

Course Syllabus for MA 202: Mathematics for Elementary Teachers

Section 005: TR 3:30pm - 4:45pm

Section 401: TR 6:00pm - 7:15pm

Contact Information:

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Office Hours: TR 4:55pm - 5:50 pm or by appointment

Course Description:

MA 202 follows the philosophy of MA 201 and its primary goal is to clarify and deepen the conceptual content of mathematics required of an elementary school teacher as proposed in the NCTM and Kentucky Core Standards and Principles for school mathematics. The emphasis of the course is on developing conceptual knowledge which is a requirement for effectively communicating mathematics to elementary school students. It bears emphasizing that this is not a pedagogy course! This is an upper level college mathematics course in which you will acquire mathematical abilities to use in future education courses. The course will focus on answering why things work rather than dwelling on the mechanics in mathematics and will strive to develop connections between concepts and real examples. The course will cover real numbers and proportional reasoning, algebraic reasoning, introduction to statistics and probability, geometry, measurement, and transformations and symmetry. This course will provide future elementary educators with the mathematical background needed for teaching elementary school mathematics.

Prerequisites:

A grade of "C" or better in MA 201. It is also recommended: a course in logic (e.g. PHI 120) or a course in calculus (e.g. MA 123).

Student Learning Outcomes: The following is just a short list of learning outcomes of what you will be able to do upon completion of this course.

After completing this course, the student will be able to:

1. Describe the National Council of Mathematics process and content standards for elementary school mathematics.
2. Use the Kentucky Core Standards to access teaching objectives for elementary school mathematics.

3. Demonstrate the difference between procedural and conceptual understanding in mathematics.
4. Demonstrate both fundamental computational skills and comprehensive understanding of elementary school mathematics.
5. Explain why mathematics concepts make "sense" by showing familiarity with various mathematical modeling techniques.
6. Understand and support the importance of mathematics in the elementary school curriculum.

Required Materials:

Mathematical Reasoning for Elementary Teachers (5th Edition), by Long, DeTemple, and Millman. Chapters to be covered are 7-13.

Description of Graded Activities and Assignments

Homework: There will be weekly homework assignments that will be collected at the start of class every Tuesday. It must be clearly organized and labeled and should be on loose-leaf paper which has not been ripped from a spiral notebook. Your name and section number should be on each sheet and should be stapled if there is more than one sheet. If I cannot read your work then it will receive no credit. Points will be deducted on late homework assignments (1 point if turned in on the due date but not included with quiz, 2 points if turned in in the class period after the due date, and no credit will be given for assignments that are turned in 2 or more class periods late.) You are encouraged to work with classmates, but you are each expected to turn in original work. Copying solutions from the back of the textbook and/or a solutions manual is considered cheating and will be dealt with as such. You will find the assignments posted on the course Blackboard website and in this handout. Each homework assignment will be worth a total of 15 points. You may earn 5 points for three graded problems of my choice. The remaining 10 points will come from an in-class quiz consisting of problems from the assignment. On each quiz you will be allowed to use your homework solutions. Homework will be worth 15% of your final grade. No calculators allowed unless noted.

Exams: There will be three exams during the semester and a final exam which will be cumulative. These exams will be closed book and closed notes. Each semester exam is worth 15% of your final grade. Calculators will not be allowed unless noted. Only one make-up exam taken during the semester will be allowed and it will be replaced with the grade on the final exam. The final exam will be worth 25% of your final grade.

Presentations: As part of your class activities you will be giving a group presentation to the entire class. Grades for these presentations will be earned by the group as a whole, your individual performance, and your written peer review. A more detailed description

will be uploaded to the Blackboard course website several weeks before the presentations. Attendance by all presenters as well as all other members of the class will be monitored. The presentation will be worth 15% of your final grade.

Attendance: Students are required and expected to attend all classes just like you would expect your students to attend and be an active participant in your class. A sign-in sheet will be passed around each class session and it is your responsibility to sign-in and therefore be counted as present. Each class day that a student is absent will result in a deduction of 0.5% of the final grade if it is unexcused.

Recap of Course Assignments and Activities

3 Exams at 100 points each	15% each for a total of 45%
Final Exam worth 100 points	25%
Presentation worth 100 points	15%
<u>Homework worth 15 point each</u>	<u>15%</u>
Final Grade	100%

Course Grading: Course grading will follow the standard 10-point scale (90-100% A, 80-89% B, 70-79% C, 60-69% D, Below 60% E).

Final Exam Information

Final Exam for Section 005 is on May 03, 2012 at 3:30 pm and on May 01, 2012 and 6:00 pm.

Mid-term Grade

Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/Registrar/AcademicCalendar.htm>)

Course Policies:

Submission of Assignments:

See description above

Attendance Policy:

Excused Absences

If you need to be absent please notify me by emailing prior to class when possible. Texting will also be acceptable in an emergency. The following are acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit "reasonable cause for nonattendance".

If you anticipate an absence for a major religious holiday you are responsible for notifying me by email of the anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class.

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Verification of Absences

You will be asked to verify an absence in order to be considered excused. Appropriate notification of absences due to university-related trips is required prior to the absence.

Academic Integrity

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 Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. 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.

Part II of Student Rights and Responsibilities (available online <http://www.uky.edu/StudentAffairs/Code/part2.html>) 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 the question of plagiarism involving their own 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 anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism. Plagiarism includes reproducing someone else's work, whether it be a published article, chapter of a book, a paper from a friend or some file, or something similar to this. Plagiarism also includes the practice of employing or allowing another person

to alter or revise the work which a student submits as his/her 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 of information, the student must carefully acknowledge exactly what, where and how he/she 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 (Section 6.3.1).

Accommodations due to disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours or right after class. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Classroom Behavior Policies

Please turn off all cellphones while in class. If you are expecting an important call you may set it on vibrate and leave the room to answer the call. This should not be habitual. Attendance and participation is expected. Respect to all persons in the class is expected. If you are sleeping, reading other than classroom material, using the laptop other than to take class notes, using other wireless devices, working on homework (other than in a group discussion related to the class), or not actively engaged in the activities pertaining to the class you may be asked to leave the classroom. Since these are late to evening classes you can bring a snack to eat. Please be considerate and clean up after yourself.

Other Policies (optional)

You may wish to list College or major specific information here.

Tentative Course Schedule - Subject to Change

Date	Section	Assignment	Due Date
Thur 1/12	7.1	7.1: 1a,c, 5a,c, 6a,b, 7a,b,d, 10c, 17*, 31	1/17
Tues 1/17	7.2	7.1: 12b, 21 or 22 7.2: 1c,d, 2b,d, 4b,c, 5b,c, 11*, 25, 32 or 33	1/24

Thur 1/19	7.3	7.3: 1a,b,d, 2a,b,h, 3b,c, 6, 37 Optional: 7.3: 8,16,18b,31	1/24
Tues 1/24	7.4	7.4: 1b,f,h, 2a,b, 3a,b, 4a,d, 6a,d, 9d, 10b, 15*, 23, 31, 38	1/31
Thur 1/26	8.1	8.1: 4c,d, 5b,c, 9, 10a,c, 12a,c,d, 24, 43, 44	1/31
Tues 1/31	8.2	8.2: 2, 4ac, 5a, 6ac, 7, 8, 13, 24, 35, 40	2/7
Thur 2/2	Exam I	Sections above	
Tues 2/7	9.1	9.1: 1, 2, 3, 7, 9, 16*, 33, 34	2/14
Thur 2/9	9.2	9.2: 3, 5, 13, 14c, 18, 33	2/14
Tues 2/14	9.3	9.3: 1c,d,e, 11, 12, 13, 14, 15, 16, 18*	2/21
Thur 2/16	10.1	10.1: 1, 5a, 8, 10, 13b,c, 18*, 20, 32	2/28
Tues 2/21	10.2	10.2: 2, 4, 6, 11, 13, 37	2/28
Thur 2/23	10.3	10.3: 1a,c,d, 2, 4, 10, 11b, 24*, (34 not to turn in)	3/6
Tues 2/28	10.4	10.4: 1abc, 2, 4, 7	3/6
Thur 3/1	Exam II	Sections above	
Tues 3/6	11.1	11.1: 2, 4, 6, 10, 11, 12, 13, 15, 16, 17, 21*	3/20
Thur 3/8	11.2	11.2: 1, 2, 4, 6	3/20
Tues 3/20	11.3	11.2: 8, 11a, 12, 16b 11.3: 1, 12a, 13, 14a	3/27
Thur 3/22	12.1	12.1: 3, 4, 5	3/27
Tues 3/27	12.2	12.1: 9, 10, 11, 18*, 20, 21, 33	4/5 - Thur
Thur 3/29	12.3	12.2: 4, 6, 7ab, 11c, 12c, 13c, 16bc, 55	4/17
Tues 4/3	Exam III	Sections above	
Thur 4/5	Presentations		
Tues 4/10	Presentations		
Thur 4/12	Presentations		
Tues 4/17	13.1	12.2: 19 12.3: 1f, 2b, 3b, 5b, 12, 13d 13.1: 5, 47, 48	4/24 Not to turn in
Thur 4/19	13.2	13.2: 8a	4/24 Not to turn in
Tues 4/24	13.3	13.3: 1b, 5a	4/26 Not to turn in
Thur 4/26	Review		
5/1 or 5/3	Final Exam	Cumulative	

Spring Break Mar 12 -16

Other Information

If you cannot see me during office hours I will be prompt about answering questions submitted via email.