MATH 2020—Mathematics for Elementary School Teachers II

Section 01, TWR, 9:00–10:50 am, NIB 135, CRN: 30061
Spring 2009—3 credits

Instructor: Taylor Jensen **Phone:** 879–4256
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Office Hours: MF 9:00–11:00 am; early morning (7:30–8:30 am) by appointment only
Additional Help: Browning Learning Resource Center

Required Text: *Mathematics for Elementary School Teachers* (8th edition)
Musser, Berger & Peterson
Calculator Requirement: You ***must*** have a scientific or graphing calculator. The TI–83 (any version) or TI–84 (any version) is recommended.
Prerequisite: You ***must*** meet both of the following minimum requirements:

- Passed Math 1050 with a "C" or better
- Passed Math 2010 with a "C" or better

Course Description & Course Objectives

Math 2020 is one of two courses in mathematics appropriate to the needs of the elementary/middle school teacher. Topics include statistics, probability, measurement, and geometry. Problem solving is a fundamental goal of the entire course. The course is required for prospective elementary school teachers, as it is necessary for the Level 1 Math Endorsement and for Elementary (K–6) Certification.

All classes in mathematics at Dixie State College of Utah support the general education goals of the college. Each mathematics class will:

- Require students to perform mathematical processes including fractions, percentages, decimals, proportions/ratios, algebraic equations, and/or calculus techniques
- Provide students with application problems that use a variety of methods including arithmetical, algebraic, and geometric methods
- Challenge students to make inferences from mathematical models that include formulas, graphs, and tables
- Provide students with real-life applications that use a variety of mathematical functions

Upon successful completion of Math 2020, a student will demonstrate the ability to:

- Draw logical conclusions based on sound assumptions, and explain the importance of those assumptions to make those conclusions
- Recognize and describe mathematical patterns and relationships, and make inferences and generalizations based on those observations
- Use a variety of experimental and visual methods in order to apply the mathematical concepts in statistics, probability, and geometry to appropriate real-life problems\

Behavior Policies

1. **Your attendance and behavior are expected to reflect your dedication to excellence as a university student.** You are expected to attend class, participate in discussions and group work, and to use class time for Math 2020 activities only.

2. **You must abide by all regulations set forth in the "Student Rights and Responsibilities Code" (DSC Policy 5.33).** These regulations can be found online at http://www.dixie.edu/humanres/polstu.html (then click on the link to DSC Policy 5.33). In particular, you should be aware of your obligations pertaining to academic performance ("Academic Performance Responsibilities," DSC Policy 5.33.5).

Homework Policies

The goal of your doing homework should be to gain *understanding* of elementary school mathematics—above and beyond rote memorization and superficial knowledge of formulas and "facts". My homework policies are designed to incite your full engagement when doing homework, so you feel it is of your benefit both to do the homework and to do it well. With that in mind, let me present the policies:

1. You will read a section and complete assigned "examples" for that section *before* attending the scheduled lecture about that particular section. After actively participating in a classroom discussion, you will then complete all assigned "exercises" from that section. Together, "examples" and "exercises" constitute the homework problems of Math 2020. Homework is due at the *beginning* of class on the due date scheduled. **Late homework will *not* be accepted for *any* reason.** If you are involved in extracurricular activities (such as an athletic team), and one of your scheduled events conflicts with a homework due date, it is your responsibility to finish the homework and turn it in *early*.

2. Five homework problems will be randomly selected from each assignment and graded. Three "examples" and/or Problem Set A "exercises" will be graded on *completion only*. Two Problem Set B "exercises" will be graded on *correctness*. Each homework assignment will be worth ten points.

3. The two *lowest* homework scores you earn during the semester will be replaced by 10s.

4. Because exam dates and homework due dates often coincide (or nearly so), you should photocopy all homework assignments before turning them in. That way, you can use your completed homework assignments as study aids for exams.

Exam Policies

1. **Exams *cannot* be made up for *any* reason.** Midterm exams will be administered in the Testing Center, while the Final Exam will be administered in our regular classroom.

2. If you miss a midterm exam or the final exam, you will receive an automatic ***zero*** for that exam, regardless of excuse.

3. You are allowed to bring one "cheat sheet" (8½ by 11 inches, front and back) to each midterm exam. You should photocopy your cheat sheet before you take the corresponding midterm exam because the Testing Center staff will ***not*** allow you to take it with you after you complete the exam. You will be allowed to bring your accumulated collection of photocopied midterm exam cheat sheets to the final exam.

Service Learning

You are required to tutor local elementary and/or middle school students in mathematics during the semester for a total of 20 hours. It is *your* responsibility to make arrangements to do these tutoring sessions. At the end of the semester, you will turn in a summary report of what you have learned through your tutoring sessions. This summary report will be graded. During the first week or so of class, I will provide you with more details about this requirement as well as forms to fill out in order to receive credit for this requirement.

Grading

Assignments	110 points	Final Exam Part I (*new material*)	
Tutoring Report	50 points		75 points
Midterm Exams	150 points	Final Exam Part II (*old material*)	
			25 points

There are 410 total points possible. Your grade will be determined according to the percentage of points you earn in this course.

≥ 92.0% A	≥ 89.0% A–	≥ 86.0% B+	≥ 82.0% B
≥ 79.0% B–	≥ 75.0% C+	≥ 70.0% C	≥ 67.0% C–
≥ 64.0% D+	≥ 60.0% D	< 60.0% F	

Disability Resource Center

If you are a student with a documented physical or mental impairment that will substantially limit a major life activity, please contact the Disability Resource Center on the main campus. The Center Coordinator and staff will assist you in evaluating your eligibility for services. If you are deemed eligible, reasonable accommodations that are appropriate for your disability will be assigned. If you have any questions concerning this process, please contact the Center at (435) 652–7516 or go to the Student Services Center, Room 201.

Website Resources

Library	http://library.dixie.edu/
Writing Center	http://new.dixie.edu/english/dsc_writing_center.php
Testing Center	http://new.dixie.edu/testing/
Tutoring	http://dsc.dixie.edu/tutoring/index.htm

Communication Policy

Important class and college information, including syllabus changes for this class, will be sent to your "Dmail" account. This information includes your DSC bill, financial aid/scholarship notices, notification of dropped classes, reminders of important dates and events, and other information critical to your success in this class and at DSC in general. All DSC students are automatically assigned a "Dmail" account. If you don't know your user name and password, go to new.dixie.edu and click on "Dmail" for complete instructions. You will be held responsible for information sent to your "Dmail" account, so please check it often. When trying to get a hold of me, the best option is to call my office phone or email me.

My Philosophy

I believe every future elementary school teacher, including ***you,*** can learn the material taught in this course. I am confident that learning this material will make a ***vital*** difference in your ability to teach the basics of mathematics to your future elementary school students. Learning about mathematics should be ***fun*****!** If we're not having fun while we learn, we're not really learning! ☺

Lecture Schedule

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DATE	LESSON	DATE	LESSON
6/2	Syllabus & 10.1	6/30	13.2 & 13.3
6/3	10.2	7/1	13.3 & 13.4
6/4	10.3	7/2*	Review
6/9*	11.1	7/7	Topic 1
6/10	11.2	7/8	Topic 2
6/11	11.3	7/9	14.1
6/16	11.4	7/14	14.2
6/17	Review	7/15	14.3
6/18	12.1 & 12.2	7/16	15.1
6/23	12.2 & 12.3	7/21	15.2
6/24	12.4 & 12.5	7/22	Prep for final exam
6/25	12.5 & 13.1	7/23	Final exam (in class)

***** The last day you may drop the class without a "W" appearing on your transcript is Tuesday, June 9th. The last day you may drop the class is Friday, July 3rd. Other important dates on the academic calendar for this semester can be found online at http://new.dixie.edu/reg/?page=calendar&sid=200930.

Midterm exams open the class day on which we review the preceding material. They close ***two days*** later.

The final exam will be at 9:00 am on Thursday, July 23rd, in NIB 135.

Homework Assignments

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On each starred problem, I will be giving you additional information and/or modifying the directions that are in the textbook.

DUE DATE	EXAMPLES	PROB. SET "A"	PROB. SET "B"
6/9	10.1: read only	10.1: 1(a–f), 2, 4, 5, 9–11, 15*, 16*, 17, 19–24(part "a" only for each)	10.1: 4(a), 5(c), 9(d), 15*, 17
	10.2: 4–7, 9–11	10.2: 1*, 3, 10, 11, 20, 21	10.2: 7, 10, 11, 20, 21
6/11	10.3: 13, 14*, 15–19, 21	10.3: 1, 5, 6, 8–10, 12, 13, 16, 17, 18(a), 19, 20, 22–25	10.3: 3, 6, 12, 20, 26
	11.1: 3–9	11.1: 3, 4, 7, 10, 11, 14, 17, 20, 24, 26	11.1: 3(bc), 7, 13, 17(ad), 26
6/18	11.2: 11–18	11.2: 2, 4, 6, 7, 10, 12, 14, 15, 25	11.2: 3, 4, 14(ad), 15, 25
	11.3: 22–29	11.3: 6–10, 12–14	11.3: 1(b), 9, 10, 13, 14
	11.4: 30*, 33–39	11.4: 1(b)*, 3*, 5*, 7–9, 13–16, 18, 20–23	11.4: 1, 9(ab), 14, 16, 19
6/25	12.1: read only	12.1: 1–3, 11, 12, 17–20	12.1: 5(ab)*, 18(ab)*, 19(a)
	12.2: read only	12.2: 2, 3, 7, 9, 11	12.2: 2, 3, 7, 9, 11
6/30	12.3: 8	12.3: 1–4, 6–8, 10–12, 14, 15	12.3: 1(a), 1(b), 2, 6(b), 12*
	12.4: read only	12.4: 2–9, 18–21	12.4: 13(ab)*, 15(a–h)*, 18
7/2	12.5: read only	12.5: 1–5, 10, 12, 17, 22–25	12.5: 3, 10, 12, 23(b), 23(c)
	13.1: 1–8	13.1: 4–9, 17–23, 27, 30	13.1: 17(ac)*, 20(a), 30, 32
7/7	13.2: 10, 13	13.2: 3, 5, 7(a–c), 8, 10, 13, 19, 21, 22, 29(b), 36	13.2: 10(ab)*, 19(a), 21, 29
	13.3: 14, 15	13.3: 1, 2, 4–9, 10(bd), 13	13.3: 1(b), 6(a), 9, 11, 18
7/9	13.4: 16	13.4: 1–6, 8, 10, 12, 13	13.4: 1(b), 8(b), 14(a), 16, 26
	T.1: 1, 2	T.1: 1–8	T.1: 10*
7/15	T.2: 1–3	T.2: 1–4	T.2: 1–3*, 6*
	14.1: 2–5	14.1: 1–3, 5, 7–10, 12	14.1: 1, 4(a), 4(b), 10, 12
7/21	14.2: 6, 7	14.2: 1–6, 9–13, 21	14.2: 2, 3, 4, 9, 10
	14.3: read only	14.3: 1–7*, 9(a–c), 11, 12, 16*, 18	14.3: none
7/23	15.1: 1–4	15.1: 1–4, 7–10, 15, 16	15.1: 3(cd), 10, 13, 14, 24
	15.2: 5–7	15.2: 1, 3, 7, 8(ac), 9–11, 12(i), 14–16, 18, 20, 21, 24, 25, 30	15.2: 7(ab), 8, 10(a), 11(a), 23