



**Division of Health Sciences
Pharmacy Technician Department**

<https://www.hccs.edu/programs/areas-of-study/health-sciences/pharmacy-technician/>

PHRA 1309: Pharmaceutical Calculations I | Lecture | #22857

Spring 2021 | 16 Weeks (1.19.2021-5.16.2021)

Online – On a Schedule | WebEx on Canvas | Tues/Thurs 9:00 AM-10:20 AM

3 Credit Hours | 48 hours per semester

Instructor Contact Information

Instructor:	Marlen Jimenez	Office Phone:	713-718-2045
Office:	Coleman, Room 351	Office Hours:	Virtual office hours by appointment only
HCC Email:	marlen.jimenez@hccs.edu	Office Location:	Coleman College Suite 359

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear the concerns and just to discuss course topics.

Instructor's Preferred Method of Contact

Email: marlen.jimenez@hccs.edu **or** the email in Canvas

Additional contact information: office phone 713-718-2045

Administrative Assistant phone: 713-718-7356

I will respond to emails within 24 hours Monday through Friday; I will reply to emails received after 4:00 PM on Friday and weekend messages on Monday.

What's Exciting About This Course

You will learn so much about pharmaceutical calculations. Do you know how to calculate days supply? How many drops are in a dropper bottle? How to calculate a basic drug dose? The course will look at how and why it is important for a pharmacy technician to be knowledgeable about pharmaceutical calculations. Did we dispense the right amount of tablets or capsules for this prescription? How much water should be added to the powder drug so the patient can take their medication? The information in this course will enable you to approach pharmaceutical calculations with confidence.

My Personal Welcome

Welcome to Pharmaceutical Calculations I! I'm delighted that you have chosen this course! One of my passions is teaching pharmaceutical calculations, days' supply, and drug dosages, and I can hardly wait to pass that on. I will present the information in the most exciting way I know, so that you can grasp the concepts and apply them now and hopefully throughout your life.

As you work through problems and wrestle with new ideas that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. The best way to really discuss issues is in person and I'm available during posted office hours to tackle the questions. My goal is for you to walk out of the course with a better understanding of pharmaceutical calculations. So please visit me or contact me by email whenever you have a question.

Prerequisites and/or Co-Requisites

PHRA 1309 requires college-level reading and writing skills, and the student must be eligible for Math 0312. Research indicates that you are most likely to succeed if you have already taken and passed ENGL 1301. The minimum requirement for enrollment in PHRA 1309 includes acceptance into the Pharmacy Technician Program and successful completion (grade of 70% or above) in PHRA 1301 Intro to Pharmacy. If you have enrolled in this course having satisfied these prerequisites, you have a higher chance of success than students who have not done so. Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

Canvas Learning Management System

This section of PHRA 1309 is being delivered using the Houston Community College's **Online on a Schedule Modality**. Instruction will be delivered online, using the WebEx function within [Canvas](https://eagleonline.hccs.edu) (<https://eagleonline.hccs.edu>), at the scheduled class time selected when enrolling. Students never come to campus, but log into their class on the scheduled dates and times. All assignments, quizzes, and exams will be given in Canvas, some during class time, so attendance is imperative.

HCCS Open Lab locations may be used to access the Internet and Canvas. **USE [FIREFOX](#) OR [CHROME](#) AS THE INTERNET BROWSER.**

HCC Online Information and Policies

Here is the link to information about HCC Online classes including the required Online Orientation for all fully online classes: <http://www.hccs.edu/online/>

Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. <https://eagleonline.hccs.edu/login/ldap>

Instructional Materials

Textbook Information

This course uses an open educational resource math textbook in PDF format and is available online on the PHRA 1309 Canvas Online homepage.

Other Instructional Resources

A Non-programmable calculator.

Students will be required to BRING ALL required materials/supplies (calculators, handouts, homework, books, etc.) with them to all class periods. Students without the required materials/supplies may not be allowed to participate in that particular class period. Students will receive a "0" on any missed assignment/quiz/test and will not be allowed to make up the missed assignments/quiz/test due to not being properly prepared with the required materials/supplies.

Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services](#) website for services provided.

Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <http://library.hccs.edu>.

Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <http://www.hccs.edu/resources-for/current-students/supplemental-instruction/>.

Course Overview

Solving pharmaceutical calculation problems encountered in the preparation and distribution of drugs.

Core Curriculum Objectives (CCOs)

PHRA 1247 satisfies the health science requirement in the HCCS core curriculum. The HCCS Health Science Discipline Committee has specified that the course address the following core objectives:

- Critical Thinking Skills (CT) - creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- Communication Skills (COM) - effective development, interpretation and expression of ideas through written, oral and visual communication
- Teamwork (TW) - ability to consider different points of view and to work effectively with others to support a shared purpose or goal
- Social Responsibility (SR) - intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
- Personal Responsibility (PR) - ability to connect choices, actions and consequences to ethical decision-making

Program Student Learning Outcomes (PSLOs)

Can be found at:

<https://www.hccs.edu/programs/areas-of-study/health-sciences/pharmacy-technician/>

Course Student Learning Outcomes (CSLOs)

Upon completion of PHRA 1247, the student will be able to:

- Calculate the correct quantities needed to make a prescribed strength and determine the strength of pharmaceutical products using the alligation method.
- Calculate the percent strength and ratio strength of pharmaceutical products.
- Calculate the amount of drug in a given pharmaceutical product.
- Calculate the amount of two products needed to prepare a desired concentration.
- Calculate the powder volume, final volume and/or diluent volume of a given reconstituted medication.
- Calculate IV infusion flow rates and IV completion times.
- Calculate IV flow rates using "units of measure per min or per hour" and "volume per min or per hour".
- Calculate dosages and IV rates involving heparin, insulin and other types of drugs measured in "units".
- Calculate patient medication dosages involving conversions between systems of measurement.

Learning Objectives

- Standard 1: Personal/interpersonal Knowledge and Skills
Entry Level
 - 1.8 Demonstrate problem solving skills.

- Standard 2: Foundational Professional Knowledge and Skills
Entry Level
 - 2.6 Perform mathematical calculations essential to the duties of pharmacy technicians in a variety of settings.

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Working assigned problems
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook and working in your study guide
- Complete the required reading, assignments, discussions and quizzes
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Attain a raw score of at least 70% in the course
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

Assignments, Exams, and Activities

Assignments

Students are expected to complete assignments and work practice problems often. The key to calculating with confidence is to continue working and solving problems.

Exams

PHRA 1309 will have a total of three exams (2 lecture exams and a final exam). Lecture exams count for 30% of the final course grade. The final exam will count for 35% of the final course grade. Students will only have one attempt for each exam. **Exams must be taken when scheduled! There will be no make-up exams given.**

In-Class Activities

In-class activities will include scheduled quizzes, problem solving discussions, and assessments. Students will also be expected to participate in various in-class activities such as games, unannounced quizzes.

There are 2 types of quizzes given each week.

- *Conversion quizzes are over the conversion factors and problem solving. They are worth 15% and must be taken during the allotted time. They will be given at the beginning of class and close after the allotted time. No make-ups will be allowed, no exceptions.*
- *Lecture quizzes are over the assigned lecture material and are worth 20% of the final grade.*

Final Exam

All students will be required to take a comprehensive final exam. All the information students need to prepare for the exam will be provided by the instructor.

The Final Exam accounts for 35% of the course final grade. Students who are absent from the final exam without discussing their absence with the instructor in advance or within 24 hours afterward will receive a course grade of F. Any student who does not take a makeup exam before the end of the semester will receive a final exam grade of zero and a course grade of F.

Grading Formula

PHRA 1309 course grades will be based on the following:

Conversion Quizzes	15%
Lecture Quizzes	20%
Lecture Exams	30%
Final Exam	35%

Grade	Percentage
A	100 – 90%
B	89 – 80%
C	79 – 70%
D	69 – 60%
F	<60%
FX	Failure due to non-attendance

Any grade below a C is considered not passing and will prevent the student from progressing. In order to pass this course, the student must earn a grade of C or better.

FINAL GRADE OF FX: Students who stop attending class and do not withdraw themselves prior to the withdrawal deadline may either be dropped by their professor for excessive absences or be assigned the final grade of "FX" at the end of the semester. Students who stop attending classes will receive a grade of "FX", compared to an earned grade of "F" which is due to poor performance. Logging into a DE course without active participation is seen as non-attending. Please note that HCC will not disperse financial aid funding for students who have never attended class. Students who receive financial aid but fail to attend class will be reported to the Department of Education and may have to pay back their aid. A grade of "FX" is treated the same as a grade of "F" in terms of GPA, probation, suspension, and satisfactory academic progress.

Last day to withdraw: 04/06/2021

Incomplete Policy:

In order to receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

HCC Grading Scale can be found on this site under Academic Information:
<http://www.hccs.edu/resources-for/current-students/student-handbook/>

Course Calendar

>>>>The course calendar is found at the end of the syllabus<<<<

Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor's Practices and Procedures

Missed Assignments

All assignments must be completed by the posted deadline. There will be no make-up assignments, quizzes, or exams. Late submissions will not be accepted. Assignments in Canvas are due before the assignment closes. The instructor will not reopen any assignments once the assignment has closed.

Academic Integrity

The HCCS Student Handbook states: **"Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion."** Possible punishment may include a grade of 0 to F for the assignment, failure in the course, and/or recommendation for probation or dismissal from the college system.

A student who is academically dishonest is, by definition, not showing that the coursework has been learned, and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's individual achievements and also for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has teaching, grading, and enforcement roles. You are expected to be familiar with the University's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion.

Cheating on a test includes:

1. Copying from another students' test paper;
2. Using materials not authorized by the person giving the test;
3. Collaborating with another student during a test without authorization;
4. Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
5. Bribing another person to obtain a test that is to be administered.

Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.

Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of 0 or

F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. (See the Student Handbook)

The HCCS Student Handbook states: **"...mature, responsible adults...Students will not interfere with or disrupt the orderly educational process of the college system."**

Everyone is expected to display both courtesy and cooperation in the classroom. A student who either cannot or will not comply may not continue in the course.

As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. Your instructor takes this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are asked to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

Attendance Procedures

Faculty will hold class as per the assigned schedule, and students will attend online each class period utilizing Canvas Eagle Online.

Attendance will be taken each class period.

Students will be expected to attend all class lectures, lab meetings, and field trips. Any student who is absent for more than 2 class periods (lecture or lab) will be subject to administrative withdrawal from the course, without notification. Further, any student more than 15 minutes late for class will be counted as absent. Each tardy (15 minutes or less) will add up and count towards total hours absent (2 tardies = 1 absence). All absences will result in a deduction from the student's attendance/participation grade. Likewise, not staying for the entire class period or leaving early will also result in a deduction from the student's attendance/participation grade. Leaving class 15 minutes or more before the scheduled ending time will count towards total hours absent (2 early departures = 1 absence).

Poor attendance records tend to correlate with poor grades. If you miss any class, including the first week, you are responsible for all material missed. It is a good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in paper if you unavoidably miss a class.

Student Conduct

A courteous and professional manner is expected in all interactions with other students in the class as well as with your professor.

Instructor's Course-Specific Information (As Needed)

Grades will be updated in Canvas regularly. It is the student's responsibility to keep up with their progress in the course. Early alerts will be submitted regularly throughout the semester.

If you would like to discuss your grade or progress, please feel free to email, call, or visit your professor during office hours.

Electronic Devices

As a student active in the learning community of this course, it is your responsibility to be respectful of the learning atmosphere in your classroom. To show respect of your fellow students and instructor, you will silence your phone and other electronic devices, and will not use these devices in the classroom unless you receive permission from the instructor.

Use of recording devices, including camera phones and tape recorders, is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations.

HCC Policies

Here's the link to the HCC Student Handbook <http://www.hccs.edu/resources-for/current-students/student-handbook/> In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

EGLS³

The EGLS³ ([Evaluation for Greater Learning Student Survey System](http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/)) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term.

<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>

Campus Carry Link

Here's the link to the HCC information about Campus Carry:

<http://www.hccs.edu/departments/police/campus-carry/>

HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go [to HCC Eagle ID](#) and activate it now. You may also use Canvas Inbox to communicate.

Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<http://www.hccs.edu/departments/institutional-equity/>)

disAbility Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <http://www.hccs.edu/support-services/disability-services/>

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main

(713) 718-8271

Houston, TX 77266-7517 or Institutional.Equity@hccs.edu

<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>

Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>

Department Chair Contact Information

Department Chair: Janet Pena

Email address: janet.pena@hccs.edu

Office phone number: 713-718-7665

Disruptive Student(s) Course Policy

Students who demonstrate disruptive and at-risk behaviors in the PHRA-1309 classroom, aids others in compromising the learning environment, and are unable to provide safe and quality education to other students shall be subject to disciplinary action by the course instructor.

Disruptive behaviors include but are not limited to:

1. Persistent speaking in classroom/lab without permission
2. Engaging in activities not related to the class subject
3. Inappropriate use of electronic devices such as cell phones, tablets, laptops, cameras, camcorders, etc.
4. Sleeping in classroom/lab
5. Frequently entering classroom/lab late or leaving early
6. Eating/drinking in classroom/lab without permission
7. Disputing authority and arguing with faculty and other students in class and outside the class period
8. Threats of any kind
9. Harassment of any kind
10. Physical altercations
11. Destruction of property
12. Any type of behavior that puts the safety of the instructor or students in the classroom/lab in jeopardy



Now assisting Pharmacy Mathematics

(PHRA 1309, PHRA 1247)

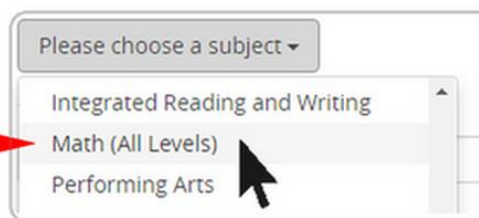
www.hccs.upswing.io

To access service: Go to our website. Login using your student ID (W number) and HCC student email password. It's that easy!

Once logged in,

- click "Upload an assignment for review"
- fill out the form*
- click "Submit"
- expect a reply within 24 hours, often sooner

*For questions about Pharmacy Math, choose "Math (All Levels)" for your subject.



Some friendly advice from our math tutors ...

"Please help us give you targeted feedback by attaching a picture of your handwritten work. Thank you!"

Not just math!!

Upswing has a vast array of subject area tutoring services...

English 1301/1302; ESOL; Integrated Reading & Writing; Creative Writing; Student Success; Teacher Education; Psychology; Sophomore Literature; History; Art; Business; Humanities; Government; Economics; Philosophy; Chemistry; Human Services/Social Work; Sociology; Physics; Geology; Technical Writing; Geography

>>>>Syllabus Modifications<<<<

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by email of any such changes.

Week #	Dates	Topic	Assigned Work with Due Dates
1	1/19 - 1/22	Basic Math Part 1 • Numeral Systems • Military Time • Decimals Conversion Factors	• Syllabus Quiz (1/25)
2	1/25 - 1/29	Basic Math Part 2 • Fractions/Ratios • Percentages • Units of Measurement Conversion Factors	• Conversion Quiz - in class (1/26) • Lecture Quiz (2/1) • Ungraded practice problems
3	2/1 - 2/5	Problem Solving • Ratio/Proportion Method • Dimensional Analysis	• Conversion Quiz - in class (2/2) • Lecture Quiz (2/8) • Ungraded practice problems
4	2/8 - 2/12	Oral Solids Calculations • # units per dose and to dispense • Day's Supply	• Conversion Quiz - in class (2/9) • Lecture Quiz (2/15) • Ungraded practice problems
5	2/15 - 2/19	Exam #1 (2/22)	
6	2/22 - 2/26	Oral Liquid Calculations • Reconstitution and Powder Volume • Volume per dose and to dispense	• Conversion Quiz - in class (2/23) • Lecture Quiz (3/1) • Ungraded practice problems
7	3/1 - 3/5	Oral Liquid Calculations • Volume per dose and to dispense • Day's Supply	• Conversion Quiz - in class (3/2) • Lecture Quiz (3/8) • Ungraded practice problems
8	3/8 - 3/12	Day Supply Calculations: • Inhalers • Nebulizer • Suppositories	• Conversion Quiz - in class (3/9) • Lecture Quiz (3/14) • Ungraded practice problems
	3/15 - 3/19	Spring Break	
9	3/22 - 3/26	Day Supply Calculations • Insulin • MDV, SDV vials	• Conversion Quiz - in class (3/23) • Lecture Quiz (3/29) • Ungraded practice problems
10	3/29 - 4/2	Exam #2 (4/5)	
11	4/5 - 4/9	Customized Doses: Weight Based Dosage Calculations	• Conversion Quiz - in class (4/6) • Lecture Quiz (4/12) • Ungraded practice problems
12	4/12 - 4/16	Customized Doses: BSA Dosage Calculations	• Conversion Quiz - in class (4/13) • Lecture Quiz (4/19) • Ungraded practice problems
13	4/19 - 4/23	Customized Doses: Pediatric Dosages	• Conversion Quiz - in class (4/20) • Lecture Quiz (4/26) • Ungraded practice problems
14	4/26 - 4/30	Pharmacy Business Math	• Conversion Quiz - in class (4/27) • Lecture Quiz (5/3) • Ungraded practice problems
15	5/3 - 5/7	Final Exam Review Week	
16	5/10 - 5/14	Final Exam (5/12)	