Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 1316

Course Title: Plane Trigonometry

Available Formats: conventional/flex and ITV

Campuses: Levelland, Reese, and Dual Credit

Course Description: In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included.

Prerequisite: Minimum score of 350 on the TSIA, TSI-exempt status, or a successful completion with a grade of 'C' or better in MATH 1314.

Credit: 3 **Lecture:** 3 **Lab:** 0

Textbook: *Trigonometry*, Dugopolski, 2019, 5th Edition, Prentice Hall/Pearson Education

Supplies: Please see the instructor's course information sheet for specific supplies.

This course partially satisfies a Core Curriculum Requirement: Mathematics Foundational Component Area (020)

Core Curriculum Objectives addressed:
- **Communications skills**—to include effective written, oral and visual communication
- **Critical thinking skills**—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- **Empirical and quantitative competency skills**—to manipulate and analyze numerical data or observable facts resulting in informed conclusions

Student Learning Outcomes: Upon completion of this course and receiving a passing grade, the student will be able to:

1. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
2. Graph trigonometric functions and their transformations.
3. Prove trigonometric identities.
4. Solve trigonometric equations.
5. Solve right and oblique triangles.
6. Use the concepts of trigonometry to solve applications.

Student Learning Outcomes Assessment: A pre- and post-test questions will be used to determine the extent of improvement that the students have gained during the semester

Course Evaluation: There will be departmental final exam questions given by all instructors.

Attendance/Student Engagement Policy: Attendance and effort are the most important activities for success in this course. The instructor maintains records of the student's engagement throughout the semester. The student will be allowed to miss twenty percent (20%) of class assignments (7 for this class) for the semester, ***for any reason***. Should this number be exceeded, the instructor has the right to drop the student with a grade of F or an X, depending on the instructor's discretion.

Plagiarism violations include, but are not limited to, the following:
1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

Cheating violations include, but are not limited to, the following:
1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain an unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

COVID Syllabus Statement: It is the policy of South Plains College for the Fall 2020 semester that as a condition of on-campus enrollment, all students are required to engage in safe behaviors to avoid the spread of COVID-19 in the SPC community. Such behaviors specifically include the requirement that all students properly wear CDC-compliant face coverings while in SPC buildings including in classrooms, labs, hallways, and restrooms. Failure to comply with this policy may result in dismissal from the current class session. If the student refuses to leave the classroom or lab after being dismissed, the student may be referred to the Dean of Students on the Levelland campus or the Dean/Director of external centers for Student Code of Conduct Violation.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect on the part of the student and the instructor. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, aggressive, or demeaning. Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.

Diversity Statement: In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Disability Statement: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

Nondiscrimination Policy: South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

Title IX Pregnancy Accommodations Statement: If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or email cgilster@southplainscollege.edu for assistance.

Campus Concealed Carry: Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: http://www.southplainscollege.edu/campuscarry.php

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

SPC Bookstore Price Match Guarantee Policy: If you find a lower price on a textbook, the South Plains College bookstore will match that price. The difference will be given to the student on a bookstore gift certificate! The gift certificate can be spent on anything in the store.

 If students have already purchased textbooks and then find a better price later, the South Plains College bookstore will price match through the first week of the semester.   The student must have a copy of the receipt and the book has to be in stock at the competition at the time of the price match.

The South Plains College bookstore will happily price match BN.com & books on Amazon noted as *ships from and sold by Amazon.com.* Online marketplaces such as *Other Sellers* on Amazon, Amazon's Warehouse Deals, *fulfilled by* Amazon, BN.com Marketplace, and peer-to-peer pricing are not eligible. They will price match the exact textbook, in the same edition and format, including all accompanying materials, like workbooks and CDs.

A textbook is only eligible for price match if it is in stock on a competitor's website at time of the price match request. Additional membership discounts and offers cannot be applied to the student's refund.

Price matching is only available on in-store purchases.   Digital books, access codes sold via publisher sites, rentals and special orders are not eligible. Only one price match per title per customer is allowed.

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any point during the semester.

Mathematics 1316 – Plane Trigonometry

Section: 201, Wednesday, 5:30 P.M.   **Room:** Reese Building 2, Room 231

003, Thursday, 1:00 P.M.   Levelland Agriculture Building 103

Instructor: Sheyleah V. Harris-Plant, Ph.D.   **School Mobile Phone:** (806) 478-2093

Room: Levelland Math Building 120   **Email:** sharris@southplainscollege.edu

Phone: (806) 716-2665

Office Hours:
Mondays (Virtual): 13:00 – 16:00
https://southplainscollege.zoom.us/j/96509335675?pwd=blhIczlIRkYzRWZTVTYyVDZPR29IZz09
Tuesdays (Virtual): 13:00-15:00
https://southplainscollege.zoom.us/j/95574119461?pwd=NVMvNUptVUNwdkhxZEROLzJsajVmUT09
Wednesday (Face-to-Face): 19:00 – 20:00 (RC 231)
Thursday (Face-to-Face): 11:00 – 12:00 (M 120) and 14:30 – 15:30 (M 120)
Or set an appointment of your convenience at https://sharris-8.youcanbook.me

Course Materials: Spiral in South Plains College bookstore titled *Plane Trigonometry* by Sheyleah Harris-Plant.

Supplies: Pencil, 8.5-inch x 11-inch paper, graph paper, ruler, stapler, erasers, and web camera (SCIENTIFIC CALCULATORS ALLOWED, NO GRAPHING CALCULATORS)

Reference Textbooks: (The textbook is not required for the course, but the student is welcome to purchase <u>any</u> of the following textbooks.)

Dugopolski, M. (2015). *Trigonometry*, 4th ed, Boston: Pearson. ISBN 9780321923486

Lial. M. L., Hornsby, J., Schneider, D. I. (2008). *Trigonometry*, 9th ed, New Jersey: Pearson. ISBN 0321528859

Young, C. Y. (2012). *Trigonometry*, 3rd ed, New Jersey: John Wiley & Sons, Inc. ISBN 9780470648025

Supplementary Course Information

Blackboard is the online course management system that will be used for this course. This course syllabus, as well as any class handouts, can be accessed through Blackboard. Login at https://southplainscollege.blackboard.com/. The user name and password should be the same as the MySPC and SPC email.

User name: first initial, last name, and last 4 digits of the Student ID

Password: Original CampusConnect Pin No. (found on SPC acceptance letter)

"Intelligence plus character – that is the goal of true education." – Dr. Martin Luther King, Jr.

"Hard work is required, but must also produce value." – Norman Chaffee

"True knowledge exists in knowing that you know nothing." – Socrates

"There is no end to education. It is not that you read a book, pass an examination, and finish with education. The whole of life, from the moment you are born to the moment you die, is a process of learning." – Jiddu Krishnamurti

"In the United States, we experience many freedoms. Two of these freedoms include the freedom to succeed and the freedom to fail. Which one will you choose?" – Alan Worley

Class Cancellation

In the event of the class being canceled by the school, the student will be responsible for the lecture material. The class will continue on the calendar presented. All information needed is on Blackboard and should be accessed by the student.

Withdrawal

If you wish to withdraw from this class for any reason, you must initiate the appropriate steps on your own. To withdraw from this class, you will need to go to the Admissions and Records office either on the Levelland campus or the Reese Center campus, and fill out a drop notification form, and pay $5. The drop form can be obtained online in MySPC, under the Student Forms and Tools link. Please be aware that SPC may not permit an undergraduate student to drop a total of more than six courses (including any course a transfer student has dropped at another institution of higher education) if the student enrolled in college for the first time during the Fall 2007 academic term or any term subsequent to the Fall 2007 term.

Email Policy

All students at South Plains College are assigned a standardized SPC e-mail account. Although personal e-mail addresses will continue to be collected, the assigned SPC e-mail account will be used as the official channel of communication for South Plains College. The Student Correspondence Policy can be found at www.southplainscollege.edu. To access the SPC student e-mail account, log in to portal.office.com. (Copied from SPC Student Guide)

Since all students have an assigned SPC email, the instructor will only acknowledge, respond, and send emails to your assigned SPC email. This ensures all correspondence from the instructor is received by the intended recipient.

Final Grading Policy

All grades are rounded from the tenths place. Upon the submission of grades at the end of the semester, **ALL GRADES ARE FINAL!**

Grading Scale

90 or above	A
80 to 89	B
70 to 79	C
60 to 69	D
59 and Below	F

Assignment Weights

Assignments		
Participation	10 @ 2 point	20 points
Quizzes	10 @ 2 points	20 points
Unit Exams	4 @ 10 points	40 points
Final Exam	1 @ 20 points	20 points
Total Points		**100 points**
Extra Credit Points		
Participation	4 @ 2 points	8 points
Quizzes	4 @ 2 point	8 points

All supplemental material and your current grade are available all semester on South Plains College's Blackboard server.

Feedback

The instructor will usually return feedback by the next class day; however, they reserve the right to have one (1) week to grade assignments and post grades from the due date.
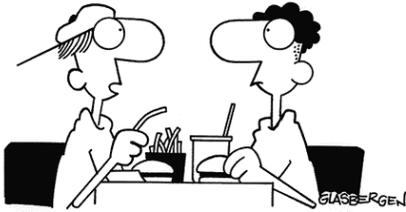
Holiday/Travel Statement*

If a student has pre-existing plans to travel out of the area during scheduled class times, you must inform the instructor by **NO LATER THAN Monday, 14 September 2020**, at the end of class and submit the syllabus receipt. Failure to do so will result in the forfeiture of any assignments that will come into question during your dates of absence. These assignments will not be replaced or allowed for make-up work.

Resources

- ➤ **Free** tutoring at Levelland is available in room 116 of the Mathematics-Engineering Building, at the Reese Center campus in room RC 207 in Building 2, and at the Lubbock Center Computer Lab in Lubbock (3907 Avenue Q) and online. Please remember to sign in when you seek the help of a tutor in each of these places.
- ➤ The South Plains College Department of Mathematics and Engineering has put one copy of the textbook for this course on reserve in the *Levelland and Reese Campus* Libraries.

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http://www.norwich.net/~randyg/toon.html

GLASBERGEN

"I forgot to make a back-up copy of my brain,
so everything I learned last semester was lost."

DO YOUR
HOMEWORK

MATH
TIPS
5¢

Homework

Achieving success in this class will require giving regular effort outside of class, meaning doing homework. If you plan to be successful in this class, expect to spend a **minimum** of 4 to 6 hours outside of class every week maintaining or increasing your math skills. Homework is a planned practice for students to master the skills taught in class and needed in higher-level mathematics courses.

Every student is encouraged to do homework. Homework will be assigned daily. The homework will not be graded. However, the practice is required in order to more fully understand each topic and to successfully negotiate the quizzes and the exams.

Participation

Achieving success in any class, but especially a flipped classroom requires student participation. The instructor will use a rubric to assign the participation grade weekly. The rubric assesses attendance/promptness, level of class engagement, class behavior/professionalism, preparedness (which includes having all lecture examples and homework questions completed), and class discussions. The rubric is available for students to examine on Blackboard. Fourteen (14) grades will be taken, however, only ten (10) grades are counted in the one hundred (100) points for the course. The extra four (4) grades are built-in extra credit for the student.

Quizzes

Quizzes will be given weekly to assess if the student is practicing and mastering their math skills (doing homework). Questions will be similar to the questions in the assigned homework. No make-up quizzes will be allowed. Fourteen (14) quizzes will be administered, however, only ten (10) quizzes are counted in the one hundred (100) points for the course. The extra four (4) quizzes are built-in extra credit for the student.

Quizzes will be given on Blackboard and proctored by Proctorio South Plains College is using Proctorio, an online proctoring tool. We will be using it in this course during the Quizzes, Unit Exams, and the Written Final Exam. Proctorio requires students to have a web camera. If the computer you will be using does not have a webcam, you will need to purchase one or check out a Chromebook from the library. You will have 1 hours to complete the quizzes. The quiz questions will be presented on Blackboard, you will work the problems out on paper, scan your work, and upload it to Blackboard right after you submit the quiz. If you do not have a scanner, there are mobile apps named "Scannable" (ios only), "Cam Scanner", and "One Drive" that you can try. I need to receive all pages of your work in *__one pdf__* file within 30 minutes after you submit the quiz. If I do not receive your work within 30 minutes, you may receive a 0 on the quiz. The answer boxed will be the answer graded and only one answer will be graded, so the answer seen will be the one graded.

Exams*

Exams are used to assess the amount of the course objectives that the student has mastered. The exams will be proctored by Proctorio. an online proctoring tool. You will have 5 hours to complete the Unit Exams. The Unit Exam questions will be presented on Blackboard, you will work the problems out on paper, scan your work, and upload it to Blackboard right after you submit the exam. If you do not have a scanner, there are mobile apps named "Scannable", "Cam Scanner", and "One Drive" that you can try. I need to receive all pages of your work in *__one pdf__* file within 30 minutes after you submit the exam. If I do not receive your work within 30 minutes, you may receive a 0 on the exam. The answer boxed will be the answer graded and only one answer will be graded, so the answer seen will be the one graded. Tentative exam dates are noted in the class calendar. If the student does poorly on their first exam, they are **required** to schedule an appointment to discuss their performance with the instructor in their office.

<u>Final Exam*</u>

There will be a **comprehensive** final exam at the end of the semester. Failure to attempt the final exam will result in a failing grade for the course. The final exam will be given at the scheduled time determined by South Plains College, not during class time. Conflicts in test schedules should be worked out with individual instructors. A student's library records and all financial records must be clear before the student will be allowed to take final examinations in any course.

The Final Exam will have two parts. The first part is the written portion that will be proctored by Proctorio. an online proctoring tool. You will have 5 hours to complete the Final Exam. The Final Exam questions will be presented on Blackboard, you will work the problems out on paper, scan your work, and upload it to Blackboard right after you submit the exam. If you do not have a scanner, there are mobile apps named "Scannable", "Cam Scanner", and "One Drive" that you can try. I need to receive all pages of your work in **_<u>one pdf</u>_** file within 30 minutes after you submit the exam. If I do not receive your work within 30 minutes, you may receive a 0 on the exam.

The second part is the Oral portion. Each student will need to schedule a 30-minute appointment to have a discussion on a topic learned during the semester. The instructor will use a rubric to assign the Final Exam grade. The rubric assesses overall understanding, accuracy, communication, logic, and prompting. The rubric is available for students to examine on Blackboard.

Expectations of the Instructor

The student is within all rights to expect that the instructor does the following:

➢ Show up, as scheduled, to teach all the information pertaining to the course.

➢ Be prepared for class and know the material.

➢ Provide notice of any schedule changes.

➢ Maximize the time allotted for this course by assessing student aptitude for covered information at the close of each lecture, when time permits.

➢ Present the material in a manner that can generally be understood by the majority of the class.

➢ Be accessible to those who need assistance outside of the classroom setting, by way of e-mail or in person, during office hours or reasonably scheduled appointment times.

➢ Hold to any assignment(s) given during the course of the semester unless removed.

➢ Uphold the policies of the college as it pertains to the student's welfare in the course.

➢ Not make any exceptions regarding the dismissal of any student from the course for reasons listed herein.

➢ Allow each student the opportunity to discuss the material presented during the lecture period.

➢ Provide examinations based on the information discussed in class that contains problems that use solving methods *similar* to those assigned from sections pertaining to the exam.

Expectations of the Student

The instructor is within all rights to expect that the student does the following:

➢ READ THE SYLLABUS!!! You will remain subject to the criteria outlined herein whether you read this or not, so it is in your best interest to do so!

➢ Show up on time, as scheduled, to receive and learn all information pertinent to the course and be mindful of any schedule changes.

➢ Bring all materials needed for the course and refrain from bringing anything that is not needed – Be prepared.

➢ Stay up with the course activities – don't get behind.

➢ Work homework early enough to get help, if needed – use good time management skills.

➢ Ask questions to get a clearer understanding.

➢ Keep all notes and assignments organized. This will prove to be helpful in preparing for the exams.

➢ If you are going to withdraw from this course, then *all withdrawals must be done by Thursday, 19 November 2020*. There will be no withdrawals given after this date.

➢ Take advantage of *all* the resources available to you. In the collegiate setting, all students are considered adults and are expected to uphold conduct worthy of such consideration.

➢ Be mindful of the classroom setting and the roles therein. While student tuition is vital to the well-being of this academic institution, this does NOT warrant the concession of an instructor to you in a manner that compromises the integrity of the classroom setting and that of the institution itself.

➢ Be willing to work together with – **BUT NOT DO WORK FOR** – fellow classmates.

➢ *Write all graded work legibly. All work not legible will not be accepted by the instructor and will cause you to receive a grade of zero percent (0%) for the work in question.*

➢ Turn all electronic devices *off* that have no use in the classroom setting. This means all music players, cellular telephones (or cell phones), pagers, etc. In the event that a cell phone must be on (family emergencies only), then the phone must be on vibrate mode and placed on your desk or table. If an unsanctioned device is in use during an exam, then its grade will be zero percent (0%) and possible removal from the course.

➢ Obtain all missed information and assignments from a fellow classmate. **NO LATE WORK will be accepted!!!**

Tips for Learning in a Flipped Classroom

This is a flipped classroom and how you receive instruction in this class will look different from the way you have received instruction from classes in the past. Your "homework" will typically involve you interacting with short videos before class. That will then free up class time for me to help you more, and give us more class time for discussions, collaborative assignments, and hands-on experiences. Since this class is different, I have listed out some suggestions which will ensure that you are completely successful.

When and How You Watch a Lecture Video
- Sitting in a quiet, distraction-free setting
- Silence the phone
- Close all other tabs and windows on your device
- Not connected to social media while watching the lecture video
- Have your class notebook and a writing device to take notes
- Use a set of headphones to watch the videos

Note-taking Tips
- Take careful notes from the video
- Draw appropriate diagrams and charts in your notes
- Frequently pause the video to take notes
- "Rewind" the video when you don't understand things
- When the instructor tells you to solve a problem or write something down, do it
- Write down questions in your notes from the lecture video when you don't understand something
- Bring your questions to class and ask the instructor for help and clarification

How to Best Participate In Class
- Ask the instructor the questions you wrote down in your notes
- Fully participate in class activities
- Work with your classmates
- Offer to help your classmates with things you understand
- Ask for help from your classmates when they understand more than you

Date	Topic	Textbook Exercises
Week 1: 24 Aug – 29 Aug	Introduction	Syllabus Receipt & EdReady Diagnostic Exam
	Unit 1 – Angles and Trigonometric Functions	
	Angles	#1-34 **all**
Week 2: 30 Aug – 5 Sep	Non-Acute Angles	#1-18 **all**
	Trigonometric Functions	#1-20 **all**
Week 3: 6 Sep – 12 Sep	Non-Standard Position Angles	#1-15 **all**
	Unit 2 – Trigonometric Applications	
	Using a Calculator	#1-12 **all**
	Solving Right Triangles	#1-9 **all**
13 Sep	**Unit 1 Exam Due (10 points)**	
Week 4: 13 Sep – 19 Sep	Law of Sines	#1-9 **all**
	Law of Cosines	#1-10 **all**
Week 5: 20 Sep – 26 Sep	Triangle Applications	#1-23 **all**
	Radian Applications	#1-10 **all**
27 Sep	**Unit 2 Exam Due (10 points)**	
Week 6: 27 Sep – 3 Oct	**Unit 3 – Graphing and Basic Analytical Trigonometry**	
	Characteristics of Trigonometric Functions	#1-16 **all**
	Graphs of the Sine and Cosine Functions	#1-14 **all**
Week 7: 4 Oct – 10 Oct	Graphs of the Secant and Cosecant Functions	#1-12 **all**
	Graphs of the Tangent and Cotangent Functions	#1-10 **all**
Week 8: 11 Oct – 17 Oct	Fundamental Identities	#1-25 **all**
	Simplifying Trigonometric Identities	#1-20 **all**
Week 9: 18 Oct – 24 Oct	Verifying Trigonometric Identities	#1-16 **all**
	Inverse Trigonometric Functions	#1-19 **all**
Week 10: 25 Oct – 31 Oct	Trigonometric Equations with Single Angles	#1-15 **all**
	Unit 4 – Trigonometric Identities	
	Sum and Difference Identities	#1-18 **all**
1 Nov	**Unit 3 Exam Due(10 points)**	
Week 11: 1 Nov – 7 Nov	Double-Angle Identities	#1-15 **all**
	Half-Angle and Power Reducing Identities	#1-20 **all**
Week 12: 8 Nov – 14 Nov	Sum-to-Product and Product-to-Sum Identities	#1-10 **all**
	Trigonometric Equations with Multiple Angles	#1-14 **all**
15 Nov	**Unit 4 Exam Due (10 points)**	
Week 13: 15 Nov – 21 Nov	**Unit 5 – Analytical Geometry**	
	Vectors and Dot Product	#1-30 **all**
	Vector Applications	#1-14 **all**
Week 14: 22 Nov – 28 Nov	Polar Plane	#1-21 **all**
	Complex Plane and Forms of Complex Numbers	#1-24 **all**
Week 15: 29 Nov – 5 Dec	Final Exam Question Session	
7 December	**Section 201: Final Exam (20 points) – 5:30 P.M. – 7:30 P.M.**	
10 December	**Section 003: Final Exam (20 points) – 10:15 A.M. – 12:15 P.M.**	