

Course: MATH 25004-003 (Calculus II)

9:40 – 10:30am, CHEM 144

Instructor: Mark Arnold, SCEN 418, arnold@uark.edu, <https://arnold.hosted.uark.edu>

Office Hours: MWF 12:30 – 1:30, and feel free to make an appointment (or drop by anytime)

Communication: The best way to communicate with me (beyond coming to my office hours) is by email (not a Blackboard message). You can expect a reply within 24 hours, excluding weekends and holidays. Students are expected to monitor their uark email address regularly and consult the course Blackboard site for important announcements

Prerequisites: MATH 24004 (Calculus I) with a grade of C or better.

Course Description: The primary goals of this course (and most courses in mathematics generally) are to further the development of your abilities to formulate and solve quantitative problems, and to strengthen your ability to communicate these findings. We will begin by expanding upon the concept of the integral introduced in Calculus I, by exploring its advanced techniques and applications. Then, we will transition to the study of infinite series, exploring convergence, divergence, and the representation of functions through polynomial approximations. We will conclude by introducing parametric and polar curves and studying their properties.

The specific topics we will discuss are:

- applications of integrals to real-world physical problems,
- advanced techniques of integration,
- improper integrals,
- convergence and divergence of sequences and series of numbers,
- representation of functions by series and approximation by polynomials, and
- curves defined by parametric equations or given in polar form.

Text: *Calculus: Early Transcendentals*, by Briggs & Cochran, 3rd ed, 2019. We will cover the majority of the content in chapters 6, 8, 10, 11, and 12. The physical textbook is recommended but not required: an electronic, online version of the textbook is included with the MyLab Math (MLM) student access kit. Go to the folder “MyLab Math for Calculus: Early Transcendentals 3e by Briggs” in Blackboard to access the links to the textbook and MLM homework. The first time that you click any of these links you will have the opportunity to “opt out”. **Do not opt out.** If you have technical problems with MLM contact MyLab Math tech support.

Drills (aka Discussions): In addition to our regular MWF lectures, you are required to attend your scheduled TTh drill session. Guided by our teaching assistants, these smaller sessions are vital to your success in the course. They provide a collaborative environment where you can review advanced examples, ask specific homework questions, and complete **graded drill activities**.

Please note that you must attend the specific drill section in which you are officially enrolled; unapproved section swapping is not permitted. Graded drill activities can only be completed during your scheduled drill, meaning make-up activities will not be given. However, the four lowest scores of these graded activities will be dropped at the end

of the semester. Additional scores may be dropped if you are forced to miss drill for over two weeks due to a demonstrable severe illness.

Attendance: Education at the university level requires active involvement in the learning process. Therefore, students have the responsibility to attend classes and to actively engage in all learning assignments or opportunities provided in their classes. Attendance is required in both the lecture and drill.

- **Lecture Attendance:** Attendance will be taken during lecture time and counts toward the participation points.
- **Drill Attendance:** Teaching assistants track drill attendance through the completion of in-class drill activities. While drill attendance does not count toward your lecture participation points, missing a drill directly affects your drill activity grade. Graded drill activities can only be completed during the drill, and make-up activities will not be given. However, the four lowest scores of the graded activities will be dropped at the end of the semester.
- **Excused Absences:** The first six absences from lecture will be excused from the attendance grade without the need to inform the instructor. These excused absences will not be visible in your online grade until the end of the semester.
- **Excessive Absences:** Any absence beyond the first six may require appropriate documentation to be considered excused. If you anticipate or experience absences beyond the first six, please contact your instructor as soon as possible.

For more information about excused absences and a list of examples, please see <https://policies.uark.edu/faculty-handbook/2-academic-responsibilities/03.php>.

Homework: Homework is essential to mastering Calculus II. You cannot expect to succeed in this course without consistent effort, which begins with taking assignments seriously, submitting them on time, and thoroughly reviewing your mistakes. Problems similar to those on the homework frequently appear on exams.

You will have weekly homework assignments consisting of two components: online homework via MyLab Math (MLM) and written homework submitted through Gradescope.

- **Online Homework (MyLab Math):** Access MLM assignments by navigating to Blackboard and selecting the "MyLab Math Homework" link inside the *"MyLab Math for Calculus: Early Transcendentals 3e by Briggs"* folder. For each online problem, you are allowed up to four attempts (with three tries per attempt). Take advantage of the embedded learning tools (e.g., "Show me an example," instructional videos, etc.) to guide your study.
- **Written Homework (Gradescope):** Written assignments must be submitted to Gradescope, accessible directly through Blackboard. Written homework will be due once or twice per week on Mondays and/or Fridays. Please note that only a selected subset of the written problems will be graded for accuracy. To accommodate occasional disruptions, your lowest two written homework scores will be dropped at the end of the semester. Late homework is not accepted.
- **Academic Integrity & AI Policy:** Students are strictly prohibited from using advanced automated tools (such as artificial intelligence or machine learning platforms like ChatGPT) on assignments in this course. Using such tools constitutes academic dishonesty and will be reported according to university policy.

Exams: Your understanding of the course material will be evaluated through three semester exams and a cumulative final exam.

- **Exam 1:** Friday, September 11 (50 minutes, administered during your regular lecture time).

- Exam 2 (Midterm): Wednesday, September 30, from 7:00 PM to 8:30 PM (90 minutes, location TBD). Note that this exam occurs outside of regular class hours and covers all material from the start of the semester.
- Exam 3: Wednesday, November 4 (50 minutes, administered during regular lecture time).
- Final Exam: Monday, December 7, from 5:30 PM to 7:30 PM (120 minutes, location TBD). The final exam is comprehensive and covers all course content.
- Make-Up Policy: If you must miss an exam due to illness or another compelling, documented emergency, you must notify the instructor prior to the start of the exam. Make-up exams will not be granted without prior consent and verifiable supporting documentation.

Course Grade:

Participation,	3%
MyLab Math,	5%
Written Homework,	10%
Drill activities,	10%
Exam 1 (September 11, during class),	16%
Exam 2 (September 30 at 7:00 PM),	20%
Exam 3 (November 4, during class),	16%
Final Exam (December 7 at 5:30 PM),	20%

Letter grades: *A* : 100 – 90; *B* : 89.99 – 80; *C* : 79.99 – 70; *D* : 69.99 – 60; *F* : 59.99 – 0.

Grade Disputes: The instructor is committed to keeping students informed of their standing in the class. Scores on all graded items will be posted in a timely manner. Students are expected to bring any possible errors to the attention of the instructor within **one week** of posting. This maintains an accurate grade record throughout the semester. *All scores posted on or before Reading Day will be deemed accurate unless a possible error is brought to the attention of the instructor before the scheduled final exam.*

Calculator Policy: Electronic devices, including calculators, are not necessary for the course and will **not** be allowed during exams. Calculators and computers may be used for homework.

Electronic Devices: Cell phones or any device that may distract from the class should be silenced before class begins unless instructed otherwise and may not be on the desk during class. Tablet and laptop computers may be used for the purpose of note taking.

Class Etiquette: Students and instructors each have an important role in maintaining a classroom environment optimal for learning, and are expected to treat each other with respect during class, using thoughtful dialogue, and keeping disruptive behaviors to a minimum. This applies both to working in groups and while listening to the instructor or drill leader. Both students and faculty perceive abusive language directed towards others as the most disruptive behavior. Other behaviors that can be disruptive are chatting and whispering during class, the use of smartphones or laptops for texting or in other ways unrelated to the course, preparing to leave before class is over, and consistently arriving late to class. Inappropriate behavior in the classroom may result in a request to immediately leave the classroom and/or a referral to the Office of Academic Integrity and Student Conduct.

Academic Honesty Policy: Academic dishonesty will not be tolerated. As a core part of its mission, the University of Arkansas provides students with the opportunity to further their educational goals through programs of study and research in an environment that promotes freedom of inquiry and academic responsibility. Accomplishing this mission is only possible when intellectual honesty and individual integrity prevail. Each University of Arkansas student is required to be familiar with and abide by the University's "Academic Integrity Policy" which may be found at <https://honesty.uark.edu>. Students with questions about how these policies apply to a particular course or assignment should immediately contact their instructor.

Inclement Weather Policy: Class will meet in-person as scheduled unless the University is closed. On-campus students are expected to be present. Off-campus students should make their own decisions in the best interest of personal safety. Off-campus students will not be penalized for being absent on those days the Fayetteville Public Schools are closed due to weather. If attendance is severely affected by weather, deadlines and exam dates may be adjusted. Please do not call the Department of Mathematical Sciences with weather-related inquiries. You should contact your instructor for information.

The University policy for inclement weather is available at: <https://safety.uark.edu/inclement-weather/>

Accommodations: Under University policy and federal and state law, students with documented disabilities are entitled to reasonable accommodations to ensure the student has an equal opportunity to perform in class. If any member of the class has such a disability and needs special academic accommodations, please report to the Center for Educational Access (CEA). Reasonable accommodations may be arranged after the CEA has verified your disability. Students who are registered with the Center for Educational Access must meet with the instructor by the end of the first week of class, or within one week of registering with CEA to discuss their accommodations. This must be done before you utilize your accommodations. Do not hesitate to contact me if any assistance is needed in this process.

Class Cancellation Policy and Procedures: *Class cancellation by the University due to inclement weather-related delay/closure:* In the event of an inclement weather delay, early dismissal, or closure, your instructor may conduct class through synchronous distance instruction (i.e., remote instruction) at the scheduled class time while the campus is closed for inclement weather but will not require a student to attend synchronously. Any class taught remotely while the campus is closed for inclement weather will be recorded and made available to all students in the class in the approved campus Learning Management System. Your instructor will provide students the opportunity to make up work due while the University is closed for inclement weather without penalty. If remote instruction is not used, the instructor will cancel class meetings altogether. Instead, alternative learning materials and assignments will be supplied, to make up the missing class days.

Faculty absence due to medical or other emergency: Every effort will be made to arrange for a substitute if your instructor must take an emergency leave. If a substitute cannot be arranged, then your instructor may choose to teach classes remotely when they are able to do so, subject to appropriate university policies on remote instruction. If your instructor cancels class in case of an emergency (allowed per university policy <https://provost.uark.edu/policies/185810.php>), then your instructor will make up missed class time using recorded lectures, assignments, readings, instructional materials, or other alternative forms of instruction. Your instructor will send announcements promptly via email and posted to Blackboard. Each student will also get the opportunity to make up work that is due if class is impacted by an emergency.

Intellectual Property: Notes, review material, exams, quizzes, videos or other learning material used in this class are the intellectual property of the instructor. Selling or freely sharing this content in electronic or written form is a violation of intellectual property rights and also constitutes a violation of the University's academic integrity policy. Your continued enrollment in this class signifies your understanding of and your intent to abide by this policy. There are severe consequences for sharing class content online.

Emergency Procedures: Many types of emergencies can occur on campus; instructions for specific emergencies such as severe weather, active shooter, or fire can be found at <https://tips.uark.edu/emergency-preparedness/>

Disclaimer: Information on this syllabus is subject to change. Any change will be announced in lecture and on Blackboard.