

## Information for Students in Math10560, Spring 2025

**Course Website:** <http://www3.nd.edu/~apilking/Math10560/>

### Instructors: MATH 10560

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### Teaching Assistants: Tutorial - MATH 12560

Section	Teaching Assistant	Office	Phone	e-mail
Section 11 & 12 & 21:	Pengkun Huang,	B02 Hayes-Healy,	631-6832	phuang@nd.edu
Sections 22 & 61:	Yasmin Aguillon,	225 Hayes-Healy,	631- 3741	yaguillo@nd.edu
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Section 41 & 42:	Atticus Stonestrom,	289 Hurley,	631- 9586	astones3@nd.edu
Section 62 & 71 & 72:	Fuxiang Yang,	152 Hurley,	631- 3260	fyang6@nd.edu

**Text:** Stewart, *Single Variable Calculus*, Ninth edition. Since we are using the First Day Access Program, you will have access to the e-book through Canvas and (most-likely) you will not need to make any purchases. See [Book/Access Code Information](#) for details.

**Syllabus:** We will cover Chapters 6 and 7, parts of Chapters 8 and 9, Chapter 10 and Chapter 11. The topics are logarithmic and exponential functions, techniques of integration and applications, an introduction to differential equations, parametric equations, polar coordinates, infinite sequences and series and power series. Details of the order in which topics are presented are given in the attached day by day schedule.

### Preparation for Class and Tutorials:

- You are encouraged to read each section of the text before it is covered in class and review any concepts from Calculus 1 and Precalculus that will be used. To help you prepare for each lecture, click on the following link on the webpage; [Lecture Notes and Videos](#), for a list of prerequisites from precalculus, click on [Precalculus Preparation](#).
- After working through your homework, you should work through the practice questions for each quiz are listed on the website under [Quiz Information](#). The solutions are posted so that you can check your answer and your methodology.

**Class Attendance:** A first-year student who accumulates more than 3 unexcused absences may be given an F. Whether your instructor enforces this policy or not, it is not a good idea to skip classes. If you have to miss classes due to an emergency or sickness, you should alert your advisor and have them circulate an excused absence note to your instructors and tutors. To catch up on class material, you can work through the lecture notes provided on the website and contact your instructor or go to the math help room if you have questions. In general not attending class or sitting at the back of class working

on assignments, for calculus or other classes, are factors which have a strong negative effect on grades. Your instructor may or may not take attendance.

**Tutorials:** The Tuesday tutorials are mandatory. There are 13 tutorials in all, the first is a course-information/lecture session and a review is scheduled for the tutorial in the last week of classes. All other tutorials will have a quiz.

The Quiz will consist of 4 multiple choice questions(all old exam questions) and one mandatory question. The mandatory question will be a partial credit question(an old exam question) or a list of true/false statements. You will find a list of material to be covered in quizzes on our website under [Quiz Information](#) along with lists of old exam questions to help you prepare. To prepare for quizzes, please attempt the old exam questions listed on the quiz information page for review on these topics. If you get the mandatory question and two multiple choice questions correct, you will get full points on your quiz. Check the [Quiz Information](#) page for full details.

This is a low penalty method to get some feedback and check if you are exam ready on that material. In addition, our statistics show that preparing for tutorials each week by working through old exam questions leads to higher grades on exams. Your tutor will go over the solutions in class after the quizzes have been collected.

There will be no make-up quizzes. If you have a valid excuse for missing a tutorial, please contact your advisor and have them send a notification of your excused absence to your Tutor and your Instructor (usually notification of excused absences is sent to all of your instructors). Your tutor will replace the excused tutorial grade by the average of your other tutorial grades at the end of the semester (contingent upon receiving official notification of your excused absence).

Your Tutorial grade will count for a total of 100 points toward your final grade (10 points for each tutorial with a Quiz and 10 points for attendance and participation at the review on 04/29/25, with the lowest two scores dropped).

**Homework:** Homework problems will be assigned and graded electronically through Canvas. The online homework system has many extra learning tools such as interactive practice problems(master it), videos and links to Wolfram Alpha demonstrations in the text. You are encouraged to make full use of these extra features. Please refer to the separate document Information on Online Homework or the web link above for details.

### Who to e-mail/contact for problems

- For questions about timetables, exam locations/format and general policies, you will be able to find answers on the class website, or in the information handouts.
- For problems understanding the material or solving problems, you should find a time that suits your schedule from the available options; the math help room or your instructor's office hours (See [Help Available](#) for details).
- If you wish to discuss your grade or your progress in the course, request a homework extension, or request a make-up exam etc... , the appropriate person to contact (by e-mail or at office hours) is the instructor of your section. If it is necessary, your instructor will contact the course chair.
- If you wish to opt out of the first day access program for homework you should send an e-mail to SM8442@bncollege.com before Jan. 21.

- If you have technical problems with the homework system, webassign, please contact webassign student support or attend the Cengage office hours. You will find a link to the Cengage Office hours on our webpage [Help Available](#).

**Examinations:** There will be three midterms and a final exam

### Exam Dates and Locations

	Exam 1	Exam 2	Exam 3	Final Exam
Time and Date	8-9:15 a.m. Tue. Feb. 18	8-9:15 a.m. Thur. Mar. 20	8-9:15 a.m. Tue. April 22	8-10 a.m. Wed. May 07

Exam Locations have not yet been fully determined, they will appear on the website under **Exams: Time/Date/Location** when the information is available.

If you are entitled to **extra time** for your exam, please contact the Sara Bea Center well in advance of your exam to reserve a place there to take the exam. Extra time will not be given in the regular exam hall.

Calculators will **NOT** be allowed on exams.

**Grading:** Your final grade will be determined by your total score out of 600 points. The points are distributed as follows:

<b>Midterms(3):</b> 100 points each	<b>Final:</b> 150 points
<b>Tutorial:</b> 100 points	<b>Homework:</b> 50 points

### Exam Conflicts

- The Tues/Thurs 8 am exam schedule and the schedule for finals is known for all your courses. Check for any conflicts and let your instructors and advisor know about conflicts well in advance. Any student with exam conflicts (midterms or finals) must submit an eForm (through the Academic e-forms App. on inside-ND) at least one week before the exam period to allow for sufficient time to resolve the conflict. The dean's office has access to the number of students in the conflicted classes, this dictates which class gives the make-up exam and the decision will be made by the dean's office.
- If you have three or more finals in one day, or 4 or more finals in a 24 hour period, you may negotiate to change the time of one of these finals. If you intend to request to have the time of your Math 10550 final changed, you must talk to your dean(or the dean's designee or fill out an e-form) at least one week before the start of the final exam period (see section 3.2.2.4 of the [undergraduate academic code](#)). Note that unless your reason for requesting a rescheduled final are in accordance with university regulations, you will not be allowed to reschedule your final. In particular TRAVEL PLANS THAT CONFLICT WITH YOUR FINAL EXAM(INCLUDING CATCHING A BUS TO THE AIRPORT) AND ATTENDING FAMILY EVENTS SUCH AS WEDDINGS AND GRADUATIONS DO NOT QUALIFY AS A REASON TO HAVE YOUR FINAL RESCHEDULED. If you have a conflict on finals week, please make sure that you are available to take the exam in the make-up slot(check the final exam schedule for this time; it is usually the final exam slot on the final day of finals week.).

- If you are an **athlete**, make sure that you check for exam conflicts with your athletic schedule for the semester. Let your athletic advisor know about such conflicts so that they can arrange to have someone from the athletic department attend the meet, to proctor the exam, and send an excused absence note to your instructors. Please note that according to NCAA rules, attending practice is not considered as a reason for an excused absence. Attending a competition or meet does not excuse you from studying for an exam or doing your homework.

**Missed Exams:** Note that there will be three Midterm Exams and a Final Exam.

- Please take note of the dates of all exams.
- A student who misses an examination and has appropriate documentation showing that they have an excused absence will be given a make-up exam. Students who do not have an excused absence may be allowed take a make-up exam for a credit of 90% of the points they score on the make-up (the second time you miss an exam without an excused absence, you will get a grade of zero for the exam). Please be aware that travel plans, sleeping in, defective alarm clocks, etc. are not considered to be a valid reasons for an excused absence.
- If you have a valid excuse (illness, excused athletic absence, etc.) for missing an exam, please have your advisor arrange to have an official e-mail sent to your instructor and Professor Pilkington as soon as possible. A long term illness lasting more than a week should be dealt with by the Center for Student Support and Care. In particular, the Care and Wellness consultants in that office have the (legal) right to verify your documentation and talk with you about issues with taking exams and make-ups at the scheduled times. They can then contact your instructor and advise them on a course of action. Please be advised that if you are sick on the day of the exam (or on the day of a tutorial), a note from a visit to St. Liam's stating that you are exempt from classes/exams on the day in question will be necessary. A note from the dial-a-nurse service will not constitute an excused absence. (Also please do read the note on the honor code below carefully).
- We will try to arrange a time for a make-up exam that suits everybody's class schedule. If a student has a long-term illness or other issues (with supporting documentation) that prevent them from taking both the exam and the make-up, we will consult with someone from The Center for Student Support and Care about deferring the make-up to a future exam make-up date for the course. This may be on the last afternoon of finals week, so please cancel all plans to leave before the end of finals week if you find yourself in this situation.

**Honor Code:** Both examinations and homework are conducted under the [Honor Code](#). While discussion in small groups in doing homework is permitted (and strongly encouraged) in this course, the work should be your own. Letting online tutors or other students complete your homework is a violation of the honor code and also quite foolish. Your homework provides you with an opportunity to test your knowledge and find your own weaknesses in a low stakes environment. You should start each homework well before the deadline and if you discover that there are some problems that you are having trouble with, take them to the math help room or your instructor's office hours.

Exams and quizzes are proctored and must be completed without the aid of a calculator or formula sheet (other than the one provided, if applicable). Using a formula sheet, or consulting an electronic

device, copying from your neighbor or talking to another student while an exam or quiz are in session, are violations of the honor code and will be dealt with as such.

Obviously forging notes or e-mails, or tampering with notes from St. Liam's is a serious offense and a clear violation of the honor code. If you are a foreign student, a violation of this kind may affect your ability to get a visa, so please be warned and do not engage in such behavior.

Major Violations of the honor code may have an adverse impact on your career. Please familiarize yourself with the [Honor Code](#) and the consequences of violating it.

## Schedule Math10560 Spring 2025

01/13	Mon.	6.1. Inverse Functions
01/14	Tue.	Course Information.
01/15	Wed.	6.2*. The Natural Logarithmic Function
01/17	Fri.	6.3*. The Natural Exponential Function
01/20	Mon.	MLK Day, No Classes
01/21	Tue.	Quiz 1, Topics 6.1, 6.2*, 6.3*
01/22	Wed.	6.4*. General Logarithmic and Exponential Function.
01/24	Fri.	6.5. Exponential Growth and Decay
01/27	Mon.	6.6. Inverse Trigonometric Functions
01/28	Tue.	Quiz 2, Topics 6.4*, 6.5
01/29	Wed.	6.8. Indeterminate Forms and L'Hospital's Rule
01/31	Fri.	7.1. Integration by Parts
02/03	Mon.	7.2. Trigonometric Integrals
02/04	Tue.	Quiz 3, Topics 6.6, 6.8, 7.1
02/05	Wed.	7.3. Trigonometric Substitution
02/07	Fri.	7.4. Integration of Rational Functions by Partial Fractions
02/10	Mon.	7.4. Integration of Rational Functions by Partial Fractions
02/11	Tue.	Quiz 4, Topics 7.2, 7.3, 7.4(Part 1)
02/12	Wed.	7.5. Strategy for Integration
02/14	Fri.	7.7. Approximate Integrals
02/17	Mon.	Review for Exam 1
02/18	Tue.	Exam 1 (No Tutorial)
02/19	Wed.	Return and discussion of Exam 1/Catch Up
02/21	Fri.	7.8. Improper Integrals
02/24	Mon.	8.1. Arc Length
02/25	Tue.	Quiz 5, Topics 7.4, 7.5, 7.7, 7.8
02/26	Wed.	9.2. Direction Fields and Euler's Method
02/28	Fri.	9.3. Separable Equations
03/03	Mon.	9.5. Linear Equations
03/04	Tue.	Quiz 6, Topics 8.1, 9.2, 9.3
03/05	Wed.	11.1. Sequences
03/07	Fri.	11.2. Series
03/10	Mon.	Spring Break
03/11	Tue.	Spring Break
03/12	Wed.	Spring Break
03/14	Fri.	Spring Break

03/17	Mon.	11.3/11.4. p-series (using integral test) and comparison test.
03/18	Tue.	Quiz 7, Topics 9.5, 11.1, 11.2
03/19	Wed.	Review for Exam 2
03/20	Thur.	Exam 2
03/21	Fri.	Return and discussion of Exam 2/Catch Up
03/24	Mon.	11.4. The Comparison Tests
03/25	Tue.	Quiz 8, Topics 11.1-11.4 + Topics from Exam 2
03/26	Wed.	11.5. Alternating Series
03/28	Fri.	11.6. Absolute Convergence and the Ratio and Root Tests
03/31	Mon.	11.7. Strategy for Testing Series
04/01	Tue.	Quiz 9, Topics 11.4, 11.5, 11.6
04/02	Wed.	11.8. Power Series
04/04	Fri.	11.9. Representations of Functions as Power Series
04/07	Mon.	11.10. Taylor and MacLaurin Series
04/08	Tue.	Quiz 10, Topics 11.7, 11.8, 11.9
04/09	Wed.	11.11. Applications of Taylor Polynomials
04/11	Fri.	10.1. Curves Defined by Parametric Equations
04/14	Mon.	10.2. Calculus with Parametric Curves
04/15	Tue.	Quiz 11, Topics 11.10, 11.11, 10.1
04/16	Wed.	Review for Exam 3
04/18	Fri.	Easter Break
04/21	Mon.	Easter Break
04/22	Tue.	Exam 3 (No Tutorial)
04/23	Wed.	Return of Exam 3, Catch up/review
04/25	Fri.	10.3. Polar Coordinates
04/28	Mon.	10.4. Areas and Lengths in Polar Coordinates
04/29	Tue.	Review
04/30	Wed.	Review
05/07	Wed.	Final Exam, 8-10 a.m.

**Study Habits/Learning Strategy** In this course we emphasize both the acquisition of new ideas and the process of solving problems with those ideas. In order to develop a thorough knowledge of the material, it is important that you actively engage in the process of problem solving. **Reading the book and completing the homework** will help you understand the material section by section. **Working on old exam questions before and in tutorials** will take you a step further towards integrating the concepts and seeing the big picture. Exam questions and tutorial quizzes often contain problems that require material from previous sections in addition to concepts covered in Calculus 1 and Precalculus. It is very important to be willing to look up and review material from previous sections and courses when you discover the you need to do this. (This mindset is not just important for Calculus II, but essential to any research or projects that you might undertake as an undergraduate or in your future studies.) It is also essential to prepare for tutorials by completing the homework and trying the [old exam questions](#) on the sections to be covered ( [Quiz Information](#)). **On the day of the exam, you will be required to answer questions on a large body of material without any props.** You must prepare honestly and thoroughly for this scenario. As mentioned above, old exams are available on our website for practice. More tips on Studying appear on the website under [Study Tips](#).

**Survey Results** A survey conducted on exiting Calculus II students revealed some of the difficulties that students had. Although most have been discussed with university administrators, it seems that changes in exam schedules, project deadlines and the timing of registration openings may not be possible. However, I hope that some forewarning will mean that you will be forearmed.

### **Common Difficulties Reported by Students**

- This is considered a difficult course and covers a lot of material. If you fall behind, you get lost very quickly.
- Students who skipped classes got lost very quickly.
- Many students fall behind in this course because they have to keep up with deadlines for projects and labs for other courses. (I suggest you set by time for mathematics each week and stick to your schedule).
- Some students delete important e-mails without opening them. **Communication for these course is mainly through e-mail or in class.** Please make a folder in your e-mail account to store all messages pertaining to this course for your reference. In particular store all messages from your instructor, your tutor or Professor Pilkington.
- Exam 3 covers A LOT of material much of which is new. Many students misjudged the time needed to review for this exam with disastrous results. This exam also seems to coincide with deadlines for projects and activities in other classes.
- Many students were unaware of the resources provided in the online homework system and on the website. Please familiarize yourself with the website and the resources both there and in your homework.
- In general students tend to be unaware of the help available for the course. In addition to office hours, there are a number of places to get help listed below. I suggest you pick a help session that suits your timetable and mark it on your calendar each week, leaving that time free to attend the help session if you need to. When working on summarizing lectures, homework and old exam questions, make a list of the concepts and problems that you are having difficulty with and bring your list to the help session each week.



- Most students say they would benefit from improving their time management and study skills. You will find lots of good advice on the internet about this and I suspect that it will help many of you to try to improve in these areas. In particular, in light of the difficulties that many students had with procrastination due to deadlines in other courses, it seems time management is crucial.
- It seems that students get very little advice on how to deal with a bad grade in this or any course. For this course, it is essential to get help if you have a low grade. As mentioned above, starting your study a few days before the exam is not a good strategy, so make sure you attend help sessions over a number of weeks.
- When students exiting from the course were asked what advice they would give to students taking the course in subsequent semesters, most said that they would advise you to keep up with the material and familiarize yourself with the resources on the website.

**Resources** Please make sure you are aware of the resources for this course by taking time to browse through the website and the online homework. Of note are :

**Online Homework** Practice problems, videos, interactive e-book with links to Wolfram demonstrations and videos.

### Website

- Practice Exams under [Old Exams For Practice](#),
- Old Exam Questions under [Old Exams For Practice](#),
- Notes and videos for each lecture, [Lectures Calculus 2](#),
- Calculus 1 materials for reference and review, [Lectures Calculus 1](#) and [professor Borelli's Lectures](#).
- Algebra/Precalculus materials for reference and review, [Algebra/Precalculus Review](#) and online review module in webassign.

**Help** See website for more details.

- Office Hours: Your instructor and tutor will announce office hours in class; [Help Available](#).
- Math Help Room (walk in), run by graduate students including the teaching assistants for this course. [Help Available](#).
- Learning resource center, tutoring and collaborative learning sessions, check website for details; [Help Available](#).
- Exam Reviews, The night before each exam, one of the instructors will hold a walk in review/Q&A session; [Exam Reviews](#).