



# Stony Brook University

## College of Business

**Course:** MAT 122 Overview of Calculus

**Semester:** Fall 2022

**Instructor:** Jae-Yeong Lee, Ph.D.

**Instructor Contact Information:**

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- *Office Hours:* Mondays & Wednesdays 9~10 am & 2~3 pm or by Appointment
- *TA Information :* TBD
  - Name :
  - Email :
  - Office :
  - Office hours :

**Meeting Time:** Mondays & Wednesdays 10:30 - 11:50

**Recitation Class :** Monday 12:30 ~ 13:23 (by TA)

**Location :** TBD

**Course Description:**

The goal of this course is to ensure that you learn the basics of calculus that you will use in Business. This means that we will need to accomplish several things:

- Ensure that you have fluency with functions and graphs.
- Ensure that you are comfortable and conversant with the underlying concepts of Differential and Integral Calculus.
- Be able to apply the above to problems in the business world. Fluency in understanding the language of Calculus is essential for success in Business.

The text is Calculus and it's Applications (11th edition), by Bittinger, Ellenbogen, and Surgent.

**Course Prerequisites:**

In order to take MAT122, 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.

### **Homework**

- Most weeks you will have paper homework problems that you must hand in to TA directly.
- Homework assignments will be posted on the Assignments page in Blackboard or Classting app in your smart phone. You may access the assignments via either link.
- If you are having difficulty understanding a topic, we suggest that you meet with your TA, or go to your professor's office hours. You can also ask the questions via email to both instructor and TA.

### **Exams**

- There will be two non-cumulative(mid-term exams 1 & 2) or one cumulative exam (final exam)
- Exam time would in the syllabus and will vary according to the final exam schedule.

**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.**

### **Grading System:**

- The table below shows the grading allocation for the course.
- You will need a 90% course average to receive a final grade of A(A- or A), 80% for a B(from B- to B+), and 70% for a C(from C- to C+), etc...
- I will also use plus and minus final letter grades. I do not “curve” grades, meaning that potentially everyone in the class can earn an A.

Midterm 1	Midterm 2	Final Exam	Assignment	Attendance & Pop-up quiz
25%	25%	30%	10%	10%

### **Blackboard or Classting app.**

Please check Blackboard or Classting app. frequently. Assignments, announcements, grades, etc. will be posted on either one. When items are posted, if it is critical one, 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 or Classting app. before you email your TA or professor.

**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 is 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/commcms/academic\\_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html)

**The College of Business Statement Regarding Academic Dishonesty:**

The College of Business regards any act of academic dishonesty as a major violation punishable by severe penalties, including dismissal from the University. University policy requires that instructors and GAs report all suspected cases of academic dishonesty to the appropriate Academic Judiciary Committee, which is empowered to take strong action against violators, including expulsion from the University. Please note that there is a link to the Academic Judiciary web site on the Blackboard home page.

Under no circumstances will the College of Business permit cheating of any kind. Many activities constitute academic dishonesty. The following list is not inclusive, only suggestive:

**On Examinations:**

- Referring in any way to the examination paper of another student.
- Use of materials (notes, books, etc.) not explicitly permitted by the instructor.
- The exchange of any information concerning the examination with any other person after the examination has begun.

**On Papers:**

- The submission in whole or part of the work of another person as if it were your own.
- The citation of the work of others without proper reference and credit.

If you have any questions about the honesty of an action, please consult with any faculty member for clarification. We will not construe such consultation as evidence that you have committed any violation or are even contemplating it. We will not accept failure to understand the rules as an excuse.

If you are considering any act of academic dishonesty, the College of Business advises you in the strongest possible terms to abstain. The consequences associated with academic dishonesty are substantial enough literally to ruin your career. DON'T DO IT.

### **What is Plagiarism?**

There is nothing wrong with using the words or thoughts of others or getting help. Indeed, it is good to do so as long as you explicitly acknowledge your debt. It is plagiarism when you pass off the work of others as though it were your own:

- Copying without quotation marks or paraphrasing without acknowledgment from the writing of someone else.
- Using someone else's facts or ideas without acknowledgment.
- Submitting work in one course that you submitted for credit in another course without the permission of both instructors.

You can strengthen your paper by using material by others – as long as you acknowledge your use, and as long as you use that material as a building block for your own thinking rather than a substitute for it. When you use published words, data, or thoughts, you must footnote your use. (See any handbook or dictionary for footnote formats.) When you use the words or ideas of friends or classmates, you should thank them in an endnote (e.g., “I am grateful to my friend so-and-so for the argument in the third paragraph.”) If friends just give you reactions but no suggestions, you need not acknowledge that help in print (though it is gracious to do so).

The academic and business worlds depend on people using the work of others for their own work. Dishonesty destroys the possibility of working together as colleagues. Faculty and researchers do not advance knowledge by passing off the work of others as their own. Students do not learn by copying what they should think out on their own. Therefore, the University insists that instructors report every case of plagiarism to the Academic Judiciary Committee, which keeps records of all cases. The recommended penalty for plagiarism is failure for the course and possible expulsion from the University.

Unintentional plagiarism is still plagiarism. You cannot plead ignorance. Therefore, if you have any questions about the proper acknowledgment of help, be sure to ask your instructor.

## Calculus and its Application

### Class Schedule : MAT-122, Fall 2022

Class	Date	Chapter	Topic
1	8/29	R.1	Graphs and Equations
2	8/31	R.2	Functions and Graphs
3	9/5	R.3	Domain and Range
4	9/7	R.4	Slope and Linear functions
	9/12		Chuseok (Korean Thanksgiving)
5	9/14	R.5	Nonlinear Functions and Models
6	9/19	R.6	Mathematical Models and Curve Fitting
7	9/21	1.1 & 1.2	Limits
8	9/26	1.3 & 1.4	Average rates of change
9	9/28	1.5 & 1.6	Derivative Rules
	10/3		Korea National Foundation Day
<b>10</b>	<b>10/5</b>	<b>R.1~1.6</b>	<b>Midterm Exam 1</b>
	10/10		Substitute of Hangul Day
11	10/12	1.7	The Chain Rule
12	10/17	1.8	Higher-Order Derivative
13	10/19	2.1 & 2.2	The First & Second derivatives
14	10/24	2.5 & 2.7	Maximum-Minimum Problems, Elasticity of Demand
15	10/26	3.1	Exponential Functions
16	10/31	3.2	Logarithmic Functions
17	11/2	3.3 ~ 3.4	Applications-1 (Growth & Decay Models)
18	10/7	3.5 ~ 3.6	Applications-2 (Annuities & Amortization)
<b>19</b>	<b>10/9</b>	<b>1.7 ~ 3.6</b>	<b>Midterm Exam 2</b>
20	11/14	4.1	Anti-differentiation
21	11/16	4.2	Anti-derivatives as Areas
22	11/21	4.3	Area and Definite Integrals
23	11/23	4.4	Properties of Definite Integrals
24	11/28	4.5	Substitution Techniques
25	11/30	5.1	Consumer Surplus & Producer Surplus
26	12/5	5.2	Integrating Growth and Decay Models

27	12/7	R.1~5.4	Total Review
	<b>12/14</b>	<b>Comprehensive</b>	<b>Final Exam (09:0~11:30)</b>