ALG 11.2.7, 11.6.1, 11.6.2, 11.6.4, 11.6.5, 11.6.6

Week 13 (11/25-11/29)	Due	Topics & Activities
Large Room Meeting I		Sound (EPH Chap 11): ALG 11.7.2-11.7.5 *Tuesday follows Thursday Schedule. Wednesday follows Friday Schedule. Recitations do not meet. Complete Post-Test
*Classes canceled Wednesday & Thursday for Thanksgiving break. Happy Holiday!		
Week 14 (12/2-12/6)	Due	Topics & Activities
Large Room Meeting I		Static Fluids (EPH Chap 13): ALG 13.1.1, 13.2.1, 13.3.1, 13.3.2-13.3.4, 13.3.7, 13.3.5, 13.3.6
Small Room Meeting		Static Fluids (EPH Chap 13): ALG 13.5.1, 13.5.2, 13.5.6, 13.5.9, 13.6.3
Large Room Meeting II		Static Fluids (EPH Chap 13): ALG 13.5.8, 13.5.9 (repeat), 13.6.1, 13.6.2, 13.6.7, 13.6.10
Week 15 (12/9-12/11)	Due	Topics & Activities
Large Room Meeting I		Dynamics of Fluids (EPH Chap 14): ALG 14.1.1 - 14.1.3, 14.2.1-14.2.3, 14.3.1, 14.4.1, 14.4.3, 14.5.1
Small Room Meeting	HW 11 Corrections HW 12: Read Chapter 11.3-11.9. Do Questions #3, 6, 8 & Problems #2, 3, 7, 11, 13, 31 Read Chapter 13. Do Questions 1, 2, 3, 4, 7, 10 & Problems #6, 19, 23, 30, 59, 66 Quiz 12: Waves (Chapter 11) Static Fluids (Chapter 13)	Dynamics of Fluids (EPH Chap 14): ALG 14.5.2, 14.5.3, 14.5.4, 14.5.6
Final Exam		
Final Exam (Sections 1-2, Ahmed): Tuesday Dec 17 3:00-4:20 PM SMT 220	Final Exam: Chapters 1-11, 13-14	*Students must bring final exam conflicts to the attention of their dean of students at least two weeks before the first final exam day.

Overall Course Grade Calculation:

Activities (10%): _____ x 0.10 = _____
(average)

Clicker Questions (10%): _____ x 0.10 = _____
(average)

Learning Survey (5%): _____ x 0.05 = _____
(average)

Homework (10%): _____ x 0.10 = _____
(average)

Quiz (5%): _____ x 0.05 = _____
(average)

Exam 1 (20%): _____ x 0.20 = _____

Exam 2 (20%): _____ x 0.20 = _____

Final (20%): _____ x 0.20 = _____

+

_____ COURSE GRADE: _____

Grading Scheme:

	Percentage
Activities	10
Clicker Questions	10
Learning Survey	5
Homework	10
Quiz	5
Exam 1	20
Exam 2	20
Final Exam	20

Overall Grade:

Letter Grade	Range
A	90.0+
B+	87.0 - 89.9
B	80.0 – 86.9
C+	77.0 – 79.9
C	70.0 – 76.9
D	60.0 – 69.9
F	< 60.0

