
MATH 105 SECTION 4

Calculus

Fall 2021, Session 2



Dates / Synchronous meeting time:	MoTuWeTh	16:15—17:30	IB 1046 (Zoom: 958 7534 1959)
Recitation:	MoWe	20:10—21:10	IB 1046 (Zoom: 917 9918 2221)
Academic credit:	4		
Hybrid course format:	video, lecture, recitation		
ZOOM PASSCODE:	MATH105		

Instructor's information

Dr. Lin Jiu	Lecturer of Mathematics, Duke Kunshan University Assistant Professor of the Practice, Duke University
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Office:	CC2057
Office Hours:	Mon & Tue 13:30—14:30 Zoom + Office (953 5114 4266) Tue 19:00—20:00 Zoom Only (925 4082 5105) or by appointment

Teaching Assistants

Edward Yue	Recitation (918 9120 1445)
Email:	Heng.Yue@dukekunshan.edu.cn
Office Hours:	Fridays 13:30---14:30 IB 2001 (Zoom 712 438 5008)
Lunji Zhu	Recitation (918 9120 1445)
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Office Hours:	Mondays 15:00---16:00 IB 2001 (Zoom 928 7387 0273)
Shengle Wang	Quiz Grading
Email:	Shengle.Wang@duke.edu
Office Hours:	Fridays 9:00---10:00 IB 2001 (Zoom 930 4952 3111)

Course Outline

We will cover most of the following materials from the textbook (*Tentatively, may up to some perturbation*).

Week 1	● Limit of a Function (2.2)
(Oct. 25--28)	● Calculating Limits (2.3)
	● The Precise Definition of a Limit (2.4)
	● Continuity (2.5)
	● Limit at Infinity (2.6)

	<ul style="list-style-type: none"> ● Table of Derivatives (Pages 187, 193, 219), (3.11)
Week 2 (Nov. 1--4)	<ul style="list-style-type: none"> ● Tangent and Velocity (2.1) ● Derivatives as Rate of Change and a Function (2.7, 2.8) ● Differentiation Rules (3.1—3.6) ● L'Hospital Rule (4.4) ● Maximum and Minimum Values (4.1) ● How Derivatives Affect the Shape of a Graph (4.3)
Week 3 (Nov. 8--11)	<ul style="list-style-type: none"> ● Related Rates (3.9) ● Optimization Problems (4.7) ● Linear Approximation and Differentials (3.10) ● Slant Asymptotes (part of 4.5) ● Curve Sketching (major part of 4.5*) ● Newton's Method* (4.8*) ● Mean Value Theorem* (4.2*) ● Antiderivatives & Indefinite Integrals (4.9 Part of 5.4) ● Definite Integrals (5.1, 5.2) <p>Midterm I, Nov. 10th (Coverage: First TWO Weeks, AB 2107)</p>
Week 4 (Nov. 15--18)	<ul style="list-style-type: none"> ● Fundamental Theorem of Calculus (5.3 , Part of 5.4) ● Substitution Rule (5.5) ● Integration by Parts (7.1) ● Trigonometric Integration (7.2)
Week 5 (Nov. 22--25)	<ul style="list-style-type: none"> ● Trigonometric Substitution (7.3) ● Partial Fraction Decomposition (7.4) ● Improper Integrals (7.8) ● Techniques of Integration (7.5)
Week 6	<ul style="list-style-type: none"> ● Area Between Curves (6.1) ● Arc Length (8,1)

(Nov. 29— Dec. 2)	<ul style="list-style-type: none"> ● Area of Surface of Revolution (8.2) ● Volume (6.2—6.3) ● Parametric Equations (10.1,10.2) <p>Midterm II , Dec. 1st (Coverage: WEEK 3-5, AB 2107)</p>
Week 7 (Dec. 6—9)	<ul style="list-style-type: none"> ● Polar Coordinates (10.3, 10.4) ● Introduction on Differential Equations (9.1, 9.2*) ● Separable Equations (9.3) ● Linear Equations (9.5) ● Review

*Sections with * will NOT appear in the regular problems of exams, but bonus problem(s) may be from those sections.*

Final Exam
December 14th, Tuesday,
19:00—22:00, AB 2107,
Zoom 942 5655 9739

References for this Course

Calculus: Early Transcendentals 8th Edition, James Stewart.

Single Variable Calculus: Early Transcendentals, James Stewart.

Your Digital Class Key

MATH105:

dukekunshan.cn 9987 0816

Alternative Resource

Calculus, Volume I, by OpenSTAX. <https://openstax.org/details/books/calculus-volume-1>

Grading Policy

- Midterm I: Wed. Nov. 10, 20:10—21:10 (in recitation) (13%+0.5%(formula sheet))
- Midterm II: Wed. Dec. 1, 20:10—21:10 (in recitation) (13%+0.5%(formula sheet))
- Final: TBA (40%+1%(formula sheets))
- Homework: Weekly, WeBWork (4%*6=24%)
- Quiz: Weekly, in recitation (Thursday) (8%)

A+ = 98% - 100% **A** = 93% - 97.99%; **A-** = 90% - 92.99%; **B+** = 87% - 89.99%; **B** = 83% - 86.99%; **B-** = 80% - 82.99%; **C+** = 77% - 79.99%; **C** = 73% - 76.99%; **C-** = 70% - 72.99%; **D+** = 67% - 69.99%; **D** = 63% - 66.99%; **D-** = 60% - 62.99% **F** = 59.99% and below

As you can see, the final percentage will be rounded **DOWN** to the closest integer.

Remarks:

In case of documented illness or family emergency or documented University sponsored trips, you may miss the midterm, but the supporting documentation must be submitted to the instructor in advance. With the document, your missing midterm score can be counted as the same as your final. Do remember: let me know **BEFORE** the exam. An unexcused absence from any exam will be counted as a zero.

Homework

Weekly homework will be assigned each Thursday and will be due on the following Thursday's lecture, except for the last week. **We will use the new WeBWork system for homework assignments. No late homework will be accepted.** Each homework problem set is worth 4% and the **LOWEST** one will be dropped.

Homework Assignment	Latest Release Date & Time(+8, Tentative)	Due Date & Time (+8)
HW1	Thursday, Oct. 28, 2021, <u>Before</u> 23:59	Saturday, Nov. 6, 2021, 23:59
HW2	Thursday, Nov. 4, 2021, <u>Before</u> 23:59	Saturday, Nov. 13, 2021, 23:59
HW3	Thursday, Nov. 11, 2021, <u>Before</u> 23:59	Saturday, Nov. 20, 2021, 23:59
HW4	Thursday, Nov. 18, 2021, <u>Before</u> 23:59	Saturday, Nov. 27, 2021, 23:59
HW5	Thursday, Nov. 25, 2021, <u>Before</u> 23:59	Saturday, Dec. 4, 2021, 23:59
HW6	Thursday, Dec. 2, 2021, <u>Before</u> 23:59	Saturday, Dec. 11, 2021, 23:59
HW7	Wednesday, Dec. 8, 2021, <u>Before</u> 23:59	Sunday, Dec. 12, 2021, 23:59

Quiz

Weekly quiz will be assigned each week during recitation session, except for the first week and the weeks of Midterm tests. Each quiz will be counted 2%.

Midterm and Final Exam

For each of the midterms, you are allowed to bring ONE A4 size formula sheet (double sided) and for the final exam, you are allowed to bring TWO pieces; When turning in your answer sheets, **formula sheet(s) should also be included and each piece will be given 0.5%.**

Academic Integrity:

This is very important!

Any misconduct behavior on homework, including but not limited to copying another student's homework paper, copying a solution found in another book or notes or website will, at minimum, result in a zero on that assignment and may result in a failing grade for the course. The incident will be reported to the Dean of Students.

The penalty on misconduct behavior on exam will be much more severe.

Academic Policy & Procedures:

You are responsible for knowing and adhering to academic policy and procedures as published in University Bulletin and Student Handbook. Please note, an incident of behavioral infraction or academic dishonesty (cheating on a test, plagiarizing, etc.) will result in immediate action from me, in consultation with university administration (e.g., Dean of Undergraduate Studies, Student Conduct, Academic Advising). Please visit the Undergraduate Studies website for additional guidance related to academic policy and procedures. Academic integrity is everyone's responsibility.

Academic Disruptive Behavior and Community Standard:

Please avoid all forms of disruptive behavior, including but not limited to: verbal or physical threats, repeated obscenities, unreasonable interference with class discussion, making/receiving personal phone calls, text messages or pages during class, excessive tardiness, leaving and entering class frequently without notice of illness or other extenuating circumstances, and persisting in disruptive personal conversations with other class members. Please turn off phones, pagers, etc. during class unless instructed otherwise. If you choose not to adhere to these standards, I will take action in consultation with university administration (e.g., Dean of Undergraduate Studies, Student Conduct, Academic Advising).

Academic Accommodations:

If you need to request accommodation for a disability, you need a signed accommodation plan from Campus Health Services, and you need to provide a copy of that plan to me. Visit the Office of Student Affairs website for additional information and instruction related to accommodations.