

Syllabus for MAT 123 Fall 2021

MAT 123: Precalculus

The Course Coordinator is David Kahn. His email is david.kahn@stonybrook.edu
Office hours: MW 3-4 pm (in person for now). Office Location: Math Tower 2-119.
Advising Hour: Tu 12-1 pm (in person for now).

About the Course

Comprehensive preparation for the regular calculus sequences, with introduction to derivatives. Careful development of rational, exponential, logarithmic, and trigonometric functions, and their applications. Asymptotics and limits. Linear approximations, slope and derivatives, detailed curve sketching. General modeling examples. This course has been designated as a High Demand/Controlled Access (HD/CA) course. Students registering for HD/CA courses for the first time will have priority to do so.

About this course: The goal of this course is to ensure that you have a proper background to take calculus at Stony Brook. This means that we will need to accomplish several things:

- Ensure that you have fluency with a variety of topics, such as trigonometry, exponentials and logarithms, algebraic functions (polynomials and rational functions).
- Ensure that you are comfortable and conversant with the underlying concepts such as functions, domain, range, inverse functions, functional composition, and so on.
- Ensure that you have mastered the various means of manipulating functional and algebraic expressions, solving basic equations, and their graphical representations.
- Be able to apply the above to problems both within and outside of mathematics. Part of this is a deeper understanding of functions, whether viewed as graphs, tables, or formulae. Fluency in understanding the language of mathematics is essential for success in the sciences or engineering.

The text is called *Precalculus* and is an OpenStax textbook. You can find and download the textbook in the Documents folder in BlackBoard. The textbook is an Open Educational Resource and is FREE. The computer homework program is through Lumen Learning and is also FREE.

Course Prerequisites: In order to take MAT123, you must have either

- Passed [MAP103](#) with a grade of C or better, or
- Received a score of level 3 or better on the math placement exam.

BlackBoard

Throughout this course, we will communicate with the course by making announcements in BlackBoard. You will receive an email containing the announcement. The announcement will also remain in BlackBoard throughout

the course for you to refer to. You are expected to read each announcement carefully and it is your responsibility to know what has been announced. **We suggest that you check Blackboard before you email your TA or professor.**

There are two sections of BlackBoard. One will be the main section of BlackBoard and will contain information that applies to the entire course. The other section will be specific to your recitation and will contain information that applies only to your recitation.

Your paper homework grades and final grades will be posted in the Grade Center in the main section in BlackBoard.

Lumen

You will access Lumen through their website <https://ohm.lumenlearning.com> We have posted instructions in the main section of BlackBoard with instructions on how to set up your Lumen account. You can find the grades for all of your Lumen work in the GradeBook in Lumen.

Homework will be assigned through Lumen. At the beginning of the course, you will receive three “late passes”. These are given to you in the place of extensions. Each late pass will extend the assignment by one week. You will not be able to extend beyond then for ANY reason.

You may use these on Lumen homework assignments to do the assignment late. *Note that once you start an assignment, even if you just click on it to look at it, you may not use a late pass. Also note that if you are late on more than three assignments, for ANY reason, you will not receive an extension.*

Lectures

Each week, we will make an announcement in BlackBoard telling you which videos to watch for the upcoming week. The videos can be found in the video page: <http://www.math.stonybrook.edu/Videos/courses/?open=MAT123>

In addition to the videos and lectures, you will have weekly recitations where you can meet with your TA to go over questions that you have about the material.

Homework and Quizzes

Each week, except the first and last ones, you will have either an in-class quiz in Recitation or you will have paper homework to hand in. Your TA grade the homework and put your grades in your BlackBoard Grade Center for your

recitation, not the Main Section. ***You should check BlackBoard frequently for due dates.*** You will also have homework in Lumen. See above for details.

If you are having difficulty understanding a topic, we suggest that you go to your recitation section, meet with your TA, go to the Math Learning Center (located in the basement of the Mathematics Tower), or go to your professor's or TA's office hours. We also strongly recommend that you attend the PAL sessions. They are very helpful!

Recitations

Recitation is very valuable. There, your TA will administer quizzes, go over the homework problems, be available to answer your questions.

Exams

There are two midterms and a final. The schedule is:

Midterm 1 Part One – in your lecture, either September 27 or 28.
 Part Two – Thursday, September 30, 8:15 pm – 9:35 pm

Midterm 2 Part One – in your lecture, either November 1 or 2.
 Part Two – Thursday, November 4, 8:15 pm – 9:35 pm

Final Thursday, December 9, 2:15 – 5:00 pm.

Part One of the midterms will be administered on paper in class and Part Two of the midterms will be administered through Lumen. You may not use late passes for those. The final exam will be ***in person***.

If you are eligible for extra time or other special conditions, please make sure that you contact SASC to set that up.

The Lumen portion of midterm exams will be taken in zoom sessions, proctored by your teaching assistant. You will be required to take the test in the zoom session, with your camera and microphone on.

In order to preserve academic integrity, students will NOT be able to view their midterm or final exams after they have taken them.

We do not give makeup exams but instead replace an exam missed for a valid reason by a grade computed on the balance of the work in the course.

Important Dates:

The last day of classes is Monday, December 6.

You may drop without any tuition liability until Sunday, August 29.

You may withdraw without a “W”, or add/swap classes, until Friday, September 3 at **4:00 pm**.

There are no classes on Monday, September 6.

You may move up or down in MAT/MAP courses until Friday, October 8 at **4:00 pm**.

You may withdraw with a “W” until Friday, October 22, at **4:00 pm**.

You may change the course to Grade/Pass/No Credit until Friday, October 22, at **4:00 pm**.

Thanksgiving Break is Wednesday, November 24 until Sunday, November 28.

How your grade will be calculated

Lumen – 10%

Paper homework – 10%

Quizzes – 15 %

Midterm 1 – 15%

Midterm 2 – 15%

Final – 30%

We reserve up to 5% for participation.

Lectures and Recitations

Course Schedule

| Date | Topic | Chapters |
|-----------------|---|---------------|
| Week of 23-Aug | Administrative material | |
| | Functions and Graphs, Compositions | 1.1 – 1.4 |
| Week of 30-Aug | Transformations | 1.5 |
| | Inverse Functions | 1.7 |
| Week of 6-Sept | | |
| | Linear Equations and graphs | 2.1, 2.2 |
| Week of 13-Sept | Quadratic equations and graphs, Polynomials | 3.2, 3.4, 3.6 |
| | Rational Functions | 3.7 |
| Week of 20-Sept | Exponential Functions | 4.1 – 4.2 |
| | Exponential Functions | 4.1 – 4.2 |
| Week of 27-Sept | Review for Midterm One | |
| | Midterm One | |
| Week of 4-Oct | Logarithms | 4.3 – 4.5 |
| | Logarithms and Exponential Equations | 4.1 – 4.2 |

| | | |
|----------------|---|-----------|
| Week of 11-Oct | Logarithms and Exponential Equations | 4.3 – 4.5 |
| | Right Triangle Trigonometry | 5.4 |
| Week of 18-Oct | Unit Circle Trigonometry | 5.1 – 5.3 |
| | Unit Circle Trigonometry | |
| Week of 25-Oct | Graphs of Sine and Cosine | 6.1 |
| | Graphs of Sine and Cosine | 6.1 |
| Week of 1-Nov | Review for Midterm Two | |
| | Midterm Two | |
| Week of 8-Nov | Trig Identities | 7.1, 7.2 |
| | Inverse Trig Functions | 7.2 |
| | Inverse Trig Functions | 6.3 |
| Week of 15-Nov | Angle Addition Formulas | 7.2, 7.3 |
| | Double Angle Formulas, Half Angle Formulas. | 7.2, 7.3 |
| Week of 22-Nov | Solving Trig Equations | 7.5 |
| | | |
| Week of 29-Nov | Review for Final Exam | |
| | Review for Final Exam | |

Americans with Disabilities Act:

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website: <https://ehs.stonybrook.edu/programs/fire-safety/emergency-evacuation/evacuation-guide-people-physical-disabilities> and search Fire Safety and Evacuation and Disabilities.

Academic Integrity:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>

Critical Incident Management:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

Conduct

Stony Brook University expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people. Faculty are **required** to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

Student Absences Statement

Students are expected to attend every class, report for examinations and submit major graded coursework as scheduled. If a student is unable to attend lecture(s), report for any exams or complete major graded coursework as scheduled due to extenuating circumstances, the student must contact the instructor as soon as possible. Students may be requested to provide documentation to support their absence and/or may be referred to the Student Support Team

for assistance. Students will be provided reasonable accommodations for missed exams, assignments or projects due to significant illness, tragedy or other personal emergencies. In the instance of missed lectures or labs, the student is responsible for ***insert course specific information here (examples include: review posted slides, review recorded lectures, seek notes from a classmate or identified class note taker, write lab report based on sample data)***. Please note, all students must follow Stony Brook, local, state and Centers for Disease Control and Prevention (CDC) guidelines to reduce the risk of transmission of COVID. For questions or more information click [here](#).