

Syllabus

MA 202: Mathematical Problem Solving for Elementary Teachers

Section 005

College of Arts & Sciences (A&S)

Department of Mathematics (MA)

Spring 2022

Please carefully read this syllabus. It contains essential information about the course organization, grading, exams, etc. If you need more explanation on an issue not covered here, please do not hesitate to contact your instructor.

Section 005 Information

Instructor Information

- Instructor: Ryan J. Rogers
- Office: Patterson Office Tower (POT) 722
- Email: rjro233@uky.edu (<mailto:rjro233@uky.edu>)

Office Hours

- **Patterson Office Tower (POT) 722:** TR 2:00 - 3:00
- **Mathskeller:** T 11:00 - 12:00

MA 202 Course Content

Course Description

Algebraic reasoning, introduction to statistics and probability, geometry, and measurement.

UK Department of Mathematics Professional Themes

This course will address the four themes of the conceptual framework for the UK professional education program: **research**, **reflection**, **learning**, and **leading**. Students will engage with fundamental ideas in mathematical *research*, *reflecting* on and analyzing core mathematical content that arises throughout mathematics at all levels. Students will develop as life-long mathematical *learners* who will be able to take active *leadership* roles in their future positions as professionals and citizens. The ultimate goal in addressing these four themes is to produce teaching

leaders who work together to improve student learning among diverse populations and improve education in Kentucky and beyond.

Unbridled Learning Initiatives and the Kentucky Core Academic Standards

This course will provide students an opportunity to advance their knowledge and mastery of the "tools" associated with Kentucky education reform, focusing on the content and practice standards outlined in the Kentucky Core Academic Standards. As students carry out projects and complete assignments that involve mathematical content underlying instructional activities for P-12 students in Kentucky schools, they will address one or more components of the Unbridled Learning initiatives.

Course Materials

Canvas

We will use Canvas as our primary resource for this course. The important tabs to be aware of for canvas are:

- Home: Front page with navigation links to the most frequently used parts of Canvas.
- Announcements: Important instructor announcements - often instructions for common questions in the course, or reminders of upcoming assignments.
- Assignments: The location of various course assignments.
- MyLab and Mastering: Contains the graded homework assignments.
- Discussions: Serves as a platform for students to ask and answer each other's questions, and is the basis of the participation grade.
- Grades: Contains all scores earned on submitted coursework.

MyLab and Mastering

Our online homework system is MyLab and Mastering. You will need to purchase an access code (which will include an online version of the textbook) prior to gaining access to homework sets and online exams. There is a two-week free trial, so you will have at least two weeks to purchase the online course code. **[Please watch this video to set up your account!](https://www.youtube.com/watch?v=8w_oUy4IGlg&feature=youtu.be)**
(https://www.youtube.com/watch?v=8w_oUy4IGlg&feature=youtu.be)

Textbook

Our course textbook is *Mathematics for Elementary Teachers with Activities*, Sybilla Beckmann, 5th Edition. A free online version of the textbook is included in the MyLab and Mastering course mentioned above. However, hardcopies of the textbook can be bought and bundled with the access code for MyLab and Mastering, if preferred.

Course Help

If you find that you need help in the course, there are a myriad of resources for you, including, but not limited to:

- o Office Hours - See above.
- o (<https://math.as.uky.edu/mathskeller>) **Mathskeller** (<https://math.as.uky.edu/mathskeller>) - Free UKY mathematics tutoring service.
- o **The Study** (<https://www.uky.edu/thestudy/>) - Free UKY campus tutoring service.
- o **tutormatchingservice.com** (https://www.tutormatchingservice.com/#/marketplace?school_name=University%20of%20Kentucky) - Source for paid/free UKY private tutoring.

If you experience technical issues with Canvas, visit the online guides

<https://community.canvaslms.com/docs/DOC-10554-4212710328>

(<https://community.canvaslms.com/docs/DOC-10554-4212710328>), or call customer services at (844) 480-0838. If you experience technical issues with MyLab and Mastering (the online homework site), contact your instructor using the "E-mail instructor" button inside MyLab and Mastering, or e-mail them directly.

Assignments and Grading

Grading

You will be evaluated in the course in the areas below, weighted by the given percentages.

Midterm Grade:

Course Engagement	20%
Homework	30%
Exam 1 (Chapters 9, 11)	25%
Exam 2 (Chapters 10, 12)	25%

Final Grade:

Course Engagement	10%
Homework	15%
Projects	30%
Exam 1 (Chapters 9, 11)	10%
Exam 2 (Chapters 10, 12)	10%

Exam 3 (Chapters 13, 14) 10%

Final Exam (Chapters 9 - 16) 15%

Your overall letter grade will be based on the following percentages :

A 90.00% - 100%

B 80.00%-89.99%

C 70.00%-79.99%

D 60.00%-69.99%

E 0%-59.99%

Course Engagement: Discussions

For each unit, a discussion post will be made so that students can build a sense of community and help each other learn. (See the "Discussions" tab.) Each student is required to ask at least one substantive question, or meaningfully answer another student's question, per discussion post. Not only is this an easy way to earn credit for engaging with the material, but it is a platform that exists for your own benefit - take advantage of it!

Projects

This portion of your grade will be earned by completing two written projects. More details concerning the projects will be given during the semester.

Homework

This portion of your grade will be earned by completing individual **online assignments** outside of class. A link to these homework sets may be found in the "MyLab and Mastering" tab on this canvas page. The due date for each homework will appear there, so you should always be aware of upcoming assignments.

Exams

We will have four exams, including the final exam. The course is cumulative, as is the final exam. Each exam will be administered online (through MyLab and Mastering) and will have a time limit. See "Exam Dates" below for more details.

Calculators

You do not need a graphing calculator for this course; you will only need a basic calculator equipped with addition, subtraction, multiplication, division, and exponents.

Exam Dates

Please contact me as soon as possible if you have a conflict, excused absence, or other issue with an exam date/time.

Exam 1 (Chapters 9, 11): February 3, 2022 (<https://uky.zoom.us/j/81963177134?pwd=VFpreERDWGk3TUpHRk1LZHBBRkplZz09>)

Exam 2 (Chapters 10, 12): March 10, 2022 (<https://uky.zoom.us/j/84922137039?pwd=QTN4aDVCRSt0OXJaOUQrb0tYTVJVUT09>)

Exam 3 (Chapters 13, 14): April 14, 2022 (<https://uky.zoom.us/j/85202295432?pwd=MGc5RmN0alhWeXhmWE5KbUFGWUZiQT09>) (<https://uky.zoom.us/j/85202295432?pwd=MGc5RmN0alhWeXhmWE5KbUFGWUZiQT09>)

Final Exam (Chapters 9 - 16): May 3, 2022

Spring 2022 Final Exam Schedule:

<https://www.uky.edu/registrar/node/2388> (<https://www.uky.edu/registrar/node/2388>)

UK Rules and Regulations

Excused Absences

If you need to request an extension on an assignment due to an excused absence, please contact your instructor as soon as possible.

University Senate Rule 5.2.4.2 defines the following as acceptable reasons for excused absences:

- serious illness
- illness or death of family member
- University-related trips
- major religious holidays
- recommendation to self-quarantine by the University (including its app), a medical professional, public health professional, or government official
- other circumstances your instructor finds to be "reasonable cause for nonattendance."

Be prepared to supply documentation for any absence for which you wish to be excused. You must show me this documentation within the week following the absence. You may find the documentation from University Health Services here:

<https://ukhealthcare.uky.edu/university-health-service/student-health/services/absences>
(<https://ukhealthcare.uky.edu/university-health-service/student-health/services/absences>)

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor - in writing - of anticipated absences due to their observance of such holidays no later than the last day for adding a class. **It is almost always possible to notify your instructor of an excused absence before class.** Students who have excused absences due to University-related trips or major religious holidays must inform the instructor prior to the absence and must complete all work prior to the absence. Students who are ill must inform the instructor of their absence(s) as soon as they return to class and they must provide documentation to demonstrate that the absence(s) was excused. Students who have excused absences due to illness or the death of a family member will be allowed to make up any missed work in a timely manner. These arrangements must be made with the instructor on a case-by-case basis.

Face Covering/Distancing Policy

The Senate Council endorses the following recommended syllabus statements for faculty teaching face-to-face courses.

- In accordance with University guidelines, students must wear UK-approved face coverings in the classroom and academic buildings (e.g., faculty offices, laboratories, libraries, performance/design studios, and common study areas where students might congregate). If UK-approved face coverings are not worn over the nose and mouth, students will be asked to leave the classroom.
- Students should not move chairs or barriers in classrooms and should socially distance at all times, leaving a six-foot radius from other people. Masks and hand sanitizer can generally be found in our classroom if needed.
- Students should leave enough space when entering and exiting a room. Students should not crowd doorways at the beginning or end of class.
- The instructor may choose to remove a mask when pedagogically necessary at the front of the classroom and behind a clear barrier. The instructor's mask will be replaced when it is no longer necessary to have it removed, or when the class meeting is complete.

Academic Integrity, Cheating, and Plagiarism

You should feel free to study with friends, but any work you submit for a grade should be your own work. This applies to all exams, quizzes, and writing assignments, with the exception of any

assignment that is specifically designated as a group assignment.

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Dean of Student's page on <http://www.uky.edu/deanofstudents/student-rights-and-responsibilities> (<http://www.uky.edu/deanofstudents/student-rights-and-responsibilities>). Complete information can be found on the Academic Ombud page <http://www.uky.edu/ombud/plagiarism-and-cheating> (<http://www.uky.edu/ombud/plagiarism-and-cheating>). A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Senate Rule 6.3.1 (see current Senate Rules <http://www.uky.edu/Faculty/Senate/> (<http://www.uky.edu/Faculty/Senate/>)) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to, a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as their own - whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where, and how they have employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Class Recording Notification

The University of Kentucky Student Code of Conduct defines Invasion of Privacy as using electronic or other devices to make a photographic, audio, or video record of any person without their prior knowledge or consent when such a recording is likely to cause injury or distress.

Meetings of this course may be recorded. All video and audio recordings of lecturers and class meetings, provided by the instructors, are for educational use by students in this class only. They are available only through the Canvas shell for this course and are not to be copied, shared, or redistributed.

As addressed in the Student Code of Conduct, students are expected to follow appropriate university policies and maintain the security of linkblue accounts used to access recorded class materials. Recordings may not be reproduced, shared with those not enrolled in the class, or uploaded to other online environments.

If the instructor or a University of Kentucky office plans any other uses for the recordings, beyond this class, students identifiable in the recordings will be notified to request consent prior to such use. In anticipation of such cases, students may be asked to complete an "authorization of use" form by a faculty member.

Video and audio recordings by students are not permitted during the class unless the student has received prior permission from the instructor. Any sharing, distribution, and or uploading of these recordings outside of the parameters of the class is prohibited. Students with specific recording accommodations approved by the Disability Resource Center (DRC) should present their official documentation to the instructor.

All content for this course, including handouts, assignments, and lectures are the intellectual property of the instructors and cannot be reproduced or sold without prior permission from the instructors. A student may use the material for reasonable educational and professional purposes extending beyond this class, such as studying for a comprehensive or qualifying examination in a degree program, preparing for a professional or certification examination, or to assist in fulfilling responsibilities at a job or internship.

Disability Accommodations

If you have documented disability that requires academic accommodations, please notify your instructor as soon as possible. In order to receive accommodations in this course, you must provide your instructor with a Letter of Accommodation from the Disability Resource Center (Suite 407, Multidisciplinary Science Building, 859-257-2754, email address dtbeac1@uky.edu (<mailto:dtbeac1@uky.edu>)) for coordination of campus disability services available to students with

disabilities. If you have a letter from the DRC, please [upload it here](https://uk.instructure.com/courses/2033266/assignments/11082708) (<https://uk.instructure.com/courses/2033266/assignments/11082708>) as soon as possible.

Suggestions

Constructive suggestions for this course are welcome at any time. I welcome suggestions that will improve the course, both this semester and in semesters to come. If you have any concerns, please bring them to my attention first. Further recourse is available through the office of the Department Ombud and the Department Chair. Both the Ombud and the Chair can be reached from the main office in Patterson Office Tower (POT) 719.

Classroom Behavior, Decorum, and Civility

I expect that you will be respectful of yourself, your classmates, and the instructor.

The university, college, and department have a commitment to respect the dignity of all and to value differences among members of our academic community. There exists the role of discussion and debate in academic discovery and the right of all to respectfully disagree from time to time. Students clearly have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/or other students

(S.R. 6.1.2). Equally, a faculty member has the right - and the responsibility - to ensure that all academic discourse occurs in a context characterized by respect and civility. Obviously, the accepted level of civility would not include attacks of a personal nature or statements denigrating another on the basis of race, sex, religion, sexual orientation, age, national/regional origin or other such irrelevant factors. Students who are not respectful, not civil, or disruptive in any way may be asked to leave the class, with all subsequent penalties applied to their grade.