

WELCOME TO MATH 299S: MATH MAJOR SEMINAR.

This class is meant to deepen your understanding of mathematics. To do this it is important for you to develop a thorough understanding of variety of different mathematical content and mathematical skills. In this course, you will often work in groups with other students to apply your combined mathematical background and skills to solve problems and prepare for the next level of mathematics.

At the end of the Math 299S course students will ...

- Gain the knowledge of mathematical major options.
- Be introduced to the mathematical community of support for their mathematics major.
- Perform basic problem solving skills.
- Be able to interpret and manipulate quantified statements in mathematical notation.
- Learn the technical tools to support their future coursework.
- Be able to create a visualization of the mathematical problems presented.
- Be able to use a computer system to calculate mathematical iterations.

My goal is to create a human experience in mathematical exploration and problem solving while achieving these learning objectives.

To support this I will ...

- Regularly communicate the expectations for coursework
- Provide assignments to support your coursework and understanding.
- Make any assignments for the following day by the end of the class period. (ie: all assignments will be posted on Canvas \geq 23 hours prior to the due date).
- Provide regular opportunities for you to assess what you have learned and provide feedback on what you still need to work on.

In this class you will practice ...

- **Working Cooperatively with Others:** Working in groups and talking about math helps you learn it better. Sometimes we think we understand an idea, but when we start talking about it, we realize there are concepts we need to understand better. Asking questions really helps!
- **Problem Solving Skills:** There are many skills involved in successfully doing math. Some people are better at memorizing, some at asking questions, and others at experimenting. We will help you identify your strengths and weakness in order to improve your mathematical problem solving.
- **How to express solutions in written and oral form.**
- **How to use logic to justify mathematical ideas:** Having the correct answer is not enough! You need to be able to explain and justify your logic. This will help you learn the material better, and perform better on tests.
- **How to “speak math”:** Math requires that you learn a lot of new words, which can be very technical. You need to read the textbook and review definitions regularly in order to be savvy at speaking math.
- **How to believe in yourself and your ability to do math:** There are several skills that go into doing mathematics well, and these skills can be practiced and improved. Improving these skills is a focus of this class.

In this class I expect that you will . . .

- **Check your email and Canvas website regularly!**
You are expected to keep track of all your responsibilities.
- **Be self-motivated & work hard** Learning mathematics takes a lot of practice and work. Recall, CWU policy states “*one credit represents a total time commitment of three hours each week of the quarter. A regular load of 15 credits requires 45 hours of work per week. The total time includes class time, studying, conferring with the instructor, writing, performing laboratory work, exercising, or performing any other activity required of students.*” Thus, you will be expected to spend 9 hours a week studying for this class (around 2 hours a night).
- **Consistently submit work on time that meets the assignment format:** You will be asked to turn in something in each day and in order to receive full credit for an assignment, it **MUST** be completed and turned in by class time on the specified due date. This is so you can receive lots of feedback about your progress in the class and adjust your studying accordingly. To meet the learning objective of technical writing each of the assignments should communicate the fundamental ideas in clear, concise, descriptive English prose. In addition, you will be given many word counts for writing assignments over the course of the quarter. **Please consider these word counts as floors, not ceilings.** So if asked to reflect for 100 words you must write at least 100.
- **Participate actively in group-work and class discussions:** Each class will be designed to engage you in gaining a deeper understanding of the material. You will often work in small groups to provide opportunities for each student to talk about the mathematics in the lesson. A part of building understanding is being able to describe what you are thinking and explain your reasoning. **You will also need to listen to, compliment, and also critique the reasoning of other students, in a respectful manner.**
- **Ask questions:** In class time is your opportunity to ask lots of questions! I will help you learn how to ask questions, how to answer your own questions, how to use resources like your textbook, classmates, etc. Also, don't forget that professors are humans who make mistakes. If you think I've made an error reach out and ask me, I'd be happy to discuss it with you.
- **Come to class prepared to engage in mathematical thinking:** You will be asked to turn in something each day. Mathematics is a creative endeavor that slowly builds over the course. To do that you need to do a little bit of work each day. Daily assignments help you practice the work outside of class. The assignments will be about the process, the logic and the justification, not the answer!!
- **Be smart in your collaboration:** You are encouraged to talk to classmates about your assignments and other problems from classwork but you must complete all individual assignments by yourself. If you do talk with others please indicate who your group members were on your assignment. Specifically, please be reminded that the Washington State Legislature defines Academic Dishonesty, <http://app.leg.wa.gov/WAC/default.aspx?cite=106-120-027>
- **Look for alternate ways of solving the same problem:** In this class it is not enough to just get the answer. I want you to develop a deeper understanding of mathematical ideas so you can be a more versatile problem solver. People who can work flexibly, who can see more than one way to solve a problem, and who can make judgments about what might be best for a particular situation, have an advantage in almost every field from engineering to law, journalism and dance. You may have learned how to solve a problem one-way from your past instructors. If you can also master a different way of solving the same problems in this class, you will gain flexibility in your mathematical abilities.

Course Requirements and Grading Standards

Final grades will be computed by assigning weights to the categories described in more detail below:

Assessment Category	Percentage of final grade
Class participation and assignments	20%
Regular problem write-up	20%
Group projects	20%
Five-year professional plan packet	20%
Final Project	20%

The following table reflects the planned letter grade for the course structure:

Total Score	100-93	92-90	89-87	86-83	82-80	79-77	76-73	72-70	69-67	66-63	62-60	59-0
Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Assessment Categories

Additional details for all these categories include grading rubric for individual categories items will be available via Canvas.

Class Participation and Other Assignments: This class is most effective when you do small amounts of work to gain knowledge over the course of the ten-week quarter. To support that growth there will be daily assignments assigned via Canvas. The class time has been setup to optimize the opportunity to do in-class work. If you are not present, you will miss the opportunity to support others in your group with your thoughts on how to approach the problems. Thus attendance will be taken daily. There are no make-ups for in-class assignments. The 5 lowest scores will be dropped to make up for personal absences. Keep in mind that not doing handouts during class (sleeping, Facebook, texting) or leaving as soon as they are given will result in point loss.

Regular (weekly) Problem Write-up: Each day of class will start with a new mathematical problem. You will review these weekly problems, pick your favorite and type up a problem summary of the problem, your attempts, and the solution by the following Thursday.

Group Projects: Multiple group projects will be assigned for work throughout the quarter to support your understanding of the topics discussed in class.

Five-year Professional Plan Packet: What are your plans for five years from now? We will prepare an application packet including CV, cover letter, and application essay for a current activity or scholarship to support your five year plan.

Final Project: Due Wednesday December 5, 2018 at Noon.

You will write a paper presenting a topic of mathematics at or above the calculus level. You should include background information about the mathematics so that another undergraduate reader can follow the paper. You should check whether your topic is appropriate with the instructor prior to writing the paper. You will also prepare a presentation summarizing what you learned while researching the paper. Additional details will be provided in the class.

Note: You must be present at the final presentations. Add it to your calendar now.

University Policies

Religious Holidays: Reasonable accommodations will be made for you to observe religious, holidays when such observances require you to be absent from class activities. It is your responsibility to inform the instructor during the first two weeks of class, in writing, about such holidays.

Academic Integrity: While completing this course you must follow the CWU Student Code of Conduct which is defined by Washington State. Please be reminded that the Washington State Legislature defines Academic Dishonesty in all its forms including, but not limited to the following:

- Cheating on tests.
- Copying from another students test paper.
- Using materials during a test not authorized by the person giving the test.
- Collaboration with any other person during a test without authority.
- Knowingly obtaining, using, buying, selling, transporting, or soliciting in whole or in part the contents of an unadministered test or information about an unadministered test.
- Bribing any other person to obtain an unadministered test or information about an unadministered test.
- Substitution for another student or permitting any other person to substitute for oneself to take a test.
- “Plagiarism which shall mean the appropriation of any other persons work and the unacknowledged incorporation of that work in ones own work offered for credit.
- “Collusion which shall mean the unauthorized collaboration with any other person in preparing work offered for credit.

For more details visit: <http://app.leg.wa.gov/WAC/default.aspx?cite=106-120-027>

Support Services/ Accommodations: Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning, discuss your concerns with me. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. Student Disability Services is located in Hogue 126. Call (509) 963-2214 or email ds@cwu.edu for more information. Also, please let me know if you need me to accommodate for a disability in anyway, I am glad to do so!

Incompletes: The College Policy on Incompletes states that Incompletes are used when the student was not able to complete the course by the end of the term, but has satisfactorily completed a sufficient portion of it and can be expected to finish without having to re-enroll in it. In this course, students who have not completed substantial coursework should not assume that they will be given an incomplete at the end of the semester. If you have concerns about this you should talk to the course instructor and your academic advisor.

Summary of Important Dates: See <https://www.cwu.edu/calendar> to verify any dates

Sept 25	Change of Schedule Period Ends (Add/Drop classes) <i>(Drops completed prior to this date or by the close of business on this date will not appear on transcripts or have tuition assessed).</i>
Sept 25	Deadline to declare audit & credit/no credit grading.
Oct 18	Deadline for 50% refund with complete withdrawal
Nov 2	Uncontested withdrawal period deadline
Nov 12	Memorial Day (observed), No class will be held.
Nov 21-23	Thanksgiving Recess, No class will be held.
Nov 30	Withdrawal from classes or university. <i>Not permitted except for “serious and compelling reasons.”</i>

Math 299s Details

Instructor Contact Information

Instructor:	Email	Phone	Office
Brandy Wiegers, PhD	brandy.wiegers@cwu.edu	(509) 963-2125	Samuelson 229C

The best way to contact the instructor is at office hours or via email. That said, professors often only check email 2-3 times a day so expect a 12-24 hour delay in response. If you haven't received a response within 24 hours of the original email please contact the professor again.

Class Meeting Time: Tuesday & Thursday 1:00-1:50 PM Samuelson 138 (Computer Lab)
Monday & Friday 1:00-1:50 PM Samuelson 108

Office Hours: MTWTh 3:00-3:50 pm Samuelson 229C

Office Hours may be changed to meet the needs of the class. Also note that additional office hours are available, visit <https://drbrandymath.youcanbook.me> to schedule a meeting

Class Materials

Textbooks: Zeitz's The Art & Craft of Problem Solving (Wiley) and Alcock's How to Study as a Mathematics Major (Oxford University Press). You should read these books, I picked them to be the best references for your career.

Computer Access: Regular computing assignments will play a role in this course. If you do not have personal computer access make sure to start assignments early and make use of the CWU computing resources. You can find a list of on-campus computer labs here, <http://www.cwu.edu/its-css/computer-labs>. Also, be aware that you can check out laptops from the Information Desk at the SURC for 2 hours <https://www.cwu.edu/surc/information-center>.

Canvas: Course materials will be posted and collected via Canvas. In addition to regular Canvas postings, <http://www.cwu.edu/math/math-299s-welcome-math-major> will serve as a collection of resources for Central math majors.

File Names: Please remember to name any file that you submit for Math 299s with your name in the file name. For example, I would upload `wiegers.project1.pdf` instead of `project1.pdf`

Course Grade	
Assessment	%
Class participation & assignments	20%
Regular problem write-up	20%
Group projects	20%
Five-year professional packet	20%
Final Project	20%

Always remember - believe in yourself and your ability to do math: It is a common myth that some people are good at math and some are not. In reality, there are several skills that go into doing mathematics well, and these skills can be practiced and improved. Your instructor can help you identify your strengths, as well as your challenges in doing math. We will work together to improve these challenges. In this class, everyone can develop the skills and the confidence to do math!

Syllabus Changes: I reserve the right to change the policies contained in this syllabus as dictated.