MATH3241–SPRING 2016 SYLLABUS & PRELIMINARY SCHEDULE Dr. Jackie T. Cohen

Professor: Jackie T. Cohen, PhD
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Messages: Department of Mathematics, Allgood Hall N319
Office Hours (Tentative): Mon, Tues & Wed 2:30–3:30 pm and by appointment Monday through Friday

Course Description: A study of the real number system with an emphasis on rational numbers. Topics include multiple representations of numbers, relationships between numbers, properties, operations, estimation, and flexible and varied approaches to problem solving. Prerequisite: Admission to Teacher Education (Please note that it is assumed that students have completed Math 2008 prior to enrolling in Math 3241.)

Conceptual Framework Standard: Prepared
Competencies: Candidates who are prepared will:
P1. Demonstrate strong content...preparation in their respective subject area...
P3. Possess an understanding of the central concepts, tools of inquiry, and structures of the discipline...
P5. Demonstrate knowledge about how to use information and technology effectively...

Primary Perspectives:
• Modeling (sketches, use of manipulatives, multiple representations, etc.) informs development of and precedes application of rules
• Understanding and explanation of concepts and processes by which to obtain answers take precedence over finding the answers themselves
• Major Themes are PROBLEM SOLVING & ALGEBRAIC THINKING

Textbook: Mathematics for Elementary Teachers, A Conceptual Approach, 10th edition, by Bennett, Burton, Nelson and Ediger, including access code for CONNECT
Course Topics will be selected from the following Chapters 5, 6 and 9, plus: Common Core Curriculum
Chapter 5 – Integers and Fractions
• Review of place value and operations with whole numbers and integers
• The meaning of rational numbers and operations with rational numbers in fractional notation
Chapter 6 – Decimals: Rational and Irrational Numbers
• Decimals and operations with decimals; Percent, ratio and proportion; Irrational and Real Numbers
Chapter 9: Problem solving with Algebra, Functions and Graphs

Common Core Curriculum – some websites:
• https://www.georgiastandards.org/Common-Core/Pages/Math.aspx
• Common Core Georgia Performance Standards: http://www.corestandards.org/Math
• Frameworks: https://www.georgiastandards.org/Common-Core/Pages/Math-K-5.aspx

Supplies: (It is very important for each student to have her or his own supplies for each class.)
• Access code for CONNECT where you will find online materials as well as many assignments. To register, enter: http://connect.mheducation.com/class/j-cohen-math3241-cohen-spring2016
• Materials and information posted on Desire 2 Learn (D2L): Often material will be posted with instructions to “print-and-bring” to class. At other times, assignments to “complete-and-submit” will be posted. Please read instructions carefully so you will know what is expected.

• Colored markers or pencils and highlighters are essential for sketching representations.

• A calculator may be appropriate at times; in fact, we will often address a calculator’s appropriate use. However, our focus will be on multiple representations and strategies that lead to understanding of processes, rather than calculations. At no time should cell phones or other electronic devices be used as calculators.

• Each student is responsible for having his or her own markers or highlighters (and calculator, if necessary) during any class; in particular, no sharing will be permitted on tests.

• Some manipulatives will be available during class for in-class activities. Students often need their own manipulatives for out-of-class practice. Sometimes they can be made easily from paper; several websites provide virtual manipulatives. There are both templates and virtual manipulatives available on through CONNECT. Also, many manipulatives can be checked out from the Instructional Resource Center in University Hall room 249 (http://www.gru.edu/colleges/education/irc/). In particular, we will definitely use Base-Ten Blocks, Pattern Blocks and Cuisenaire Rods early in the semester and possibly Algebra Tiles and Algeblocks during the last part of the semester.

Technology and Communication:

• You are expected to check your JagMail email account and D2L regularly - at least daily.

• Accessing Desire 2 Learn (D2L) is essential! You can access D2L via LMS.gru.edu. Information, materials, some assignments and your grades during the semester will be posted on Desire 2 Learn.

• If you need help with technology, such as with D2L, check with the Information Technology Student Help Desk in person (University Hall 156) or by phone (706-731-4000) or at http://www.gru.edu/its/

• Much of the homework will be completed on CONNECT. Keep up with due dates!

Attendance is essential:

• MATH 3241 class sessions are interactive, providing many opportunities for you to express your own ideas and to listen to the ideas of your fellow classmates. Much of what you learn in the course takes place by participating, sharing, and interacting with others through small-group and whole-group discussions. This kind of learning cannot take place if you are absent, so regular attendance, punctuality and full participation are extremely important.

• All students are responsible for all information, announcements, assignments, etc. from every class. All students are responsible for submitting work on time regardless of whether present for the class. Absence is not an excuse for not knowing what needs to be done or for not completing and/or submitting assignments appropriately. Many in-class activities will be difficult to reproduce as a make-up assignment, and your communication with your classmates is an integral part of the course. Often grades will be given for these activities and those who are absent will have zeros.

• Attendance will be taken every class day. Good attendance will reward you with extra points on your HAP average (see below). A record with no absences earns +3 points; only one absence earns +2 points; only two absences earn +1 point. Any student missing more than 3 classes for any reason will be withdrawn from the course, unless a written agreement is made between the student and me.

• Every class session is important. However, if you find that you are unable to attend a particular class session or might miss a part of a session (by coming late or leaving early), please contact me as soon as possible. Moreover, you are responsible for anything that occurs during the time you are out of class, including any announcements. Be in touch with a classmate BEFORE the next class.

• Make arrangements to turn in assignments if you are going to be absent. Even if you are absent you are expected to turn the work in when it is due. If I accept a late assignment, it will be assessed a 10% penalty
for each day (not class period) it is late. You should ask a classmate to obtain any handouts given out during the class you miss, rather than waiting until you return to class or relying on me to supply you with copies. Often material and information will be posted on D2L so checking that site regularly is important. Please submit a written report describing any time you are absent.

Work outside of class also is essential.
• Each student is expected to invest at least 2 hours outside of class for each hour of class time each week in order to get the full benefit of the course. That is, it is expected that each week approximately 6 hours be used constructively outside of class time reading, completing homework problems, using website practice, etc. each week. Many resources will be made available to you in order to enrich your experience. Some homework will be collected or at least checked; zeros will result from not having homework ready as assigned. The assignments in CONNECT will be graded as well, so watch for deadlines.

Course Grade
• Tests = 60% / Homework, Assignments and Participation (HAP) = 20% / Final Exam = 20%
• Grading Scale: A: 90 - 100/ B: 80 – 89/ C: 70 – 79/D: 60 – 69/F: < 60
Tests (20% each = 60%): There will be three unit tests. No test grades will be dropped. If you find you must miss a test, it is your responsibility to arrange with me to make up that test within a limited time frame (usually before the next class). There may be an opportunity at the end of the semester to make up a test. Otherwise, a missed test will count as a “zero.” Each test counts 20% of your grade; the unit tests all together count 60%.
Final Exam (20%): The final exam is comprehensive and counts 20% of your grade. The exam must be taken on the assigned date in our usual classroom. Failure to take the final exam results in an automatic “zero” on the exam, which could result in an “F” in the course or, with proper documentation, an “I” (Incomplete).

HAP: Homework, Assignments and Participation (HAP= 20%)
• Full in-class participation depends on outside-of-class preparation and vice-versa; both contribute to success. Clearly, successful participation in this sort of class depends upon both regular attendance and effective preparation. Furthermore, both in-class participation and out-of-class preparation impact your learning and performance on assessments such as tests and quizzes.
• Assignments include a variety of in-class and out-of-class activities, including problem sets in CONNECT. All in-class activities will be based on the assumption that the required homework assignments and readings have been completed. Although the work on CONNECT is scored, not every other homework assignment will be collected and graded. You are responsible for any assignment or other material announced in class even if it has not been posted on D2L or emailed to you! Some short in-class or take-home quizzes (formative assessments) will give all of us an opportunity to assess your progress.
• Participation: Much of the success of this course depends on your level of interaction and participation throughout the semester. Participation will take a variety of forms: individual, pairs, small groups and full class. It is of utmost importance that you attempt all of the homework problems before class and that you read all of the assigned material so that you can participate in appropriately in class. Satisfactory participation includes both sharing your thought processes and supporting your classmates as they participate.

Withdrawal: Dropping and withdrawing from the class should be initiated by the student by completing a withdrawal form (available from the registrar or online) and having the instructor sign it. In keeping with GRU policy, I reserve the right to withdraw any student who has missed 10% of our class meetings (three days of class). Withdrawal from a class by midterm, 4 p.m. on Monday, March 7th, will result in a grade of “W,” while after midterm a withdrawal will result in a “WF” unless documentation is presented by the student that the reason for withdrawal is non-academic and the student is passing at the time of withdrawal. (Students receiving financial aid should be aware of the policies concerning Satisfactory Academic Progress.)
PLEASE NOTE: Any student requiring special accommodations should contact Testing and Disability Services located in Galloway Hall (706-737-1469, email: tds@gru.edu) as soon as possible. No accommodations can be granted by individual instructors unless permission to do so is given by that office. These arrangements need to be confirmed each semester.

Classroom Policies - All of us can do a better job of teaching and learning if we are prepared and fully engaged in the process! I want everyone to succeed, and I pledge to work with each of you in constructive ways to make that happen.

• Appropriate behavior is required at all times.
• It is a policy of University Hall that food and drink are not allowed in the classrooms. Furthermore, food and drink interfere with group activities and the use of manipulatives. I will be flexible only with capped bottles of water, which are stored in your bag. Absolutely no food can be permitted.
• Be courteous to your fellow students and your instructor. Arrive on time ready to be fully engaged in learning. No cell phones, mp3’s, laptops, etc. during class; if it could make noise and has an on/off switch, turn it off. Please do not use your phone as a calculator.
• Have necessary materials with you so you can participate in class. Cooperate with the prescribed setting for class activities – individual or group work, with or without manipulatives, etc.
• It is distracting to me and disruptive to the class activities if you leave the classroom during the class period. Thus, I ask you to refrain from "taking a break" except for an emergency.
• Visitors, including children, are not permitted without my prior permission.
• You are expected to check your JagMail and D2L at least daily
• Ask questions and stay in touch. If you must be absent, contact someone in the class to find out what occurred so you will be ready for the next class. Keep me informed of unusual circumstances.
• Academic honesty: Cheating will not be tolerated. This pertains not only to in-class work but to outside assignments as well. Any assignment that you submit as your own should be a report of YOUR thinking. Any student who is caught cheating will face serious consequences. Please read the statement on academic honesty in the GRU catalog.

Math 3241 A 4:00-5:15 MW Allgood Hall E362 Tentative Schedule

<table>
<thead>
<tr>
<th>Monday</th>
<th>Primary Topics</th>
<th>Wednesday</th>
<th>Primary Topics</th>
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<tbody>
<tr>
<td>Jan 11</td>
<td>First Day of Class – Intro &amp; 5.1</td>
<td>Jan 13</td>
<td>Sec 5.1 – Integers</td>
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<td>Jan 18</td>
<td>Martin Luther King Day – No class</td>
<td>Jan 20</td>
<td>Sec 5.2 – Intro to Fractions</td>
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<tr>
<td>Jan 25</td>
<td>Sec 5.2 – continued</td>
<td>Jan 27</td>
<td>Sec 5.3 – Operations with Fractions (Add, Subtract)</td>
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<tr>
<td>Feb 1</td>
<td>Sec 5.3 – continued – Multiply</td>
<td>Feb 3</td>
<td>Sec 5.3 – continued – Multiply</td>
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<tr>
<td>Feb 8</td>
<td>Sec 5.3 – continued – Divide</td>
<td>Feb 10</td>
<td>Sec 5.3 – continued – Divide</td>
</tr>
<tr>
<td>Feb 15</td>
<td>Sec 5.3 – continued – Applications</td>
<td>Feb 17</td>
<td>Catch Up &amp; Review Chapter 5</td>
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<tr>
<td>Feb 22</td>
<td><strong>Test 1</strong> (Chapter 5)</td>
<td>Feb 25</td>
<td>Sec 6.1 – Decimals</td>
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<td>Feb 29</td>
<td>Sec 6.1 – continued</td>
<td>Mar 2</td>
<td>Sec 6.2 – Decimal Operations</td>
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<tr>
<td>Mar 7</td>
<td>Sec 6.2 – continued</td>
<td>Mar 9</td>
<td>Sec 6.3 – Ratios and Percents</td>
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<td><strong>GRU Midterm is Monday, March 7</strong>th. There is not a Midterm Exam in this class.</td>
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<td>Mar 14</td>
<td>Sec 6.3 – continued</td>
<td>Mar 16</td>
<td>Catch Up &amp; Review Secs 6.1, 6.2 &amp; 6.3</td>
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<tr>
<td>Mar 21</td>
<td><strong>Test 2</strong> (Secs 6.1, 6.2 &amp; 6.3)</td>
<td>Mar 23</td>
<td>Sec 6.4 – Irrational &amp; Real Numbers</td>
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<tr>
<td>Mar 28</td>
<td>Sec 9.1 – Problem Solving w/ Algebra</td>
<td>Mar 30</td>
<td>Sec 9.1 – continued</td>
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<td><strong>Spring Break</strong> – No Classes – April 4<strong>th</strong> – April 8<strong>th</strong></td>
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<tr>
<td>Apr 11</td>
<td>Sec 9.3 – Functions &amp; Graphs</td>
<td>Apr 13</td>
<td>Sec 9.3 – continued</td>
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<tr>
<td>Apr 18</td>
<td>Sec 9.3 – continued</td>
<td>Apr 20</td>
<td>Catch Up &amp; Review Secs 6.4, 9.1 &amp; 9.3</td>
</tr>
<tr>
<td>Apr 25</td>
<td><strong>Test 3</strong> (Secs 6.4, 9.1 &amp; 9.3)</td>
<td>Apr 27</td>
<td>Review - POSSIBLE – Optional Test Make-Up Day</td>
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<td>May 2</td>
<td>Last Day of Class – Review for Final Exam</td>
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**Final Exam:** Cumulative: includes Chapters 5, 6 & 9 – Tuesday, May 10**th** 5:00-7:00pm