

**Sierra College
Math 19
Mathematical Concepts for Elementary School Teachers
Spring Semester
2018**

Instructor:

**Dan Balaguy
V315A
(916) 660-7960
Web Page: [http://math.
sierracollege.edu/Staff/dbalaguy/
dbalaguy@sierracollege.edu](http://math.sierracollege.edu/Staff/dbalaguy/dbalaguy@sierracollege.edu)**

Course Identification:

**Math 19
Course Code #45069
V319, TTh 12:30-1:50
3 units**

Office Hours:

**MW: 9:30-11:00 am,
TTh: 11:45 am-12:30 pm,
TTh: 4:15-5:30 pm**

Math Lab:

**The Math Lab is located in V329
This is free, walk in tutoring.
M-Th: 8 am-8 pm
F: 8 am-4 pm
S: 9 am-1 pm**

Materials:

**Text: Mathematics for Elementary
Teachers: A Contemporary Approach,
10th edition, by Musser & Peterson &
Burger ; Wiley Publishing.**

**Calculator: A scientific calculator is
required. In addition, a graphing
calculator is recommended. Either a
graphing calculator or a computer
algebra system will be used
periodically in the classroom for
demonstration purposes. The
graphing utility device is an excellent
tool for acquiring the understanding
of many of the concepts of this
course due to its ability to rapidly
investigate both the numerical and
graphical aspects of these concepts.
However, on many exams and
quizzes, a calculator will not be
allowed. There will not be any**

Prerequisites:

**Completion of Math D or placement by
matriculation assessment process.**

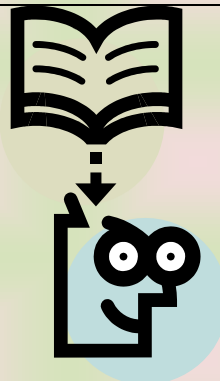
Withdraw Dates:

**February 4 without a W
April 13 with a W**

Holidays:

March 27 & 29, Spring Break

opportunity to use cell phones on the quizzes and exams. A scientific calc. is allowed on some exams/quizzes.

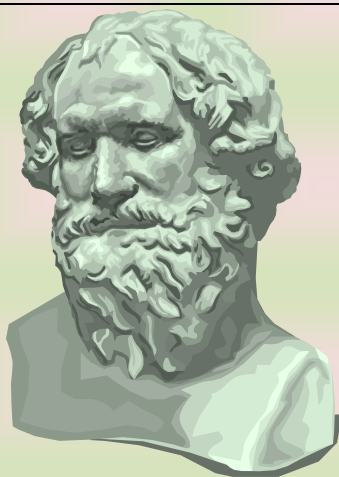


Workload:

The material is treated with a scope & intensity that requires the student to study independently outside of class. This course requires a minimum of two hours of work outside the classroom for every one hour in class.

Attendance:

Attendance is not incorporated in the final course grade. Nevertheless, a solid attendance record is necessary to succeed in a course that is both rigorous and fast paced.



Grading:

Quizzes: 100 pts
Exams: 400 pts
Final Exam: 150 pts

Quizzes:

There will be more than 10 quizzes, worth 10 points each. Only the top 10 scores will be used in the computation of your final course grade. Consequently, no make-up quizzes will be given.

Group Work:

Working with other students outside of class is strongly encouraged. The Math Lab is an ideal location for working with your peers.

Honesty Policy:

Cheating is of course forbidden. College policy on cheating, as outlined in the student conduct code, will be strictly enforced.

Homework:

Homework will be assigned daily, but will not be collected. Instead, a quiz will be given each Thursday (except those days on which we have an exam) covering the material from the previous homework.

Exams:

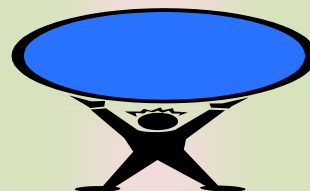
There will be four 100 point exams and a 150 point comprehensive final exam. The lowest of the four regular exam

Drop/Refunds:

scores or the quiz total will be dropped in the computation of the final course grade. The exam dates are given below:

Exam I: February 16
Exam II: March 9
Exam III: April 6
Exam IV: April 27
Final Exam: Week of May 14

A student must drop him/herself in order to be eligible for a refund. Instructor drops do not generate refunds.



Student Outcomes:

Through homework assignments, quizzes, exams, projects and classroom discussions, the student will:

1. Perform calculations with place value systems;
2. Evaluate the equivalence of numeric algorithms and explain the advantages and disadvantages of equivalent algorithms in different circumstances;
3. Apply algorithms from number theory to determine divisibility in a variety of settings;
4. Analyze least common multiples and greatest common divisors and their role in standard algorithms;
5. Explain the concept of rational numbers, using both ratio and decimal representations; analyze the arithmetic algorithms for these two representations; and justify their equivalence;
6. Analyze the structure and properties of whole, rational, and real number systems; define the concept of rational and irrational numbers, including their decimal representation; and illustrate the use of a number line representation;
7. Develop and reinforce conceptual understanding of

Topical Outline:

1. Numeration systems: history, Hindu-Arabic numeration system, and place value systems;
2. Integers: structure and basic properties, computational algorithms;
3. Basic number theory: divisibility, prime and composite numbers, prime factorization, the Fundamental Theorem of Arithmetic, least common multiple and greatest common divisor;
4. Rational numbers: structure and properties, ratio and proportion;
5. Real numbers: structure and basic properties, arithmetic operations, the rational and irrational subsystems, decimal and real number line representations;
6. Patterns, problem solving, communication, connections, modeling, reasoning, and representation; and
7. National and state curriculum standards for elementary school math including Common Core State Standards.

Other Services:

The college tutor lab, in which one-on-one tutoring arrangements can be made, is located in the LRC 402. The proctoring center is located in LRC 441. A student ID must accompany the student if services here are accessed. Fall hours are:

mathematical topics through the use of patterns, problem solving, communication, connections, modeling, reasoning, and representation; and
8. Develop activities implementing curriculum standards.

If You Want Your Work to Be Accepted and Graded, Then the Following Must Be Followed:

- Remove any fringe from paper torn out of spiral notebook.
- Do not use graph paper unless it is used solely for graphing.
- All work must be clear and organized.
- A full name must be included.
- Any take home work must be turned in at the very beginning of class on the next class meeting. No late materials will be accepted.
- All paper turned in must be on paper that is approximately 8½ X 11.

Harassment and Discrimination:

Sierra College is committed to providing a safe learning environment, free of harassment and discrimination as described in District policies found on our website. It is my goal that you feel you can share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings and I will seek to keep information you share private to the greatest extent possible; however, I am required to report information about incidents of gender based discrimination, violence and harassment to the College's Title IX Coordinator.