MAT 266

ARIZONA STATE UNIVERSITY

Calculus II

Spring 2019

Instructor: Julia (Iuliia) Inozemtseva	**Office:** WXLR 645
Office hours: 1. CPCOM 107 at 9-10:15am 2. ECG 324 at 1-2pm	**E-mail:** juliain89@asu.edu or iinozemt@asu.edu
Text: *Essential Calculus, Early Transcendentals,2nd Edition,* by James Stewart (Brooks/Cole)	
Test reviews: https://math.asu.edu/resources/math-courses/mat266 **Graded** Tests and Quizzes scans will be available here: https://cidsewpga.fulton.asu.edu/login/	

When you contact your instructor, put "**MAT 266 - your class time**" into the subject line. **You MUST send all email from your official ASU email account.**

Tentative Lecture and Test Schedule

Week	Section	Concepts/Comments
1/7 – 1/11	5.1-5.4	Introduction; Review of the Definite and Indefinite Integral
1/14– 1/18	5.5, 6.1	Substitution, Integration by Parts
1/21 – 1/25	6.2	*MLK, Jr. (Monday, 1/21),*Trigonometric Integrals and Substitutions
1/28– 2/1	6.3, 6.4	Partial Fractions, Integration with Tables & CAS
2/4– 2/8	6.5, 6.6	Numerical Integration (cont.), Improper Integrals, Test 1 Review,
2/11– 2/15	7.1	**Test 1** (Tue. 2/12), Area Between Curves
2/18– 2/22	7.2, 7.3	Volumes (Slicing, Disks and Washers), Volume (Shells)
2/25– 3/1	7.4, 7.6	Arc Length, Applications to Physics and Engineering (Work)
3/4– 3/8		*Spring Break (3/3 – 3/10)*
3/11– 3/15	7.6, 8.1, 8.2	Work (cont.), Sequences, Series, Test 2 Review
3/18– 3/22	8.4	**Test 2** (Tue. 3/19), Convergence Tests
3/25– 3/29	8.4, 8.5	Convergence Tests (cont.), Power Series
4/1– 4/5	8.6, 8.7	Rep. Functions as Power Series, Taylor & Maclaurin Series
4/8– 4/12	9.1, 9.2	Parametric Curves, Calculus with Parametric Curves, Test 3 Review
4/15– 4/19	9.3	**Test 3** (Tue, 4/16), Polar Curves
4/22– 4/26	9.4	Tangents to Polar Curves, Areas and Lengths in Polar Coordinates, Final Exam
4/29– 5/3		The Final Exam is Tuesday, 4/30 from 7:10-9:00pm (room TBA)

Important Dates and Points Allocations

Testing Schedule			Grade Allocations		Min. % for Grades	
Test	*Covering through*	*Date*	Tests*	50%	A	90%
1	5.5, 6.1-6.5	2/12	Homework Quizzes	15% 10%	B	80%
2	6.6, 7.1-7.4, 7.6, 8.1-8.2	3/19	Final Exam	25%	C	70%
3	8.4-8.7, 9.1, 9.2	4/16	**Total**	**100%**	D	60%
Final	Comprehensive, including 9.3, 9.4	4/30	*No test will be dropped		E	<60%

Course Withdrawal Deadline	**March 31**
Complete Withdrawal Deadline	**April 26**

Prerequisite: MAT 265 or MAT 270 (Calculus I) with a grade C or better.

Catalog Description

Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, Taylor series.

Course Overview

The purpose of the course is to gain a working understanding of methods of integration, applications of calculus, elements of analytic geometry, improper integrals and series, to include Taylor Series. All the standard methods of techniques of integration are covered. Applications of calculus include general methods where the goal is for the student to divide a quantity into small pieces, estimate with Riemann sums and recognize the limit as an integral. Taylor Series and Taylor Polynomials are covered. Parametric and polar curves are introduced and methods of calculus are applied to them.

Learning Outcomes

At the completion of this course, students will be able to:

- Evaluate an integral using the substitution method, integration by parts, trigonometric substitution or partial fractions.
- Use tables to match the form of a given integral to a form given on the table to evaluate the integral.
- Approximate the definite integral using the Midpoint, Trapezoidal or the Simpson's Rule.
- Evaluate an improper integral where either the definite integral is extended to cover the case where the interval is infinite or where f has an infinite discontinuity on $[a, b]$.
- Determine the area of a region enclosed by given curves.
- Determine the volume of the solids of revolution obtained by rotating a region about a line using washer, disc or shell method.
- Determine the arc length of a curve.
- Solve applied problems involving work, including the work to stretch a spring and the work to empty a tank of liquid.
- Determine if a sequence converges or diverges and find the limit.
- Determine if a series converges or diverges using geometric series or test for divergence.
- Find a radius and interval of convergence for a power series.
- Perform differentiation and integration on known power series to create new power series.
- Find a power series representation and the interval of convergence for a given a function.
- Find either a Taylor Series or Maclaurin Series for a given a function.
- Convert between Cartesian and parametric form and sketch a curve defined parametrically.
- Determine the tangent line at a point on a curve defined parametrically
- Find the area below a parametric curve and the arc length along a curve.
- Convert between Cartesian and polar form and sketch a curve defined in polar coordinates.
- Find the area made by a polar curve.

Homework: Students will submit homework online through WeBWorK. (Click on your instructor's name at http://webwork.asu.edu.) Students are responsible for reading each section and watching videos *before* each class.

WRITE YOUR OWN NOTES FOR EACH HW PROBLEM. You will use it later to prepare for exams. It also helps you to learn how to structure your mathematical thinking in written form.
If you added the class late, you may not have been imported into the Webwork roster. In that case, it is your responsibility to notify your instructor of that fact. Failure or delay in doing so will not entitle you to time extensions.

Murphy's Law of online homework systems: something always happens on the evening of the due date. You should start working on homework assignments on the day the material was covered in class, and finish well before the due date. Don't ask me for the extension if you started your HW 24 hours before the due date.

Group Quizzes: We will be having weekly group quizzes every Thursday. The material is usually based on your previous HWs and/or lecture notes. I will be using Canvas to create randomized groups. It is your responsibility to know your group number before the class. Use the classroom map I will post to locate your group in the classroom.

DON'T BE LATE! You will be penalized for being late to quizzes. I need you to work with the group.
SHOW YOUR WORK FOR FULL CREDIT! Just an answer will cost almost nothing. We need to see your WORK, your thinking, the methods you are using and your explanation.

Video Resources: vidman.asu.edu and https://math.la.asu.edu/~surgent/video/.

Exams: There will be three 50 minute midterm exams given during the semester. All exams will be taken in the classroom on the dates indicated on the given table. Non CAS graphing calculator sare allowed on the exams, but graphing calculators that do symbolic algebra are not allowed on the exams (see below). **Your calculator may be viewed during exams and it will be taken away if it is a CAS calculator or have its memory cleared if anything suspicious is written therein.** The Instructor has the right to regard any suspicious material in your calculator memory as cheating. **Any student who accesses a phone or any internet-capable/camera device during an exam for any reason automatically receives a score of zero on the exam. All such devices must be turned off and put away and made inaccessible during the exam.**

Makeup exams are given at the discretion of the instructor and only in the case of verified medical or other emergency, which must be documented. The instructor must be notified before the test is given. Call the instructor or the Math Department Office (480-965-3951) and leave a message or directly notify your instructor.

Picture ID requirement for testing: For each exam including the final, you must bring a picture ID.

Final Exam: Tuesday, April 30th, **7:10-9:00 pm**. Location: TBA. The final exam is comprehensive through section 9.4.

Text: *Essential Calculus, Early Transcendentals, 2nd Edition*, by James Stewart (Brooks/Cole). The used version of the textbook is fine. The new version of the textbook at the bookstore comes bundled with WebAssign at no added cost.

Graphing Calculator: A graphing calculator is required for this course. If you already have a graphing calculator, you may use it. Examples of highly recommended models are the TI-*n*spire & TI 83/84 or Casio 9850GB Plus.
Calculators that do symbolic algebra, such as the Casio FX2, Casio 9970Gs,TI-89, TI-92, or TI- *n*spire CAS **cannot** be used in class or during an exam.

Piazza: piazza.com/asu/spring2019/mat266l
Piazza is an online forum site specifically created for math and science courses. It features a clean interface that makes following threads easier, the threads are sortable and searchable, and provides the ability to enter symbolic mathematics. It is a collaborative site in which students are encouraged to post questions and other students are encouraged to offer assistance. The instructor and teaching assistants monitor Piazza regularly, offering feedback whenever necessary.
Piazza is a required aspect of the course. The instructor will also post messages to the class in this site. Thus, it is the student's responsibility to be properly signed up in Piazza as directed by the instructor.
See Student Rules of Engagement (Piazza) in Canvas. Failure to adhere to these requirements may result in your posting privileges being revoked.

Studying for the class:
While diligent and timely completion of the homework assignments is necessary to master procedural skills, this alone is insufficient to gain conceptual understanding. To master the concepts, you must review and study your class notes and the textbook thoroughly with the goal of understanding the connections between the concepts.

You must do this continually throughout the semester. You must have learned the definitions and theorems covered in each class session and started the corresponding homework assignments by the time of the next class session. Failure to know the material covered in a previous lecture will result in your inability to follow subsequent lectures, and the difference between where you are in your understanding and where you should be will be compounded with each lecture.

Cramming is a totally ineffective study technique for mathematics and will virtually guarantee failure in the class.

Study Sessions and Office hours: come to work on HW with other students to my study sessions
Study Sessions: *no need to prepare questions, just show up to do HW. No need to talk to anyone if you don't want to. Feel free to create groups, find friends, study together. Come at any time and leave at any time. Flexible, friendly and productive.*
After a study *session - relocate to any tutoring center (listed below) and finish your HW. Or move to the next one.*

Office hours: WXLR 645, by appointment, for personal questions, advises and concerns.
To find my office in WXLR – look for the elevator that takes you to the 6th floor (not all of them do).

Tutoring:

- The Math Tutor Center (free of charge) in WXLR 116 will be open the following hours:
  8:00 a.m. - 8:00 p.m. Monday through Thursday
  8:00 a.m. - 3:00 p.m. Friday
  1:00 p.m. - 6:00 p.m. Sunday
- The Mathematics Community Center (MC^2) in WXLR 303
  Monday – Friday from 10:30 AM – 7:00 PM (no tutors after 4:00pm)
- The Engineering Tutor Center (free of charge) in ECF 100 will be open approximately the same hours Mon – Fri. as the Math Tutor Center.

Many residence halls and the Memorial Union also offer evening or weekend free tutoring to all ASU students enrolled in math courses as part of the Student Success Centers.

Come in for help before it is too late, and several days before an exam day to strengthen your preparation. In order to be admitted to the Tutor Center each student must present their valid ASU Sun Card.

Optional written Homework: Written homework (table shown below) is optional and it very recommended.

SECTION	PROBLEMS FROM TEXTBOOK
5.5	1-19 odd, 33, 35, 37, 39, 40, 45, 46, 48
6.1	1, 2, 5, 9-12, 17, 20, 22, 23
6.2	2, 4, 5, 7, 9, 17, 18, 19, 20, 39-44
6.3	1-3, 7-10, 15, 17, 19, 21, 23
6.4	3-6, 10, 19, 21
6.5	1, 2, 3, 8, 15, 29, 33
6.6	3, 5, 6, 8, 9, 13, 16, 17, 21, 23, 24, 30, 32
7.1	1-4, 8, 9, 12, 15, 29
7.2	2-5, 9, 12, 13, 14, 32, 33, 38, 41, 42, 43
7.3	2-6, 10, 11, 15, 17
7.4	2, 3, 7, 9, 12, 15
7.6	1, 2, 5, 6, 9, 10, 12, 15, 16, 17, 18
8.1	3, 4, 6, 8, 9, 11, 14, 17, 18, 24, 27, 29
8.2	7-10, 15, 18, 21, 25, 26, 31, 32, 39
8.4	2, 19, 20, 21, 24, 25, 26
8.5	3, 5, 7, 8, 9, 11, 14, 15, 18
8.6	3-8, 13, 15, 16, 26, 28, 29
8.7	2, 4-7, 11-14, 18, 23- 25, 27, 32, 36, 37, 41, 47, 48, 52, 53, 54
8.8	3, 6, 7 (optional section)
9.1	5-8, 11-18
9.2	3-5, 9-11, 13, 14, 16, 17, 18, 26, 28, 29, 37, 39
9.3	3, 5, 7, 10, 13, 16, 17, 46, 47, 49, 51, 52
9.4	1, 2, 5-8, 11, 15, 33, 34, 35

The School of Mathematical and Statistical Sciences Policies and Procedures

ATTENDANCE: Attendance is mandatory! Your instructor reserves the right to take attendance and to incorporate your attendance as part of your overall grade. For classes that meet two days a week, the maximum number of absences is four. For classes that meet three days a week, the maximum number of absences is six. Students who exceed the number of allowed absences will receive a grade of **EN.**

Academic Status Report: There are two times during the semester when you will be issued an academic status report from your instructor if your class grade is failing at that time. If you receive such a status report, you must act on it. In particular, if the status report says that you are to meet with your instructor in person, come to office hours **within one week of receiving the report**.
Status Report #1 is issued on October 3rd, 2016. Status Report #2 is issued on October 27th, 2016. Status reports are **not** a real-time running tally of your grades in the class, nor are they updated to reflect grades earned after the report has been issued.

Classroom behavior, etiquette and academic integrity policies

- Athletes with travel schedules should meet with the instructor by the end of the first week of classes to discuss any necessary arrangements that need to be made.

- If you have a disability that requires special accommodations, it is your responsibility to bring this to your instructor's attention during the first week of class. You must also contact the ASU Disability Resource Center https://eoss.asu.edu/drc. All efforts will be made to ensure you have equal opportunity to succeed in the course, but there can be no retroactive accommodation.

- Arrangements for any religious observances or ASU sanctioned activity must be arranged with the instructor at least one week prior to the event.
- Classroom disturbances, including but not limited to: arriving late, talking in class, using cellular devices, texting, listening to music, eating and drinking are not tolerated. Each student is expected to show respect for every student registered in the course. Turn off any cellular phones, pagers, laptops, tablets and other electronic devices and put them out of sight prior to entering class. The usage of laptops is prohibited in the classroom. Notes should be taken with pen/pencil on paper. If you wish to use an electronic device for note taking, talk to your instructor. An instructor may withdraw a student from a course when the student's behavior disrupts the educational process under USI 201-10 http://www.asu.edu/aad/manuals/usi/usi201-10.html
  Students are required to adhere to the ABOR Student Code of Conduct:https://eoss.asu.edu/dos/srr/codeofconduct.
- **Academic Integrity:** Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see http://provost.asu.edu/academicintegrity.

- **The grade of XE:** A grade of XE is reserved for "failure due to academic dishonesty." The grade goes on the student's transcript and usually remains there permanently. Examples of academic dishonesty are signing an attendance sheet for another student or asking another student to sign an attendance sheet on your behalf, accessing unauthorized help while taking an exam, and attempting to influence a grade for reasons unrelated to academic achievement. Asking for a higher grade than the one you have earned because you need a higher grade to maintain a scholarship, or to satisfy your own or someone else's expectations constitutes academic dishonesty.

Withdrawal: A student may withdraw from a course with a grade of **W** during the withdrawal period. The instructor's signature is not required. A complete withdrawal must be done in person and that it involves withdrawing from all ASU classes, not just Math 266. Students will not be withdrawn if they merely stop coming to class. It is a student's responsibility to verify whether they have in fact withdrawn from a class.

The grade of Incomplete: A grade of incomplete will be awarded only in the event that a documented emergency or illness prevents the student who is doing acceptable work from completing a **small** percentage of the course

requirements. The guidelines in the current general ASU catalog regarding a grade of incomplete will be strictly followed.

Instructor-Initiated Drop: At the instructor's discretion, a student who has not attended any class during the first week of classes may be administratively dropped from the course. However, students should be aware that non-attendance will NOT automatically result in their being dropped from the course. Thus, a student should not assume they are no longer registered for a course simply because they did not attend class during the first week. It is the student's responsibility to be aware of their registration status.

Final Exam Make-up Policy: The final exam schedule listed in the Schedule of Classes will be strictly followed. Except to resolve those situations described below, no changes may be made in this schedule without prior approval of the Dean of the College of Liberal Arts and Sciences. Under this schedule, if a conflict occurs, or a student has more than three exams on one day, the instructors may be consulted about an individual schedule adjustment. If necessary, the matter may be pursed further with the appropriate dean(s). This procedure applies to conflicts among any combination of Downtown Phoenix campus, Tempe campus, Polytechnic campus, West campus, and/or off campus class. Make-up exams will NOT be given for reasons of a non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, and other such activities. Students should consult the final exam schedule before making end-of-semester travel plans.

Disability Accommodations: If you have a disability that needs accommodating, please report this privately to the instructor **by the end of the first week of class**. You should also contact the Disability Resource Center at (480) 965 – 1234 (voice) or (480) 965 – 9000 (TTY). All efforts will be made to ensure you have equal opportunity to succeed in the course.

Note: This syllabus is tentative and should not be considered definitive. The instructor reserves the right to modify it (including the dates of the tests) to meet the needs of the class. It is the student responsibility to attend class regularly and to make note of any change. The Instructor also reserves the right to create class policies in regards to homework due date, late assignments, etc.