CAPILANO UNIVERSITY COURSE OUTLINE	
Term: **Fall 2017**	Course No. **MATH 190**
Course: **MATHEMATICS FOR ELEMENTARY TEACHERS**	Credits: **4.0** Section:
Instructor: TBA Office: Tel: email:	

COURSE FORMAT: 4.5 hours of class time (which includes 1.5 hours of workshop/student activities), plus an additional hour of supplemental activity delivered through online or other activities for a 15 week semester which includes 2 weeks for final exams.

PREREQUISITES: Math Placement Test (MPT); or Math 097; or MATH 091 or BMTH 043 with a minimum "B" grade; or MATH 096 with a minimum "C-" grade; or BMTH 044 with a minimum "C+" grade; or MATH 123 or BMTH 048 or Precalculus 11 or Principles of Math 11 or Foundations of Math 11 or Applications of Math 11 with a minimum "C" grade.

Notes: Students who have taken, received transfer credit for, or are currently taking MATH 108 or MATH 116 may not take Math 190 for credit without the permission of the Department of Mathematics and Statistics.

This is an approved quantitative/analytical course for baccalaureate degrees.

This course requires preparation for, and participation in, a SNAP Math Fair to be held at the university outside of regularly scheduled class time. Attendance at the Math Fair is mandatory.

COURSE OBJECTIVES:

General: To study selected topics in mathematics so that future elementary school teachers gain an appreciation of the power, beauty, and importance of mathematics.

Course Student Learning Outcomes:

On completion of the course, the successful student should be able to:

- use a variety of strategies to solve mathematical problems;
- describe the basic concepts of sets, use set notation and solve problems using Venn diagrams;
- convert numerals from any base to base 10 and vice versa, including numeration systems from a variety of historical cultures;

- explain mathematical operations using a variety of models,
- apply and explain a variety of algorithms for addition, subtraction, multiplication and division;
- define basic number theory terms including prime and composite numbers, divisibility, prime factorization, greatest common divisor and least common multiple and use them to solve a variety of related problems;
- identify the natural, integer, rational, irrational and real numbers and their properties;
- identify common geometric figures and properties, and be able to use arithmetic and algebraic methods to compute geometrical quantities;
- perform measurement conversions in the Metric system.

REQUIRED COURSE MATERIALS:

Text: Sowder, Sowder and Nickerson Reconceptualizing Mathematics (Custom Looseleaf Text) WH Freeman (2016)

Booklet: The *Math Fair* booklet.

Calculator: Any basic calculator may be used for homework. For tests, a calculator will be provided by the instructor, where appropriate.

RECOMMENDED COURSE SUPPLEMENTS:

Student Solutions
Manual: Solutions manual for the odd numbered questions in the textbook comes bundled with custom text. Also available in the Math Learning Centre (BR289), or on a 3hour reserve in the Library

Reference Texts: Available in the Math Learning Centre (BR289).

COURSE CONTENT:

Topics	Weeks (approx.)
Problem Solving and Sets	2
Numeration Systems, Whole Number Operations, Mental Calculation, Scientific Notation	3
Fractions, Ratios, Rates, Proportion, Percent	1.5
Integers and Number Theory	2
Geometry and Measurement	3
Review	0.5
Term tests and/or quizzes	1
Final Exam Period	2

EVALUATION PROFILE:

Final grades for the course will be computed based on the following schedule:

Term Work	*55%
Final Exam	*35%
Personal Evaluation	10%
TOTAL	100%

*   If the percentage achieved on the Final Exam is higher than the percentage achieved on the Term Work component, then the Final Exam weight will be increased to 55% and the Term Work will be decreased to 35%.

Note: Math 190 students are required to participate in a Math Fair on TBA, from 8:30am to 12:30pm.

Term work will consist of the Math Fair worth 15% and a combination of tests, quizzes and/or assignments. While the weighting of individual tests, etc. is at the discretion of the instructor, no single test will exceed 25% of the final total. The weight of tests, quizzes and assignments will be announced in class in advance.

PERSONAL EVALUATION:

In the absence of exceptional circumstances, which are evaluated at the instructor's discretion, the personal evaluation component of the final grade will be pro-rated to the rest of the grade. For example, a 10% personal evaluation component would be determined by dividing the remaining mark out of 90 by 9. The most common circumstance justifying an increased personal evaluation mark is a student's improved performance in the final examination relative to the term work, which the instructor feels justifies an elevated letter grade.

SUPPLEMENTAL 4TH HOUR ACTIVITY:

Each section has, in addition to the 4.5 hours of scheduled classroom time per week, a supplemental activity. This activity might be a scheduled tutorial or lab, an on-line activity, a group meeting, or some other activity as indicated by the instructor. Students are expected to participate in this additional activity. If this is not possible, students should consult their instructor to determine how this missed activity can be completed. It is in the student's best interest to ensure that any missed course activity is completed.

GRADING PROFILE: Letter grades will be assigned according to the following guidelines:

A+ 90 - 100%	B+ 77 - 79%	C+ 67 - 69%	D 50 - 59%
A 85 - 89%	B 73 - 76%	C 63 - 66%	F 0 - 49%
A- 80 - 84%	B- 70 - 72%	C- 60 - 62%	

Students should refer to the University Calendar for the effect of the above grades on grade point average.

TESTS: Dates for tests will be announced beforehand in class.

HOMEWORK: It is expected that students spend at least 8 hours per week doing course work outside of class time.

OPERATIONAL DETAILS:

University Policies: Capilano University has policies on Academic Appeals (including appeal of final grade), Student Conduct, Cheating and Plagiarism, Academic Probation and other educational issues. These and other policies are available on the University website.

Attendance: If classes are missed, it is the student's responsibility to become aware of all information given out in the classes or tutorials, including times of examinations and assignment deadlines.

Missed Exams: Normally, a score of zero will be given for a missed exam, test, quiz, lab, etc. In some exceptional situations, the student will be permitted to write a make-up test, defer the lab to a later date or to replace the score by other marks.

The situations in which a score of zero may be avoided are those for which the student meets **all** of the following conditions:

- Circumstances clearly beyond the control of the student caused the exam, test, quiz, lab, etc. to be missed. Such circumstances include serious illness or injury, or death of close family member. They do **NOT** include forgetting about the test, lack of preparation for the test, work-related or social obligations.

- The student has notified the instructor (or the School of Science, Technology, Engineering and Mathematics (STEM) office staff, if the instructor is not available) about the missed exam, test, quiz, lab, etc. Such notification **MUST** occur in advance, if possible, or at the latest, on the day of the exam, test, quiz, lab, etc.

- Proof of the circumstances is provided. Proper proof of illness or injury requires a medical certificate from a doctor.

- The student has been fully participating in the course up until the circumstances that prevented the writing of the exam, test, quiz,

lab, etc. **Fully participating means attending almost all of the classes and turning in almost all assignments in the course.**

The options offered to the student who meets the four conditions are decided by the instructor. They will not necessarily meet the convenience of the student.

Final Exam Period: Students should note that the final exam period is **TBA** and that they can expect to write exams at any time during this period. Exam times will not normally be rescheduled because of holidays, work, or other commitments. While efforts are made to spread exams throughout the exam period, an individual's particular course combination may result in exams being scheduled close together, or spread widely through the entire exam period.

Cheating/Plagiarism: Students caught cheating on a test will normally receive a grade of "F" for the course and may be expelled from the University. Plagiarism (including the copying of any part of assignments, laboratory reports and essays) is a serious offence and is a form of cheating.

Incomplete Grades: Incomplete grades ("I") are given only when special arrangements have been agreed upon with the instructor prior to the end of the semester. Since "I" grades are granted only in exceptional circumstances (usually health problems), their occurrence is rare.

English Usage: Students are expected to use correct standard English in their written and oral assignments, exams, presentations and discussions. Failure to do so may result in reduced grades in any part of the Evaluation Profile. Please refer to the guidelines provided in the Capilano Guide to Writing Assignments (available from the University Bookstore).

Mathematical Language: Use of proper Mathematical terminology and notation is an important component of Mathematics. Marks may be deducted for improper usage. For full details, please refer to the Math Department Style Guide at: http://www.capilanou.ca/math/Math-Department-Style-Guide/

Mathematics Learning Centre: Instructional help and Mathematics learning aids, such as audio visual materials, computer software and reference texts are available to students in the Birch Building (BR289).

Emergency Procedures: Please read the emergency procedures posted on the wall of the classroom.