Course Number: MATH 3308 - 21796
Course Title: Proportional and Algebraic Reasoning I
Credit Hrs: 3
Term: Spring 2014
Course Meetings & Location: Mondays & Wednesdays: 1:30 PM – 2:50 PM
Prerequisite Courses: MATH 2303 with a grade “C” or better
Instructor: Kien Lim
Office Location: Bell Hall 301
E-mail Address: Kienlim@utep.edu
Office Phone: (915) 747-6772
Fax Number: (915) 747-6502
Emergency Contact: (915) 747-5761
Office Hours: Mondays: 10:30 AM – 11:30 AM
Thursdays: 2:00 PM – 3:00 PM
Course Fee: None
Textbook(s), Materials: Required: Mathematics for Elementary Teachers with Activities (4th Ed) By Sybilla Beckmann (use the 20% code “utepmath2014” for online purchase at www.mypearsonstore.com). With an access code, register at pearsonmylabandmastering.com with course id “lim81092”.
Course Description: This course focuses on proportional and algebraic reasoning for prospective middle-school teachers. Topics include ratios as measures, ratios as multiplicative comparisons, proportions, rates of change, patterns, linear functions and solving linear equations, inequalities and systems. The focus is on identifying relationships between quantities in contextualized problems, using inductive reasoning to identify patterns and express them algebraically making connections among verbal, graphic, numeric and symbolic representations, solving problems, using concrete numeric, tabular, graphic and algebraic methods and addressing student's misconceptions and errors.
Course Objectives: Students will
(a) deepen their understanding of ratios, proportions, change, and functions by explaining why and making connections;
(b) strengthen their quantitative reasoning and algebraic reasoning;
(c) conceive mathematics as a problem solving endeavor that involves sense-making and thinking; and
(d) develop the habit of attending to meaning, of analyzing problem situations, and of making conjectures and providing justifications;
Course Activities/Assignments: Students will participate in in-class activities, read and understand assigned readings, create and maintain a folder of notes and resources, watch video clips and answer questions, turn-in homework assignments, take pre-class assessments and prepare for in-class assessments and exams.

Assessment of Course Objectives:
- Pre-class assessments are to be taken at least 3 hours prior to a class. In-class assessments are administered at the beginning of a class. The questions in these assessments are designed to assess your understanding of the assigned reading of the text and the materials discussed in class.
- Homework is assigned via Blackboard after each class. Homework assignments are collected on Mondays.
- (Optional) Folder of notes and reflections is due towards the end of the semester. Students are expected to (1) write summaries of important ideas based on their understanding of in-class discussions and assigned readings; (2) fix mistakes in their returned assignments, assessments, and exams; (3) compile notes, handouts, and printed materials, and (4) write reflections about mathematical teaching and learning.
- Examinations are based on your understanding of the concepts and not based on how well you remember to solve certain problems. Most problems in exams require you to think and apply your understanding; they are not necessarily similar to homework problems or in-class problems. To compensate for the higher-cognitive demand questions, the following scale is used for exams:
  - A ≥ 80%
  - B 70% - 80%
  - C 60% - 70%
  - D 45% - 60%
  - F < 45%
- The final examination is comprehensive.

Course Schedule:

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Sections</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 2</td>
<td>6.4 – 6.6</td>
<td>Division</td>
</tr>
<tr>
<td>3 – 5</td>
<td>7.1 – 7.5</td>
<td>Ratio &amp; Proportional Relationships</td>
</tr>
<tr>
<td>6 – 8</td>
<td>9.1 – 9.5</td>
<td>Expressions, Variables, Equations</td>
</tr>
<tr>
<td>9 – 11</td>
<td>9.6 – 9.8</td>
<td>Sequences &amp; Functions</td>
</tr>
<tr>
<td>12 – 15</td>
<td>8.1 – 8.7</td>
<td>Number Theory</td>
</tr>
</tbody>
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TExES Competencies:
- Competencies 15, 18, & 14 (Generalist EC-6)
- Competencies 19, 22, & 18 (Bilingual Generalist EC-6)
- Competencies 12, 13, 14, 15 & 24 (Generalist 4-8)
- Competencies 16, 17, 18, 19 & 28 (Bilingual Generalist 4-8)
- Competencies 3, 4, 5, 15 & 16 (Mathematics 4-8)

Important Dates:
- Census Day – Last Day to Drop without a “W” (Feb 5)
- Last Day to Drop with a “W” (Apr 4)

Grading Policy:
- Pre-class & In-class Assessments 15%
- Homework Assignments 15%
- Mid-term Examination 1 15%
- Mid-term Examination 2 15%
- Final Examination (May 14, 4pm) 25% or 40%
- Folder of Notes & Reflections (optional) 15% or 0%
Make-up Policy: • There will be no make-up for assignments and assessments. The lowest score of your homework assignments and the lowest score of your assessments will be dropped.
• If you should miss the exam, the possibility of a make-up will be determined on an individual basis. If you cannot provide documentation to support your reason, your exam grade will be counted as the missed-exam grade.

Attendance Policy: Attendance will be taken.

Academic Integrity Policy: Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts. Refer to the UTEP’s Policy at http://sa.utep.edu/osccr/academic-integrity/.

Civility Statement: Be punctual.

Disability Statement: If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass.

Military Statement: If you are a military student with the potential of being called to military service and/or training during the course of the semester, please inform your instructor as soon as possible.

List of Mathematical Practices in the Common Core State Standards for Mathematics:
http://www.corestandards.org/Math/Practice
1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning