Stony Brook University

MAT122 – Overview of Calculus with Applications
Syllabus
Fall 2022

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MAT122/Calculus with Applications

Part 1: Course Overview

Course Information

Course Coordinator: Deb Krieg debra.krieg@stonybrook.edu Contact Card

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Course Description: This course covers both differential and integral calculus and explores the relationship between them. There will be a review of precalculus at the beginning of the course.

Course Meeting Time/Delivery Mode
Lectures and recitations are held in-person and are not recorded therefore you are expected to attend every class. New material is introduced in lecture while questions including homework help are answered during recitation.

General education designation(s) (SBC): DEC: C; SBC: QPS

Credit hours: 3

Prerequisites: C or better in MAP 103 or level 3 or higher on the mathematics placement examination.

Required Course Textbooks and Materials

Textbook
There is no textbook to purchase for this course. There is an e-book on the homework platform for reference but otherwise your main reference material will be your lecture notes.

Calculator
A calculator (e.g., TI-84, desmos.com) is required to complete some of the *online* homework problems. You'll be expected to know how to sketch basic functions and corresponding transformation indicating intercepts, etc. without a calculator. On *paper* homework and exams, a calculator CANNOT be used. Answers must be exact (containing fully reduced fractions and/or radicals where appropriate) not rounded decimals.

MyLab
You will be expected to use MyLab to complete the online homework component of the course. Login instructions will be posted on Brightspace.

MAT122/Calculus with Applications

Brightspace

You are expected to check Brightspace (brightspace.stonybrook.edu) regularly throughout the course to access course material, read announcements and view grades. Many (but not all) announcements will also be emailed to your Stony Brook email.

Gradescope

You are expected to use Gradescope to upload your completed paper homework each week and you'll access your graded exams through this program. Look for an email invitation to create a login on your **Stony Brook** email account at the end of the Week 1 of the semester. More information on how to use Gradescope will be provided on Brightspace under *Assignments.*

How We Will Communicate

Regular, professional and respectful communication is essential. Review the **Online Communication Guidelines** carefully and ask if you have questions.

To make sure you are receiving all communications in this course:

- Log into Brightspace at least once a day to check for newly posted material.
- Regular announcements will be posted in Brightspace: most (not all) are also sent to your SB email.
- For personal/private issues, email coordinator directly to set up a time to discuss either in person or via Zoom. **Please allow between 24-48 hours for an email reply** although you'll generally receive a reply within 6 hours.
- Your Stony Brook University email must be used for all University-related communications. *Include course name and section in subject.*
- All instructor correspondence will be sent to your SBU email account. **Plan on checking your SBU email account regularly for course-related messages.** To log in to Stony Brook Google Mail, go to http://www.stonybrook.edu/mycloud and sign in with your NetID and password.

How to Succeed in this Course

Expect to spend 2-5 hours/week on average for homework and exam preparation.

- Attend each lecture and recitation
- Check Brightspace and your SBU email regularly
- Keep track of all due dates and plan ahead!
- Complete all graded assignments on time
- Work through problems more than once until you are able to complete it without the use of notes, help videos, etc.
- Complete review material in advance of review sessions

We're happy to answer questions you have about the material or to discuss any concerns that you have with the course. If you are struggling to understand a topic, it

will be more productive to ask us for clarification *before* looking at sites such as Khan Academy or trying to find a relevant YouTube video.

There are multiple university offices and help desks that are available to assist you with everything from advising, tutoring, accessibility, online-specific support, and much more.

Besides recitation, you can also get homework help from the Math Learning Center. This is a free service.

Part 2: Grading, Attendance and Late Work Policies

Assessment and Grading

Letter Grades: Course grades are determined based on the breakdown of the class's weighted average (see weights below) and your mastery of the material. There are no predetermined cutoffs for course grades. Grades are decided based on performance not a bell-shaped curve. For example, there is not a limit to the number of A's given.

Individual exams are not assigned letter grades but statistics will be posted so you know how you did compared to others in the course.

Extra credit opportunities are <u>not</u> an option to compensate for low exam scores.

Weights

Activity/Assignment	Percentage	Due Date
Paper Homework	10%	Thursdays 11:59pm*
MyLab Average	15%	Fridays 11:59pm*
Midterm #1	15%	See Curriculum
Midterm #2	25%	See Curriculum
Final Exam	35%	See Curriculum
Total	**100%**	

* exceptions may occur

Exam Formats:

Midterms and final exam are taken during lecture. (see Curriculum on Brightspace for dates/times)

See Part 5 of the syllabus if you require accommodations.

Exams are closed book and short answer with partial credit given where appropriate. You may NOT use a calculator during exams. Full work must be shown to receive full credit – little to no credit is given for a correct answer without proper substantiation. In addition to

computational and application problems, be prepared to explain a concept in 1-2 sentences.

Make-up exams will not be given under any circumstances. See below for more information on makeup policy***.

See Undergraduate Grading System for information about GPNC, withdrawal, Incompletes, etc.

Homework

There are 2 homework components in the course:

- web based assignments on MyLab
- paper homework uploaded to recitation instructor via Gradescope

Homework Guidelines:

1. By design, the level of difficulty for some of the homework questions is higher than those given in lecture. Expect to need help completing the assignment. You can ask questions during recitation, office hours, via email (include a picture of your work) and/or at the Math Learning Center.
2. You'll always have the opportunity to ask homework questions during recitation before the assignment is due. Work through as much as you can, bring questions to class.
3. Knowing HOW to complete homework problems is just as important as getting the answer correct. i.e., guessing, copying and/or just modeling the video is not enough.
4. Strive to complete homeworks in a timely fashion as the hands-on practice with the material will better enable you to comprehend the subsequent content.
5. See next section regarding missed assignments.

Makeup Policy

** Occasionally events such as work shifts, exams in other courses, illness and family events will make it difficult to complete a homework assignment on time. **If a MyLab assignment is missed**, contact your recitation instructor for an extension. This is a courtesy – do not abuse this privilege.

Paper homeworks will not be accepted late under ANY circumstances. **If you miss the deadline to upload an assignment to Gradescope** for any reason including connectivity issues, you will not be able to make it up but the two (2) lowest scores will be dropped to offset the occasional unforeseen situation. Learn in advance how to upload assignments as they will not be accepted via email by your instructors.

*** **If a midterm is missed** due to a documented emergency, your final exam score will double as the midterm score. If the absence is not excused, your score will be zero. **If the final exam is missed** due to a documented emergency, an Incomplete may be given as

the course grade and you must make arrangements with the Course Coordinator to take the final the next time the course is offered (winter or spring semester). *[see Course Policies below for more info on* taking an Incomplete*.]*

Part 3: Course Schedule

Curriculum contains topics that will be covered in the course, pacing of topic introduction as well as **exam dates** and University deadlines. The Curriculum is posted on Brightspace. The possibility exists that unforeseen events will make schedule changes necessary. Any changes will be clearly noted on the Curriculum and in Course Announcements.

Part 4: Technical Requirements

Having a reliable computer and Internet connection throughout the term is required. **Caution!** You will be at a disadvantage if you attempt to complete all coursework on a smartphone or tablet. It may not be possible to submit the required files.

Be prepared to take pictures with your phone, iPad, laptop, etc. then either upload them as a JPG/HEIC or combine multiple pages into a single PDF using an app such as CamScanner or Acrobat.

If you need to borrow a device, please visit SBU's Laptop Loan Program.

Technical Assistance:

If you need technical assistance at any time during the course or to report a problem with Brightspace you can:
- Phone: 631-632-9800 M-F 9:00-5:00 (device support, Wi-Fi, software, hardware, logins)
- Submit a help request ticket: https://it.stonybrook.edu/services/itsm

Attendance Policy

You are expected to attend every recitation plus report for examinations and submit major graded coursework as scheduled. If you are unable to attend class(es), report for any exams or complete major graded coursework as scheduled due to extenuating circumstances, you must contact the instructor as soon as possible. You 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. 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.

Part 5: University and Course Policies

University Policies

Student Accessibility Support Center Statement

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation are confidential.

Once approved for accommodations, **you must schedule to take each exam with SASC personnel**.

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-disabilities and search Fire Safety and Evacuation and Disabilities.

Academic Integrity Statement

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 is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Professions, 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/commcms/academic_integrity/index.html
You must pursue your academic goals honestly, honorably and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. *In doing these things, you risk losing scholarships, financial aid and the ability to graduate with honors.*

Note: when it appears that collaboration between students has occurred, **both** students will be reported therefore make every attempt to keep your own work out of view of others.

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 Student Conduct and Community Standards 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. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Course Policies

Understand When You May Drop This Course:

If you need to drop or withdraw from the course, it is your responsibility to be aware of the tuition liability deadlines listed on the registrar's Academic Calendar. Before making the decision to drop/withdraw you may want to contact me and/or refer to the University's policies:
- Undergraduate Course Load and Course Withdrawal Policy
- Graduate Course Changes Policy

Incomplete Policy:

Under emergency/special circumstances, students may petition for an incomplete grade. Circumstances must be documented and significant enough to merit an incomplete. If you need to request an incomplete for this course, contact me for approval as far in advance as possible. You should also read the University's policies that apply to you:
Undergraduate Bulletin
Graduate Bulletin

Course Materials and Copyright Statement:

Course material accessed from Blackboard, Brightspace, Zoom, Echo 360, VoiceThread, etc. is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook's Academic Integrity.

MAT122
Overview of Calculus w Applications

Course Curriculum
(subject to change - check regularly)

Fall 2022
8/19/2022 10:46 AM

	Topics	**University Deadlines**	Ignore this column:
22-Aug			
	administration		1
	domain/range intro		2
	function basics		3
1	function evaluation		4
	vertical line test		5
	difference quotient		6
	domain/range from a graph		7
	more domain		
29-Aug		2-Sep 4pm: last day to add/drop, swap sections	
	composition of functions	2-Sep 4pm: last day withdraw wo "W"	9
2	linear functions		10
	inverse functions		11
5-Sep			
	transformations		12
	linear applications		13
	quadratic function		14
3	polynomial function		15
	exponential function		16
	end of Midterm 1 material		
12-Sep			
	logarithmic function		17
4	introduction to limits		18
19-Sep			
	Midterm 1 - 20-Sept during lecture		
5	limits (continued)		19
	continuity		20
26-Sep			
	rate of change		21
6	meaning of the derivative		22
	definition of the derivative		23
3-Oct		7-Oct 4pm: last day to Drop Down to MAP103	
	Power Rule/e^x derivative		24
7	Product Rule		25
	Quotient Rule		26
10-Oct	**no classes Oct 10-11 (Mon, Tues)**	[great time to get caught up on MyLab - send email requesting reopen]	
	Chain Rule		27
	exponential derivatives (besides e)		28
8	**end of Midterm 2 material**		
	logarithmic derivatives - part I		29a
17-Oct			29b
	Midterm 2 - 18-Oct during lecture		30
9	logarithmic derivatives - part II	21-Oct 4pm: last day GPNC/withdraw	31
	extrema		
24-Oct			
10	optimization		
	antiderivatives		
31-Oct	indefinite integral		32a
	area under standard shapes		33
11	area under curve - part I		34
	area under curve - part II		34a
7-Nov	definite integral		35
12	Fundamental Theorem of Calculus (FTC)		36
	area between the curves		37
14-Nov			
	average change		38
13	marginal cost		38a
	integration w substitution		39
			40
21-Nov	integration by parts (IBP)		
14	**no classes Nov 23-27 (Wed-Sun)**	[another great time to get caught up on MyLab assignments - send email requesting reopen]	
28-Nov			
15	**Review - Tuesday**		
	Final Exam: Thursday 1-Dec during lecture	MyLab deadline: 1-Dec 3pm	