Meeting Time/Place: TR 3:30-4:45, VSC 203

Content: For teachers - development of rational and real numbers; study of probability, statistics

Prerequisites: Passing grade in MATH 210 or equivalent

Follow-Ups: You may need a C in this course. Ask your advisor.

Texts: A Problem Solving Approach ... by Billstein (11th ed) - This is the text you used in MATH 210.

Contact: Email: lyn.miller@sru.edu - Phone: 724-738-2878 - Web: granite.sru.edu/~lmiller (not D2L)

Office Hours: Room VSC 200B - Drop-in: M-F 2:00-3:00 - also by appointment.

Classroom environment:

- Don’t use your cell phones, don’t distract others, and you may collaborate, but don’t copy.
- You may use a calculator other than your cell phone, including on exams.
- I CANNOT ALLOW FOOD/DRINKS in the classroom due to SRU-documented disability.
- See me if this restriction conflicts with your own documented accommodations.

Grading: $A = 90 - 100\%; B = 80 - 89\%; C = 70 - 79\%; D = 60 - 69\%; F = 0 - 59\%.$

- Course total = 500 points: Quiz/HW Score = 50 pts, Exams 1-3 = 100 pts each, Final = 150 pts
- I don’t give attendance or “effort” points nor extra credit opportunities.
- Students with SRU-documented disabilities should notify me during the first week of class.

HW/Quizzes: Worth 50 points total: best 10 out of 12-15 at 5 points each

- You may work together on HW, but DON’T COPY! You may NOT work together on quizzes.
- No make-ups or late assignments! I count only your best ten, so you aren’t penalized for missing.
- It’s just like having “personal days” at work; everybody is allowed “time off,” so use it wisely.

Mid-Term Exams: Worth 300 points total: 100 each for Exam #1, #2, #3, no collaboration

- Topics List provided in advance – Study thoroughly, based on that list.
- Answers without work do not earn full credit. Explanations must also be thorough.
- Explanations/work are graded on correct MATH knowledge, not stream-of-consciousness or “effort.”
- Make-up exam approval requires prior notification, and documentation. The Final is your make-up.
- Tentative dates – Ex #1: Feb. 19 ± 1 day, Ex #2: Mar. 31 ± 1 day, Ex #3: Apr. 23 ± 1 day
- Students with SRU-documented disabilities must submit exam paperwork one week in advance.

Final Exam: CUMULATIVE, worth 150 points total, no collaboration

- You MUST take your final exams at the time scheduled on the SRU calendar.
- Date: Tuesday, May 5, 1:00-3:00.
- Students with SRU-documented disabilities must submit exam paperwork one week in advance.

Attendance: A sign-in sheet circulates daily, but attendance does NOT count toward your grade.

- If you are absent, YOU must make arrangements to catch up BEFORE the next class.
- Assignments and announcements are available via my web page granite.sru.edu/~lmiller.
1. **Students will demonstrate an understanding of and ability to work with the rational numbers.** This includes the following topics

   (a) Definition of the rational numbers using equivalence classes of integers
   (b) Definition of the operations for the rational numbers using equivalence classes
   (c) Properties of the operations for rational numbers (closure, commutative, associative, identities, inverses, distributive)
   (d) Ordering of the rational numbers
   (e) Rational numbers as fractions
   (f) Algorithms for the rational numbers as fractions
   (g) Rational numbers as decimals
   (h) Algorithms for the rational numbers as decimals
   (i) Percent
   (j) Ratio and proportion

2. **Students will demonstrate an understanding of and ability to work with the real numbers.** This includes the following topics

   (a) Rational numbers vs. irrational numbers

3. **Students will demonstrate an understanding of and ability to work with statistics.** This includes the following topics

   (a) Organizing and picturing data, including circle graphs and frequency distributions
   (b) Measure of central tendency and spread; box-and-whisker plots
   (c) Abuses of statistics

4. **Students will demonstrate an understanding of and ability to work with probability.** This includes the following topics

   (a) Experimental probability: computation and simulation
   (b) Theoretical probability: sample spaces, events, computation
   (c) Methods of counting
   (d) Permutations and combinations in probability
   (e) Conditional probability
   (f) Odds and expected value

5. **Students will demonstrate an understanding of and ability to work with measurement.** This includes the following topics

   (a) Measurement with nonstandard and standard units
   (b) Length and area
   (c) Pythagorean Theorem
   (d) Surface area
   (e) Volume