MATH 28001 Section 001: Syllabus

Transition to Advanced Mathematics Laboratory

Term: Spring 2026 | Time: Wednesday 4:10pm – 5:00 pm | Location: GEAR 108

Contact Information

Instructor: Dr. Matt Clay | Email: mattclay@uark.edu | Office: SCEN 309

Preferred Contact Method: Email – I will respond as soon as I can and within one full business day. Students are expected to monitor their UArk email address regularly and consult the course Blackboard site for important announcements.

Office Hours

Office hours will be held Mondays from 2:00pm – 3:00pm, in-person, but you may request a virtual meeting. If you are unable to use these times, please make an appointment to see me. Office hours are times in my week that are devoted to helping students. Feel free to stop by without a meeting to ask questions about the material, homework, quizzes, exams, or anything else related to the University.

Course Goal

This course will serve as an introduction to software that is useful in mathematical and statistical disciplines, and as an introduction to careers and opportunities involving mathematics and statistics.

Class Delivery

Classes will consist of presentations, some by outside speakers, and computer software activities. Attendance is required and class meetings will not be recorded.

Student Responsibilities

Students are expected to attend and participate in all class meetings. Students 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 presentations from other students. Cell phones, iPads, 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.

Academic Honesty Policy

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

http://honesty.uark.edu

Students with questions about how these policies apply to a particular course or assignment should immediately contact their instructor.

Computer Assignments

We will explore and experiment with three pieces of software that are useful in mathematics, both for computation and for writing. The goal is to become familiar with the purpose and abilities of the software and to know where to go for more information. By no means will you be expected to be an expert with these software packages by semester's end.

LaTeX

This is a markup language used for typesetting mathematics and used by virtually all mathematicians and many scientists world-wide for creating documents. You can install a LaTeX distribution and run LaTeX on a personal computer using a text editor and PDF viewer. The following are packaged downloads for this that include a LaTeX front-end for editing and viewing documents:

- MiKTeX (Windows, macOS, Linux)
- MacTeX (macOS)

However, there are very good online LaTeX editors that allow you to use a web-interface as opposed to downloading software. A popular choice is Overleaf. This will be our default platform.

AI

Generative AI is very new development that is making transformational changes to industry, research and education. There are many unanswered questions about this new tool. We will not focus on a particular model or their mathematical framework, instead, we will explore some ways that AI can assist in the learning of mathematics.

Python

This scripting language can perform many tasks and is the basis for many computer applications. There are many ways to use Python, some involving downloading software onto your personal computer, some using an online interpreter. If you have use macOS or Linux, you most likely already have a basic program for using Python already. Open a "Terminal" window and enter python. If you use Windows, you can download Python by following these instructions:

https://learn.microsoft.com/en-us/windows/python/beginners

Alternatively, there are two online ways to use Python without having to download any software:

- Google Colaboratory – our default method
- Project Jupyter

Information Interview

You will interview a professional from an industry of your choice approved by the instructor (that's me!). The industry should be one that you are considering entering. The purpose of the interview is to familiarize yourself with the skills necessary in your chosen industry. Technical skills (e.g. proficiency with certain software, knowledge of a certain subject) constitute one component, but I am also interested in

the non-technical skills or traits. Besides the obvious technical requirements, what is really needed to succeed (or merely survive) in the given industry? In-person interviews are ideal, but a Zoom or a phone interview is also acceptable. Before you conduct the interview, you will need to research the organization and interviewee so that you can ask appropriate questions. We will have a class period focusing on how to find an appropriate person and conduct the interview.

After the interview, reflect on your own academic plans. Which classes or other campus activities will prepare you for this industry? You will write 2 pages summarizing your interview and give a 3 minute presentation based on this document. Presentations will take place on Wednesday, April 22 and Wednesday, April 29. The written document is due on Wednesday, April 22.

Resources from Career Services are available at

https://career.uark.edu/students/explorecareers/

Course Grade

- Attendance and Participation – 25%
- Miscellaneous Assignments – 20%
- Computer and Game Assignments – 40%
- Information Interview – 15%

Letter Grades:

A : 100 – 90; B : 89 – 80; C : 79 – 70; D : 69 – 60; F : 59 – 0

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*.

Important Dates

Date	*Event*
Monday, January 12	Classes State
Monday, January 19	Martin Luther King Holiday
Monday, January 26	Last Day to Drop without W
Monday, March 23 – Friday, March 27	Spring Break
Friday, April 17	Last Day to Drop with W
Thursday, April 30	Last Day of Classes
Friday, May 1	Reading Day

The complete academic calendar is available at

https://registrar.uark.edu/academic-dates/academic-semester-calendar/

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.

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.

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/

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 may contact me for information.

The University policy for inclement weather is available at

https://safety.uark.edu/inclement-weather/

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 with 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 another 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 (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.

Disclaimer

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