

SYLLABUS MATH 2502 – Calculus II

INSTRUCTOR: Dr. Catherine Matos

OFFICE HOURS: MTWR 9:30-9:55am, MW 11:00am – 12:00pm, TR 3:30-4:55 pm

Additional office hours by appointment

OFFICE: U-404

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PREREQUISITE: 1501 with a minimum US grade of C or MATH 152 with a minimum UG grade of C

COURSE DESCRIPTION: This course is a study of algebraic and transcendental functions with an emphasis on integral calculus and sequences and series. Other topics from single-variable calculus include parametric equations and polar coordinates. Applications focus on functions which model real-world situations.

COURSE GOALS: This course should enable you to utilize mathematical skills, concepts, and ideas to interpret information and solve problems often encountered in the lives of educated people. Specifically, the course is directed toward:

1. Enhancing your critical thinking and communication skills within a mathematical context utilizing tasks that require (a) interpretation of relationships using variables and (b) solving problems using a variety of mathematical constructs from algebra, geometry, trigonometry, and differential calculus.
2. Providing the appropriate knowledge base for those students who plan to continue studying calculus.

COURSE OUTCOMES:

- **COMMUNICATION:** Students will gain a knowledge base of calculus concepts in analytical, graphical and numerical form. Students will communicate their ideas orally in class discussions and in written form on assessments.
- **CRITICAL THINKING:** Students will apply their knowledge to solve applied problems presented in class, on quizzes, and on examinations. Students will determine the mathematical question and appropriate calculus concepts with which to draw a conclusion, and then provide evidence of a logical answer.

REQUIRED MATERIALS:

- **TEXTBOOK:** Calculus, Early Transcendentals, by Briggs and Cochran, Addison Wesley Publishing Company, 2011.
- **SOFTWARE:**
 - **Maple:** The mathematical software that will be used in the course is **Maple 15**. Maple can be purchased in the CSU Bookstore for \$50.
 - **MyMathLab:** Bundled with new textbooks from the CSU bookstore is an activation code for MyMathLab. This package is **required** for all homework assignments. If you purchase a used textbook, MyMathLab can be bought separately, either from the bookstore or [online](#). The CourseID is matos33474.
- **COMPUTER:** A notebook computer is required for Math 2502. Students will use their notebook computers during class sessions and tests. Clayton State University **requires** that students have ready access throughout the semester to a notebook computer that meets faculty-approved hardware and software requirements for the student's academic program. See the website

<http://itpchoice.clayton.edu> for full details of this policy.

- **WEB MATERIALS:** The course syllabus, important information, and electronic files for download are available on the instructor's course website. Students should refer to this course website frequently for information pertaining to this class. The MyMathLab Course management system will be used for online graded homework assignments and additional supplemental materials. Information on how to register for the course is included with your textbook. A Course Key Access Code is needed to register for your course.

COMMON LEARNING OUTCOMES:

After successful completion of the course the student will be able to:

1. Apply standard integration techniques (change of variable, integration by parts, partial fractions, etc.) to evaluate a variety of integrals.
2. Solve problems requiring the application of the definite integral to topics such as areas between curves, volumes, work, arc length, etc.
3. Apply the required course software to analyze functions, their integrals, surfaces of revolution, infinite sequences, and series.
4. Compute the Taylor polynomial for elementary functions of one variable.
5. Determine convergence and divergence of infinite series and apply the techniques to justify these assertions.
6. Construct the Taylor series and determine the radius of convergence for a variety of functions of one variable. In addition, the student will be able to apply these techniques to perform other calculus tasks such as differentiation and integration.

TECHNOLOGY PREREQUISITE: The computer is used in this course. *You should bring your computer and textbook to each class meeting.* Basic computer skills such as windows file management and using email are necessary to succeed in Math 2502. If you do not have the skills covered in both of these workshops, then it is strongly recommended that you seek additional assistance as soon as possible. These skills will not be taught in Math 2502. Individual assistance and workshops are offered through the HUB when there is enough demand. Students should make an appointment with the HUB to have software loaded on their computers. Please see the [DUCK](#) for information about activating email accounts. More information on the services that are offered through the HUB can be found at <http://thehub.clayton.edu>.

YOU SHOULD BRING YOUR COMPUTER AND TEXTBOOK TO EACH CLASS MEETING.

GENERAL OUTLINE OF CONTENT: The following chapters of the text will be covered this semester. Particular sections may be omitted at the discretion of the instructor.

- Introduction to Integrals: Review of the Fundamental Theorem of Calculus, and substitution methods (Chapter 5)
- Applications of Integration, including volumes of revolution, area between curves, arc length and applications to physics (Chapter 6)
- Integration Techniques: Integration by parts, trigonometric substitution and partial fractions, and improper integrals. (Chapter 7)
- Parametric and Polar Curves: including equations, graphs, areas and arc-lengths (Chapter 10)
- Sequences and Infinite Series: including definitions of sequences and series, tests for convergence/divergence, power series, representing a given function as a power series, Maclaurin and Taylor series, Binomial series (Chapter 8)
- Power Series: Approximating Functions with Power series (Chapter 9)

ASSESSMENT AND EVALUATION: Your grade in this course will be determined by the points that you earn on the midterm and final examinations, quizzes, and graded labs as follows:

Assessment	Points	Grade	Grading Scale		
			Percent	Points	
Homework	100	A	90%	100.0%	585 650
Quizzes	100	B	80%	89.9%	520 584
3 Tests	300	C	70%	79.9%	455 519
Final Exam	150	D	60%	69.9%	390 454
Total:	650	F	0%	59.9%	0 389

Assessment	Tentative Date
Test 1	2/13
Test 2	3/19
Test 3	4/23
Final Exam	5/7

HOMEWORK: There will be regular graded homework assignments administered electronically within the MyMathLab online environment. There will be homework assignments for each section of the text discussed in class. Due dates for each of these assignments will be posted in MyMathLab. All homework is due on the assigned date. *No late assignments can be accepted.* Homework may always be turned in early. Though the assignments may each have different numbers of exercises, each assignment will weigh equally toward your final grade. In order to succeed in this course, a student must do each homework assignment. On average, homework will require three hours, per semester credit hour, of work outside of class each week.

QUIZZES: Approximately once each week, a short in-class quiz will be given. The in-class quizzes will weigh equally. Several take-home quizzes may also be given and will be posted on the Math 2502 web page. The take-home quizzes will each weigh equally, and weigh twice as much as the in-class quizzes. The lowest in-class quiz grade will be dropped. Students may discuss aspects of the take-home quiz with each other, but individual solutions are expected. Academic dishonesty will not be tolerated. Quizzes may be completed early, but may not be accepted late without a verifiable excuse.

EXAMS: There will be three (3) exams, each worth 100 points. The final exam will be comprehensive and will be worth 150 points. No student will be excused from taking exams, and only under unusual circumstances will a student be allowed to take the exams at any time other than the regularly scheduled time. A make-up exam may be considered in cases of illness, death of a family member, or work-required travel. Failure to take the final exam will result in the grade of "F" for the course.

Because of the concentrated nature of the tests, and the logistical difficulties of make-up tests, students will NOT be allowed to make-up tests unless they have contacted the instructor PRIOR to the exam in question with a legitimate, verifiable reason. In such a case, the student will be allowed to make up the exam before the next meeting of the class after the test. The student is responsible for contacting the instructor to make arrangements for the make-up exam, and must bring documentation of the reason for the missed test. An unexcused absence will result in a zero for that test. Please note that it is in your best interest to take tests as they are scheduled, as students almost invariably score more poorly on make-up exams and the final if they have missed the prior unit tests.

RESOURCES:

- I hold regular office hours and am willing to help!
- Your textbook. You paid a lot of this book, so use it! **Read it!** Your text has many explanations and examples that are surprisingly helpful when read in conjunction with class discussions.
- MyMathLab has useful information on concepts and skills for the course.
- Another resource to help you is the Center for Academic Success (CAS) is located on the lower level of the Library. The CAS home page is <http://adminsivices.clayton.edu/cas/> . Peer tutoring is also available through the CAS. There are also audiotapes, videotapes and software available.

UNIVERSITY POLICIES: See the current Academic Catalog at <http://publications.clayton.edu/catalog/> for details on the two policies.

- **NO SHOW Policy:** Any paid student who has failed to attend a class by the final payment deadline for the term will be identified as a “no show.” The “no show” student will be administratively withdrawn from the class, a grade of W will be posted, and the student will NOT be reinstated. Any appeals on the decision are made to the Dean.
- **THREE STRIKES Policy:** A student who has withdrawn or earned less than a satisfactory grade (F, U, D, WF, W) a total of three times in a course at CSU will not be allowed to take the course again. Any appeals on the decision are made to the Dean.

OTHER NOTES:

- The mid-term grade in this course, which will be issued by February 28th, reflects approximately 30% of the entire course grade. Based on this grade, students may choose to withdraw from the course and receive a grade of “W”. Students pursuing this option must fill out an official withdrawal form, available through the DUCK, by March 2nd.
- For students in Math 2502 a grade of C or better is a prerequisite for subsequent math courses at CSU.

ATTENDANCE: Attendance is necessary in order to maintain a good grade in this course, especially since we only meet on campus once a week. Attendance will be taken at the beginning of each class. Students are responsible for all material presented in class. Success on the tests will be highly dependent on attending class and participating in the learning activities designed to apply the material. If you must miss a class, you are responsible for asking another student to fill you in on what occurred in class. Regular attendance is expected and necessary to understand the material. You are responsible for submitting all work by the deadline, whether you attend class or not.

MAKE-UP WORK

- Tests may not be made up unless an excused absence is obtained from the instructor. An unexcused absence will result in a 0 for that test. There are NO make-ups for late quizzes or homework, and the student will receive a 0.
- To obtain an excused absence, the student must give the instructor a written explanation of the absence **PRIOR** to the class being missed. The instructor will decide if the absence is excusable. You **must** call me immediately, preferably **before** the test is missed.

STUDENT RESPONSIBILITIES: Students must abide by policies in the [Clayton State University Student Handbook](#). Students who violate the conduct code regulations will face disciplinary action and/or University Sanctions. Academic dishonesty will not be tolerated. Academic dishonesty includes,

but is not limited to, giving and receiving information. This policy will be enforced. No exceptions. Students who do not conduct themselves appropriately will be asked to leave the classroom.

OPERATION STUDY: At Clayton State University, we expect and support high motivation and academic achievement. Look for Operation Study activities and programs this semester that are designed to enhance your academic success such as study sessions, study breaks, workshops and opportunities to earn Study Bucks (for use in the University Bookstore) and other items.

ELECTRONIC MESSAGES:

- The instructor may send e-mails with information vital to your success in the course. Check your e-mail often, at least once a day.
- Any voice-mail or e-mail messages are returned during the regular workweek.
- Assignments must be turned in as the instructor directs.
- The instructor will NOT email or telephone to tell you everything you missed in class if you did not attend that day.
- Because of the number of students we typically have, there may be some delay in the instructor's response to an individual's e-mail.
- Do not send time-sensitive information via e-mail, speak to the instructor in person. A delivered e-mail does not relieve you of the responsibility of informing the instructor about some concern.
- Do not send a personal email correspondence to the instructor via the email class list.

IMPORTANT DATES FOR THE SEMESTER:

January 9	Classes Begin	March 2	Last day to withdraw without academic accountability
January 12	Schedule Adjustment Ends	April 30	Last day of classes
January 16	MLK Day – No class	May 1-7	Final Exams, See CSU Schedule

NATIONAL EDUCATION STANDARDS: The content of this course syllabus correlates to education standards established by national and state education governing agencies, accrediting agencies and learned society/ professional education associations. Please refer to the course correlation matrices located at the following web site:

<http://a-s.clayton.edu/teachered/Standards%20and%20Outcomes.htm>

DISABILITY SERVICES: Students with disabilities who require reasonable accommodations need to register with Disability Services (DS) in order to obtain their accommodations. You can contact them at 678-466-5445 or disabilityservices@clayton.edu. If you are already registered with DS and are seeking accommodations for this course, please make an appointment with your instructor to discuss your specific accommodation needs for this course and give the instructor your accommodations letter.

All pagers and cell phones must be turned off during class. Please mute your computer speakers in class .

Individuals with disabilities who need this document in an alternative format or to request accommodations, should contact: The Director of Disability Services (Office of Disability Services, University Center) at 678-466-5445, disabilityservices@clayton.edu.

Disruptive Classroom Behavior¹

Disruptive behavior in the classroom can negatively effect the classroom environment as well as the educational experience for students enrolled in the course. Disruptive behavior is defined as any behaviors that hamper the ability of instructors to teach or students to learn. Common examples of disruptive behaviors include, but are not limited to:

- Eating in class
- Monopolizing classroom discussions
- Failing to respect the rights of other students to express their viewpoints
- Talking when the instructor or others are speaking
- Constant questions or interruptions which interfere with the instructor's presentation
- Overt inattentiveness (e.g., sleeping or reading the paper in class)
- Creating excessive noise
- Entering the class late or leaving early
- Use of pagers or cell phones in the classroom
- Inordinate or inappropriate demands for time or attention
- Poor personal hygiene (e.g., noticeably offensive body odor)
- Refusal to comply with faculty direction

Students exhibiting these types of behaviors can expect a warning from the instructor or dismissal for the lesson in which the behavior occurs. Failure to correct such behaviors can result in dismissal from the course.

More extreme examples of disruptive behavior include, but are not limited to:

- Use of profanity or pejorative language
- Intoxication
- Verbal abuse of instructor or other students (e.g., taunting, badgering, intimidation)
- Harassment of instructor or other students
- Threats to harm oneself or others
- Physical violence

Students exhibiting these more extreme examples of disruptive behavior may be dismissed from the lesson or the entire course.

Students dismissed from a lesson will leave the classroom immediately or may be subject to additional penalties. Dismissed students are responsible for any course material or assignments missed.

Students dismissed from a course have the right to appeal the dismissal to the department head responsible for the course. Appeals beyond the department head may also be pursued. If no appeal is made or the appeal is unsuccessful, the student will receive a grade of WF (withdrawal – failing) regardless of the current grade in the course.

Conditions attributed to physical or psychological disabilities are not considered as a legitimate excuse for disruptive behavior.

¹ The description of disruptive behavior and listings of examples of disruptive behavior are taken from the Web sites of James Mason University, the University of Delaware and Virginia Tech.