

Welcome to the Summer '21 manifestation of MATH 3 at UC Santa Cruz! This syllabus contains important information about the course. If you are a student, I highly recommend you read the document in its entirety. Additional information about the course can be found on [my webpage](#).

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## Basic Course Information

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**Instructor:** Jadyn V. Breland<sup>1</sup> (he/him/his)    **Office Hours:** TuTh 10:00AM - 11:00AM McHenry 4153

**Email:** [jbreland@ucsc.edu](mailto:jbreland@ucsc.edu)

**Personal Webpage:** <http://jadynbreland.com>

**Communication:** If you have a general question about math or about the course, the best way to get a response from me is to post it on the Ed Discussion forum, see below. If you need to talk to me about something private or of a personal nature, then you should contact me via e-mail or see me during office hours. Please do not message me via Canvas, because I do not check it.

**Prerequisites:** MATH 2 or mathematics placement (MP) score of 200 or higher.

**(Optional) Textbook:** You are not required to purchase a textbook for this course. An optional textbook is OpenStax: Precalculus. The book is available as an [.html webpage](#) and as a [.pdf](#). The .html version is the easiest to navigate, but I recommend that you download the .pdf version in case you lose access to the internet for any period of time. You can also access the text through the Canvas modules or download the app onto your smart device.

**Meetings:** This is an in-person course. We will meet MWF from 9:20AM - 10:25AM in [Porter](#) Acad 148.

**COVID-19 Policies:** **Masks are required at all times while inside campus buildings, including our classroom.** You are required to wear a mask that completely covers your face and nose. Eating and drinking in the classroom is not permitted. If you need to eat or drink, you may quietly excuse yourself. Student's without a mask and students who do not wear their mask properly will not be permitted in the classroom. Additionally, students are not permitted to be on campus unless they comply with all applicable campus vaccine and testing policies. Please review the COVID-19 screening, testing, and vaccination requirements [here](#). **DO NOT come to class if your health e-messenger badge is RED.**

**Course Webpage:** The course web page is located at [https://people.ucsc.edu/~jbreland/teaching/F21\\_MATH3.html](https://people.ucsc.edu/~jbreland/teaching/F21_MATH3.html). All important information will be posted here.

**TA:** Erol Barut    **e-mail:** [ebarut@ucsc.edu](mailto:ebarut@ucsc.edu)    **TA Office Hours:** TBD via Zoom. See Canvas for details.

**Discussion Sections:** Your teaching assistant holds weekly discussion sections weekly on Thursdays from 2:40PM - 3:45PM (**tentative**). The discussion sections are being held remotely (via Zoom) this quarter. The first section meeting is on 9/30/21. Discussion sections are optional, but you can earn extra credit each time you attend. The Zoom information will be available on Canvas.

**Edfinity:** We will use the online homework management system [edfinity](#). You are required to enroll in our course. To sign up: go to Canvas; Assignments; Edfinity Exercises and click any of the assignments - you should be prompted to purchase the license. The cost is \$25 per student.

**Canvas:** The Canvas webpage is primarily used for hosting grades. You can also access some resources via Canvas, including: the optional textbook, Zoom info for TA office hours/sections, and the Ed discussion forum. Please do not message me via Canvas, because I do not check it. Students have the option to post anonymously, so please do not hesitate to ask a question.

**Ed Discussion:** In order to provide you with learning support outside of class, we will be utilizing the Ed Discussion at [edstem.org](#). Ed provides a discussion forum for the course. You can ask questions about

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<sup>1</sup>Please address me by my first name.

anything course related, and your classmates, the instructor, and the TA can respond.

**Accessibility:** I am strongly committed to making my course as accessible as possible. If you encounter materials that are not accessible to you, or experience a barrier to your participation, please bring this to my attention and I will gladly work with you to ensure accessibility. I will also happily honor any accommodations letters from the Disability Resource Center (DRC) that you would like to confidentially bring to my attention.

**Purpose of the Course:** The primary objective of this course is to prepare students to succeed in a calculus course. Calculus, the study of continuous change, is an invaluable tool in the analysis of the physical world. Modern calculus provides a language for describing continuous change and a framework for solving problems associated to changing quantities. The utility of calculus is pervasive across STEM fields. Besides being useful, studying calculus sharpens the mind and facilitates the development of problem solving and critical thinking skills. In this course, we will develop the language and tools necessary for your study of calculus.

**Course Content:** We will cover approximately the following topics:

1. Functions including linear, polynomial, rational, radical, exponential, absolute value, logarithmic, trigonometric; definitions, evaluation, domain and range;
2. Inverses of functions, Algebra of functions, Graphs of functions including asymptotic behavior, intercepts, and vertices;
3. Transformations of quadratic, absolute value, radical, rational, logarithmic, exponential functions;
4. Equations including rational, linear, radical, polynomial, exponential, trigonometric, logarithmic, and absolute value;
5. Linear, nonlinear, and absolute value inequalities, Systems of equations and inequalities;
6. Characterization of real and complex zeros of polynomials;
7. Unit circle and right triangle trigonometry, Trigonometric and inverse trigonometric identities and formulas; and
8. Graphing trigonometric functions: period, amplitude, phase shift, inverse trigonometric functions.

**Student Learning Outcomes:** Upon successful completion of the course, students will be able to:

1. Graph functions and relations in rectangular coordinates, Synthesize results from the graphs and/or equations of functions and relations, Apply transformations to the graphs of functions and relations;
2. Recognize the relationship between functions and their inverses graphically and algebraically;
3. Solve and apply equations including rational, linear, polynomial, exponential, absolute value, radical, and logarithmic, and solve linear, nonlinear, and absolute value inequalities;
4. Solve systems of equations and inequalities;
5. Apply functions to model real world applications;
6. Identify special triangles and their related angle and side measures;
7. Evaluate the trigonometric function of an angle given in degree and radian measure;
8. Manipulate and simplify a trigonometric expression, Solve trigonometric equations, triangles, and applications;
9. Graph the basic trigonometric functions and apply changes in period, phase and amplitude to generate new graphs; and

10. Prove trigonometric identities

**Schedule of Lectures:** A schedule of lectures will be posted on the course [webpage](#). It will be regularly updated as the course progresses.

**Assessment Distribution:** Your *score* is a nonnegative real number calculated as the weighted average of the following assessments.

- **IN-CLASS ASSIGNMENTS (10%)**

There will be frequent in-class assignments. Usually, you will solve a few problems that highlight important ideas from the lecture. These assignments are low-stakes. They are graded on a Pass/No Pass basis. You will receive 1 point (a “Pass”) if you make a good faith effort to complete all parts of the assignment correctly. Otherwise, you will receive 0 points (a “No Pass”). The assignments are always due at the end of class (10:25am). If you do not attend the lecture, you will receive 0 points. **There is one exception:** if you have a red badge, do not come to class- you can submit the In-Class assignment and a screenshot of your badge via email prior to the deadline (10:25am). The lowest 3 scores will be dropped.

- **EDFINITY EXERCISES (40%)**

All homework assignments will be completed on Edfinity. You need to sign up for our course: go to Canvas, Assignments, Edfinity Exercises and click any of the assignments - you should be prompted to purchase the license. The cost is \$25 per student. Assignments will typically be released after each lecture and will be due approximately one week later. Do not wait until the last minute to complete your homework, you should aim to do a small portion every day. Late assignments can be submitted up to 48 hours after the deadline for half credit. Your lowest 2 scores will be dropped.

- **EXAM 1 (15%)**

Exam 1 is tentatively scheduled to occur in class on Monday 10/18/21. The exam will be based on the topics covered in the lectures from Friday 9/24/21 to Friday 10/15/21. On Exam 1, you may bring one two-sided 8.5inch by 11inch sheet of notes. There are no restrictions on what you write on your note sheet - you might include examples, definitions, theorems, or whatever else seems important to you.

- **EXAM 2 (15%)**

Exam 2 is tentatively scheduled to occur in class on Monday 11/15/21. The exam will be based on the topics covered in the lectures from Wednesday 10/20/21 to Friday 11/12/21. On Exam 2, you may bring one two-sided 8.5inch by 11inch sheet of notes. There are no restrictions on what you write on your note sheet - you might include examples, definitions, theorems, or whatever else seems important to you.

- **FINAL EXAM (20%)**

The final exam will be cumulative. The **final exam schedule** is determined by the registrar. According to the registrar, the final exam for MATH 3 will take place on Tuesday 12/7/21 from 8:00AM-11:00AM. On the final exam, you may use your note sheets from Exam 1 and Exam 2, PLUS one additional two-sided 8.5inch by 11inch sheet of notes.

- **EXTRA CREDIT (5%)**

You can earn extra credit by attending discussion sections and office hours. You will earn 1 point each time you attend a discussion section, TA office hours, or instructor office hours. You can earn a maximum of 3 points per week. Your grade for this category will be calculated as the number of points earned divided by 30.

**Late Work Policy:** I will not, under any circumstance, accept late submissions or grant extensions for In-Class assignments or Edfinity assignments. If you miss an exam, you will receive a zero. Make-up exams will not be administered except in extreme circumstances, as determined by the instructor. Extreme circumstances must be adequately documented and (confidentially) brought to my attention as soon as possible. Having a red badge on the day of an exam is considered an extreme circumstance.

**Letter Grades:** Your final letter grade depends on your score. Final letter grades are assigned according to the following score ranges:

|    |       |    |       |    |       |    |       |   |      |
|----|-------|----|-------|----|-------|----|-------|---|------|
| A+ | > 95  | B+ | 86-89 | C+ | 76-79 | D+ | 66-69 | F | < 60 |
| A  | 93-95 | B  | 83-85 | C  | 73-75 | D  | 63-65 |   |      |
| A- | 90-92 | B- | 80-82 | C- | 70-72 | D- | 60-62 |   |      |

Score ranges may be adjusted (to your advantage) according to class performance. Scores falling in between two ranges will be rounded up. For example, according to the ranges above a final score of 75.1 will earn the letter grade C+ (rounded up), whereas a final score of 74.9 will earn the letter grade C (no rounding).

**P/NP Grading:** A passing grade (P) will be awarded if your score would earn a letter grade of C or higher. Otherwise, you will not receive a passing grade (NP). **Warning:** a score earning the letter grade of C- is NOT passing, contrary to popular belief.

I RESERVE THE RIGHT TO CHANGE ANY PARTICULAR PART OF THE SYLLABUS ABOVE.

YOU WILL BE PROMPTLY NOTIFIED OF ANY CHANGES VIA CANVAS OR E-MAIL.

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## Other Important Information

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### Mathematics Department's Enrollment Info:

<https://www.math.ucsc.edu/courses/enrollment-info.html>

**DRC Remote Accommodations:** UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me privately during my office hours or by appointment, preferably within the first two weeks of the quarter. At this time, I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact the DRC by phone at 831-459-2089 or by email at [drc@ucsc.edu](mailto:drc@ucsc.edu).

**CAPS (Counseling and Psychological Services):** This is a stressful time, so if you are in distress, managing heightened stress and anxiety, or want to get more support and a counselor's perspective on something you're going through, CAPS provides a variety of services for your needs, please visit their website for more information <https://caps.ucsc.edu>.

**Academic Integrity:** Academic integrity is the cornerstone of a university education. Academic dishonesty diminishes the university as an institution and all members of the university community. It tarnishes the value of a UCSC degree. All members of the UCSC community have an explicit responsibility to foster an environment of trust, honesty, fairness, respect, and responsibility. All members of the university community are expected to present as their original work only that which is truly their own. All members of the community are expected to report observed instances of cheating, plagiarism, and other forms of academic dishonesty in order to ensure that the integrity of scholarship is valued and preserved at UCSC. For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the [Academic Integrity page](#) at the Division of Undergraduate Education.

**Title IX:** The [Title IX Office](#) is committed to fostering a campus climate in which members of our community are protected from all forms of sex discrimination, including sexual harassment, sexual violence, and gender-based harassment and discrimination. Title IX is a neutral office committed to safety, fairness, trauma-informed practices, and due process. Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the Campus Advocacy Resources & Education (CARE) Office by calling (831) 502-2273. In addition, Counseling & Psychological

Services (CAPS) can provide confidential, counseling support, (831) 459-2628. You can also report gender discrimination directly to the University's Title IX Office, (831) 459-2462. Reports to law enforcement can be made to UCPD, (831) 459-2231 ext. 1. For emergencies call 911.