

Math 141, Calculus II, Summer 2023

Instructor: Dr. Kuei-Nuan Lin, Email: linkn@psu.edu

Classroom: M-F: 10:00AM-112:00PM

Office Hours: M-F: 9:20-9:50

<https://psu.zoom.us/j/98920137725?pwd=eFdJYnIvVFNieXhOSVpjc2pZK1A3dz09> Password: 12345

Reference: Calculus Volume 2 from OpenStax, Print ISBN 1938168062, Digital ISBN 194717214X, www.openstax.org/details/calculus-volume-2

Electric device: *You need an iPad, and another device such that it has web-camera connecting to internet.*

Here are links for the calculators: <https://sites.psu.edu/kul20/teaching/>

Canvas, Google Classroom

Canvas at Penn State, <http://canvas.psu.edu/> is the place that you check your in class grades. iPad application: Canvas students.

Google G-Suits at Penn State, <https://gsuite.psu.edu/>. Log into G-suite using your PSU email and password. You can access Google classroom and all course materials. Download Google Drive, Google Classroom, and Jamboard on your iPad now. Use your iPad to check PSU email and click to join the Google Classroom, Google Drive, and Jamboard.

Top Hat: <https://www.tophat.psu.edu/> is where you answer in class questions.

If you have questions regarding **Canvas, Google Drive, Google Classroom, Jamboard, Top Hat**, please stop by my office hours, so I can help you.

This is not a traditional class, you are required to read textbook, notes, watch videos, and do the work before coming to class. I teach you through notes, videos, grading, and in class work.

Daily Routine:

The day before the class: 1. Read the corresponding section text for the class; 2. Watch concept and exercise videos and take notes; 3. Do the homework. 4. Submit your homework before 9AM on the due day on Google Classroom.

During the class: 1. Quick questions; 2. Answering homework questions; 3. Group work

Time Commitment:

You are expected to spend at least **30 hours per week (6 hours per day during the weekdays)** learning MATH 141 . This includes reading text/notes, watching videos, working on homework, discussing questions with others and coming to classes and office hours. **Some of you may need to spend more than 6 hours per day and it depends on your personal mathematical background. Keeping up the pace with the class schedule is extremely important in order to succeed in this class.**

Top Hat-40+ points: At the beginning of 10 mins of each class, there will be some multiple choices questions to test out students' understanding of the basic definitions in the text, videos and notes.

Homework-90+ points: See the Homework instruction for the details.

Quiz- 120 points: Each quiz is an oral quiz for 20 points.

Exam- 300 points: Exams will be 150 points each.

Final Exam-250 points: The final is comprehensive 110-minutes exam.

Group-work discussion-20 points: At the end of semester I will decide if you contributed the group-work discussion, followed **Student Classroom Behavior Code of Conduct Policy**, and **Rights and Responsibilities contract you signed.**

General letter grade guide: A: 762 points=93% of 820; A-:738 points=90% of 820; B+:713 points=87% of 820, B:680 points=83% of 820, B-:656 points=80% of 820, C+:631 points=77% of 820, C: 574 points=70% of 820, D: 492 points=60% of 820. The actual cut off will be based on quality of class participation.

Exam rubric: *Using any resources during exams or quizzes will be interpreted as violation of the academia integrity.*

1. If you cannot come to any of the exam or quiz, you have to make arrangements within the first two weeks of the course. We will only accept a very few reasons for not attending one of the exams. Those reasons are limited to: religious reasons, interviews for scholarships, and participation in intercollegiate sports. Please note that travel plans will not be considered. In the case of emergency, an email notification is required within 24 hours of the exam period in order to have the make up exam. Only the first make up exam will be scheduled in my office. If a student have to do second make up exam, the make up exam will be scheduled during the final exam week.

Classroom Decorum

Out of respect for your classmates, I ask that you arrive to class on time everyday. Arriving 2 minutes before the start of the class.

Attendance policy:

Students are expected to attend every lecture. It is important that you attend the class and do the group work. If you miss the class then your group mate will suffer. If any of class is missed, it is your responsibility to catch up with the material by asking notes from other students in the class. If you have to miss a lecture with a valid reason, you must send an email notification before the lecture for the make ups. **If you miss classes for more than 3 times without a valid reason, your letter grade will be automatically drop by one level at the end of class.**

Emails:

Emailing me when needed is encouraged, but should be done professionally. All email communication must state clearly **who is sending the email from which course** and must be written in ordinary English. Please do not hesitate to contact me for the course if you have questions or need help. If you would like to meet with me and cannot come during scheduled office hours, we can set up an appointment for another time.

Homework Instruction:

1. Homework will be assigned everyday. ***You need to do homework all by yourself without any help from anyone or from internet.*** The class schedule is exactly one day after the homework due date. Homework will be collected on Google Classroom at 9AM on the due date. Each homework will be 2 points. 1 point is for the completion of the homework and another point is for the correction of the homework writing after you check the solutions.
2. You write your homework as you are giving a report to your future employer except that you are allowed to handwrite the solutions. In other words, it has to be a form of detailed work and clear explanations of your solutions. You must write detailed work in order to earn credits. It has to be organized and is easy to read. If your peers cannot read your handwriting means you need to write better.
3. Write directly on the pdf files that I prepare for you and make sure to “turn in” the assignment on Google classroom.
4. ***You need to fill out the cover sheet everyday. There is always something you could reflect on your homework writing.***
5. ***Any homework submitted without following the instructions above will be returned without any credit.***
6. **No late homework will be accepted unless an email notice is sent before the due date with a valid reason.**
7. You have to watch the concept videos before you try the homework. Each homework question has a video demonstrating how to solve a very similar question. You are expected to watch the video to help your homework question. ***Just do the homework without watching concept videos is not a correct way to learn mathematics, especially I teach you through videos!***
8. Please read my feedback carefully because this is how I teach. If you have any questions regrading my grading, please come to my office hours. ***Just doing the work without checking the solutions is not the correct way to learn mathematics. You need to learn from mistakes and know where did you make mistakes.***

During the classes, you will solve group work questions with your group mates that you are assigned to. You are expected to contribute the group work all the time. In order to be able to contribute and finish the questions, *you have to read notes, watch videos, and do the homework before coming to the class* because the group work questions are more challenging and they required the understanding of basic definitions and basic computations. You are expected to come to every class. If you miss the class, your group mate will suffer.

MATH 141 Learning Objectives:

Upon successful completion of Math 141, the student should be able to:

1. Use the technique of substitution when appropriate.
2. Recognize integrands for which integration by parts is appropriate.
3. Use the formula to integrate by parts. 4. Use techniques for integrals of products of sines and cosines.
5. Use techniques of trigonometric substitution to integrate various forms of integrands.
6. Use the technique of partial fraction decomposition to reduce an integrand to a more easily integrated form.
7. Given an integration problem, choose the proper method and proceed with integration.
8. Set up integrals to calculate various areas and volumes.
9. Set up and solve integrals to calculate work.
10. Recognize improper integrals and put in proper form for determination.
11. Determine if an improper integral diverges or converges (and if so, to what?).
12. Identify and compare different types of sequences.
13. Determine if a sequence diverges or converges (and if so, to what?).
14. Solve biological and financial application problems using geometric series.
15. Recognize famous series in standard and non-standard form.
16. Apply infinite series tests for convergence and divergence.
17. Determine the error associated with a partial sum of an alternating series.
18. Find the interval of convergence and radius of convergence for a given power series.
19. Generate power series representations of some functions from a geometric series perspective.
20. Generate power series representations of some functions from a Taylor Series perspective.
21. Recognize and manipulate important Maclaurin Series (e^x , $\sin x$, $\cos x$, $\tan^{-1}(x)$, $1/(1-x)$, $(1+x)^p$) by differentiation, integration, and substitution.
22. Find the n th degree Taylor Polynomial of a function f centered at a and determine the error associated with estimating f using this polynomial.
23. Sketch graphs of curves defined parametrically.
24. Use calculus techniques to analyze the behavior of graphs of parametrically defined curves.
25. Sketch graphs of polar equations.
26. Find slopes of tangents to polar-defined curves.
27. Find points of intersection of two or more polar functions.
28. Find areas enclosed by polar-defined curves.

Webcam: This course requires you to have a webcam for class sessions and assessments. Classes and assessments will be conducted using Zoom which may use your computer's webcam or other technologies to communicate, monitor, and/or record classes, class activities, and assessments. Assessments may also be conducted using proctoring software, which may listen to you, monitor your computer screen, view you and your surroundings, and record (including visual and audio recordings) all activity during the proctoring process. Please contact your instructor if you are unable to comply or have any questions or concerns.

Educational Equity: Penn State takes great pride to foster a diverse and inclusive environment for students, faculty, and staff. Acts of intolerance, discrimination, harassment, and/or incivility due to age, ancestry, color, disability, gender, national origin, race, religious belief, sexual orientation, or veteran status are not tolerated and can be reported through Educational Equity at the Report Bias site: <https://equity.psu.edu/reportbias>

Penn State's Code of Conduct can be found at the following link
<https://studentaffairs.psu.edu/support-safety-conduct/student-conduct/code-conduct>

All questions regarding the Student code of conduct can be referred to Justin Dandoy, Greater Allegheny Conduct Coordinator at jpd5906@psu.edu

Academic Integrity: Academic integrity is the pursuit of scholarly activity in an open, honest and responsible manner. Academic integrity is a basic guiding principle for all academic activity at The Pennsylvania State University, and all members of the University community are expected to act in accordance with this principle. Consistent with this expectation, the University's Code of Conduct states that all students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts.

Academic integrity includes a commitment by all members of the University community not to engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others.

Disability Accommodation: Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. Student Disability Resources (SDR) website provides contact information for every Penn State campus (<http://equity.psu.edu/sdr/disability-coordinator>). For further information, please visit Student Disability Resources website (<http://equity.psu.edu/sdr/>). The contact person at Penn State Greater Allegheny is Siobhan Brooks (Office in Lower Level of J. Clarence Kelly Library, 412-675-9454, sbrooks@psu.edu)

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: See documentation guidelines (<http://equity.psu.edu/sdr/guidelines>). If the documentation supports your request for reasonable accommodations, your campus disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early as possible. You must follow this process for every semester that you request accommodations.

Counseling and Psychological Services: Many students at Penn State face personal challenges or have psychological needs that may interfere with their academic progress, social development, or emotional wellbeing. The university offers a variety of confidential services to help you through difficult times, including individual and group counseling, crisis intervention, consultations, online chats, and mental health screenings. These services are provided by staff who welcome all students and embrace a philosophy respectful of clients' cultural and religious backgrounds, and sensitive to differences in race, ability, gender identity and sexual orientation.

Counseling and Psychological Services at Commonwealth Campuses
(<https://senate.psu.edu/faculty/counseling-services-at-commonwealth-campuses/>)

Penn State Crisis Line (24 hours/7 days/week): 877-229-6400 Crisis Text Line (24 hours/7 days/week): Text LIONS to 741741

Educational Equity/Reporting Bias: Consistent with University Policy AD29, students who believe they have experienced or observed a hate crime, an act of intolerance, discrimination, or harassment that occurs at Penn State are urged to report these incidents as outlined on the University's Report Bias webpage (<http://equity.psu.edu/reportbias/>)

Penn State University is committed to fostering an environment free of harassment and discrimination. Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex in public and private educational institutions that receive Federal funds. The University has dedicated many resources to addressing suspected prohibited conduct under Title IX. If you or someone you know has experienced sexual harassment, including sexual assault, dating or domestic violence, and stalking, please know that help and supportive resources are available.

Faculty members are not required to disclose information to the Title IX Coordinator. However, Penn State strongly encourages all members of the community to take appropriate action by providing support and encouraging those impacted by such incidents to submit a report to the Title IX Coordinator. You may also submit a report online by using the incident form found here: Office of Sexual Misconduct Prevention & Response Incident Report Form (maxient.com) If the University Title IX staff receives information about an incident, they will reach out to offer information about resources, rights, and procedural options available to you.

Penn State's Title IX Coordinator is:

Chris Harris, Title IX Coordinator 328 Boucke Building University Park, PA 16802 (814) 863-0471
titleix@psu.edu

At Penn State Greater Allegheny, Contact for supportive resources, academic and housing accommodations: Lorraine Craven Director, Student Services & Engagement Penn State Greater Allegheny Student Community Center 4000 University Drive McKeesport, PA 15132 412-675-9034
Lac585@psu.edu

RP Name and contact information Titleix.psu.edu

Student Classroom Behavior Code of Conduct Policy: Students, regardless of the many perspectives they may bring to a given class, are expected to be courteous while in the classroom. Students are expected to display professionalism in the class meetings and course discussions. This includes behaving with honesty and integrity, showing accountability, showing respect for the instructor and others in the class meetings and discussions, and being responsible. Some unacceptable behaviors are: continuing to talk after being asked by the instructor to stop; conducting side conversations during instruction; nonverbally showing disrespect for others; using vulgar, obscene or other inappropriate classroom language; making disparaging remarks or slurs based on age, religion, race, ethnicity, gender, nationality, disability, or sexual orientation; disruptive classroom entrances; verbally indicating dissatisfaction with an activity, assignment, grade or course content; getting up during class, leaving, and then returning; using cell phones, allowing them to ring, or texting during class; engaging in other activities such as using instant messaging; social networking sites; online shopping; inappropriately using computer or other technology in a disruptive way or any activity that is unrelated to the course.

More serious classroom transgressions include but are not limited to: coming to class under the influence of alcohol or illicit drugs; verbal assault; physical assault; and/or sexual harassment. If there is a Code of Conduct violation as described above, the student will first be asked to stop the behavior and then asked to leave the class. The Student Affairs will be notified for the behavior and the police office may be notified. If the behavior continues, the case will be turned over to Student Affairs for a Code of Conduct review.

Important dates and schedule:

M	T	W	R	F
7/3	7/4	7/5 1.0/1.1	7/6 1.2/1.3	7/6 Quiz 1, 1.0-1.3, 1.4/1.5
7/10 1.6/1.7	7/11 1.8/2.1	7/12 Quiz 2, 1.4-1.8, 2.1 2.2/2.3	7/13 2.4/2.5	7/14 E1SampleA/B EXAM 1, 1.1-2.5 (75 mins)
7/17 3.1/3.2	7/18 3.3/3.4	7/19 Quiz 3, 3.1-3.4, 3.5/3.6	7/20 3.7/3.8	7/21 3.9/3.10
7/24 Quiz 4, 3.5-3.10 3.11/E2SampleA	7/25 E2SampleB/C EXAM 2, 3.1-3.11 (75 mins)	7/26 4.1/4.2	7/27 4.3/4.4	7/28 Quiz 5, 4.1-4.4 4.5/5.1
7/31 5.2/5.3	8/1 5.4/5.5	8/2 Quiz 6, 4.5, 5.1-5.5 5.6/FinalSampleA	8/3 FinalSampleB/C/D	8/4 Final, 1.1-5.6