

Syllabus for MAT 123 Spring 2020

MAT 123: Precalculus

About the Course

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.

You will access Lumen Learning through BlackBoard, not through their site.

You may use calculators to help you with learning the material or for homework and Lumen problems. You may **NOT** use a calculator on exams.

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.

The video page can be found at:

<http://www.math.stonybrook.edu/Videos/courses/?open=MAT123>

Homework

Most weeks you will have paper homework problems that you must hand in at recitation. ***Paper homework is due at the beginning of your recitation. You should check Lumen frequently for due dates.***

If you are having difficulty understanding a topic, we suggest that you meet 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 go over the homework problems and will be available to answer your questions.

Exams

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

Midterm 1	Monday, February 24	8:45 – 10:15 PM
Midterm 2	Tuesday, April 7	8:45 – 10:15 PM
Final	Wednesday, May 13	8:00 – 10:45 AM

Rooms the exams will be announced in Blackboard in advance of each exam.

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.

Note that the Midterms are at night, not in the morning!

Important Dates:

Spring Break is March 16-20.

Classes end on May 8.

You may drop without any tuition liability until February 2.

You may withdraw without a "W", or add/swap classes, until February 7 at **4:00 pm.**

You may move up or down in MAT/MAP courses until March 6 at **4:00 pm.**

You may withdraw with a "W" until March 6 at **4:00 pm.**

You may change the course to Grade/Pass/No Credit until March 6 at **4:00 pm.**

How your grade will be calculated

Paper homework and Lumen – 10%

Midterm 1 – 25%

Midterm 2 – 25%

Final – 35%

We reserve up to 5% for participation.

Blackboard

Please check Blackboard frequently. Assignments, announcements, grades, etc. will be posted on Blackboard. When items are posted, you will receive an email informing you of the fact. At that point, you will be presumed to know what has been posted. We suggest that you check Blackboard before you email your TA or professor.

Professors and Teaching Assistants

The Course Coordinator is David Kahn

LEC 01	MWF	10:00am-10:53am	Simons	103	Christiane Stidham
R01	M	7:00pm- 7:53pm	ESS	69	Alan Higuera
R02	Th	8:30am- 9:23am	Mathematics	P131	Runjie Hu
R03	Tu	10:00am-10:53am	Mathematics	P131	Mads Villadsen
LEC 02	TuTh	2:30pm- 3:50pm	ESS	1	Thomas Rico
R20	M	1:00pm- 1:53pm	ESS	79	Yuhan Sun
R21	W	11:00am-11:53am	ESS	69	Deb Wertz
R22	M	4:00pm- 4:53pm	ESS	79	Emily Sellitti
R23	Th	10:00am-10:53am	Mathematics	P131	Mads Villadsen
R24	Tu	5:30pm- 6:23pm	Library	E4310	Yuhan Sun
LEC 03	MW	4:00pm- 5:20pm	Engineering	143	David Kahn
R30	M	12:00pm-12:53pm	Library	E4310	Christiane Stidham
R31	W	12:00pm-12:53pm	Library	E4320	Christiane Stidham
R32	Th	1:00pm- 1:53pm	ESS	79	Runjie Hu
R33	M	5:30pm- 6:23pm	ESS	69	Zhuang Tao
LEC 30	FLEX	1:00am- 1:00am	Online		Deb Wertz
R40	Tu	8:30am- 9:50am	Physics	P112	Stephanie Salvator

Course Schedule

Date	Topic	Relevant Chapters
Week of 27-Jan	Administrative material	
	Functions and Graphs	1.1, 1.2, 1.3
	Composition of functions	1.4
Week of 3-Feb	Transformations	1.5
	Inverse Functions	1.7
	Linear equations and graphs	2.1, 2.2
Week of 10-Feb	Quadratic equations and graphs	3.2
	Polynomials	3.4, 3.6
	Polynomials	3.4, 3.6
Week of 17-Feb	Rational Functions	3.7
	Review for Midterm 1	4.1, 4.2
	Review for Midterm 1	4.3, 4.4, 4.5
Week of 24-Feb	Logarithms	4.3, 4.4, 4.5
	Logarithms	4.6, 4.7
	Logarithms	4.6, 4.7
Week of 2-Mar	Exponential Functions	
	Models and Equations	
	Models and Equations	
Week of 9-Mar	Right Triangle Trigonometry	5.4
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	Unit Circle Trigonometry	5.1, 5.2, 5.3
Week of 23-Mar	Unit Circle Trigonometry	5.1, 5.2, 5.3
	Unit Circle Trigonometry	5.1, 5.2, 5.3
	Graphs of Sine and Cosine	6.1
Week of 30-Mar	Graphs of Sine and Cosine	6.1
	Review for Midterm 2	6.2
	Review for Midterm 2	7.1
Week of 6-Apr	Graphs of other trig functions	7.1
	Trig Identities	7.2
	Trig Identities	7.3
Week of 13-Apr	Sum and Difference Identities	7.5
	Double Angles and Half Angles	7.5
	Inverse Trig Functions	
Week of 20-Apr	Inverse Trig Functions	
	Solving Trig Equations	
	Solving Trig Equations	7.6
Week of 27-Apr	Modeling with Trig Equations	7.6
	Modeling with Trig Equations	8.1, 8.2
	Law of Sines/Cosines	8.1, 8.2
Week of 4-May	Solving Trig Equations	
	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 Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and SASC. For procedures and information, go to: <http://www.ehs.sunysb.edu> and look at 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.