

# Syllabus for MAT 125 Fall 2016

## MAT 125: Calculus A

### 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:

- Develop your understanding of the concepts of Differential Calculus and your ability to apply it to problems both within and outside of Mathematics.
- Deepen your understanding of functions whether viewed as graphs, tables, or formulae.
- Develop fluency in the language of mathematics, which is essential for success in the sciences or engineering.

The text is *Single Variable Calculus*, by James Stewart.

Use of [WebAssign](#) is required but you are NOT required to purchase the textbook. There are many options regarding the text other than from the bookstore; please see the page [about the text](#) on the class web page for details.

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

**Course Prerequisites:** In order to take MAT125, you must have either

- Passed [MAT 123](#) with a grade of C or better, or
- Received a score of level 4 or better on the [math placement exam](#).

### Homework

Each week you will have paper homework problems that you can hand in at recitation or put in your TA's mailbox. ***Homework is due at the beginning of your recitation, and no later than Noon of that week if you miss recitation.*** You will also be required to use WebAssign for further homework problems. ***In general, WebAssign assignments will be due on Wednesdays at Noon. You should check WebAssign frequently to check 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 office hours.

## 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	Wednesday, September 28	8:45 – 10:15 PM
Midterm 2	Wednesday, November 2	8:45 – 10:15 PM
Final	Wednesday, December 14	11:15 AM – 1:45 PM

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

**We do not give make up 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:

There are no classes September 5-6.

There are no classes November 23-27

Classes end on December 10.

You may drop without tuition liability until August 28.

You may withdraw without a “W” , or add/swap classes) until September 13 at 4:00 pm.

You may move up or down in MAT/MAP courses until October 7 at 4:00 pm.

You may withdraw with a “W” until October 29 at 4:00 pm.

You may change the course to Grade/Pass/No Credit until October 29 at 4:00 pm.

## **How your grade will be calculated**

Homework, WebAssign, Recitation - 15%

Midterm 1 – 25%

Midterm 2 – 25%

Final – 35%

We reserve up to 5% for participation.

## **Blackboard**

Please check Blackboard regularly. 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	MW	5:30 pm-6:50pm	Earth&Space	001	David Kahn
R01	M	10:00am-10:53am	Library	E4330	Fadi Elkhatib
R02	Tu	4:00pm-4:53pm	Physics	P112	TanyaLisa Agha
R03	M	12:00pm-12:53pm	Harriman	112	Jonah Lipton
R04	Th	5:30pm- 6:23pm	Library	W4525	Zhuang Tao
R05	M	11:00am-11:53am	Library	E4310	Fadi Elkhatib
R06	M	7:00pm-7:53pm	Library	W4535	Alexander Milivojevic
R07	W	8:30am-9:23am	Physics	P116	Erik Gallegos Baños
LEC 02	TuTh	10:00am-11:20am	Earth&Space	001	Deb Wertz
R20	Th	8:30am-9:23am	Physics	P116	Jae Ho Cho
R21	F	1:00pm-1:53pm	Library	W4525	Shaosai Huang
R22	W	12:00pm-12:53pm	Library	W4530	Thomas Rico
R23	Th	1:00pm-1:53pm	Library	N4006	Diana Marino
R24	M	4:00pm-4:53pm	Library	N4072	Shaosai Huang
R25	M	5:30pm- 6:23pm	Library	N4072	Alexander Milivojevic
LEC 03	MWF	10:00am-10:53pm	Engineering	143	Deb Wertz
R30	F	1:00pm-1:53pm	Library	N3063	Tobias Shin
R31	Tu	10:00am-10:53am	Library	E4310	Cheyenne Vlymen-Williams
R32	W	11:00am-11:53am	Library	E4320	Thomas Rico
R33	Tu	11:30am-12:23pm	Library	N3063	Alaa Abd-El-Hafez
R34	Th	4:00pm-4:53pm	Library	N3063	Zhuang Tao
R35	M	8:30am-9:23am	Library	N3063	Erik Gallegos Baños
LEC 04	TuTh	5:30 pm-6:50 pm	Engineering	143	Bill Bernhard
R40	Th	11:30am-12:23pm	Library	N4072	Alaa Abd-El-Hafez
R41	Tu	2:30pm-3:23pm	Library	N4006	Stephanie Salvator
R43	W	4:00pm-4:53pm	Frey	105	Andrew Klampert
R44	W	5:30pm- 6:23pm	Library	N4072	Andrew Klampert

## Course Schedule

Date	Topic	Relevant	Homework
		Chapter(s) in	
		Stewart	
Week of 29-Aug	Administrative material and course expectations; Why Calculus		
	Review of functions, exponentials, logarithms	Chapter 1	
	Review of trigonometry	Chapter 1	
Week of 7-Sept	Tangent and Velocity Problems, Limit of a function	Chapter 2.1, 2.2	
	Calculating Limits	Chapter 2.3	Homework 1 is due
Week of 12-Sept	Limits Involving Infinity	Chapter 2.5	
	Limits Involving Infinity	Chapter 2.5	
	Continuity	Chapter 2.4	Homework 2 is due
Week of 19-Sept	Derivatives and rates of change	Chapter 2.6	
	The Derivative as a function; What does the derivative tell us about the function	Chapter 2.7, 2.8	
	The Power Rule	Chapter 3.1	Homework 3 is due
Week of 26-Sept	Review for Midterm 1		
	Review for Midterm 1		
	Go over Midterm 1		
Week of 3-Oct	Derivatives of Exponentials	Chapter 3.1	
	The Product and Quotient Rule	Chapter 3.2	
	The Product and Quotient Rule	Chapter 3.2	Homework 4 is due
Week of 10-Oct	Derivatives of Trigonometric Functions	Chapter 3.3	
	The Chain Rule	Chapter 3.4	
	The Chain Rule	Chapter 3.4	Homework 5 is due
Week of 17-Oct	Implicit Differentiation	Chapter 3.5	
	Implicit Differentiation	Chapter 3.5	
	Inverse Trigonometric Functions and their derivatives	Chapter 3.6	Homework 6 is due
Week of 24-Oct	Inverse Trigonometric Functions and their derivatives	Chapter 3.6	
	Derivatives of Logarithmic Functions	Chapter 3.7	
	Derivatives of Logarithmic Functions	Chapter 3.7	Homework 7 is due
Week of 31-Oct	Review for Midterm 2		
	Review for Midterm 2		

	Go over Midterm 2		
Week of 7-Nov	Related Rates		
	Related Rates	Chapter 4.1	
	Related Rates	Chapter 4.1	Homework 8 is due
Week of 14-Nov	Maxima/Minima	Chapter 4.2	
	Curve Sketching	Chapter 4.3, 4.4	
	Curve Sketching	Chapter 4.3, 4.4	Homework 9 is due
Week of 21-Nov	Optimization Problems	Chapter 4.6	
Week of 28-Nov	Optimization Problems	Chapter 4.6	
	L'Hôpital's Rule	Chapter 4.5	
	Linear Approximations and Differentials	Chapter 3.9	Homework 10 is due
Week of 5-Dec	Cumulative Review		
	Cumulative Review		
	Cumulative Review		

## **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 DSS. For procedures and information, go to: <http://www.ehs.sunysb.edu> and look at Fire Safety and Evacuatio 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.