INTRODUCTION:

Welcome to *Foundations of Mathematics and Pre-Calculus 10*. This course is essentially your first senior-level math course, and leads directly to *Foundations of Mathematics 11* and 12 and/or *Pre-calculus 11* and 12.

*Pre-calculus 11* and 12 were designed for students going into post-secondary programs that require calculus, such as science and engineering. *Foundations of Mathematics 11* and 12 were designed for students going into future educational programs that do not require calculus. But these courses also contain math topics that can be useful to pre-calculus students.

You will have to determine which pathway (*Pre-calculus* or *Foundations*) best fits your future plans when doing Grade 11 course planning.

We look forward to exploring the course content with you; and with some hard work and dedication we are sure that you will be successful.

**NOTE:** YOU WILL BE AUTOMATICALLY REGISTERED TO WRITE THE *FOUNDATIONS OF MATHEMATICS AND PRE-CALCULUS 10* PROVINCIAL FINAL EXAM THAT OCCURS AT THE END OF THIS SEMESTER.

EXPECTATIONS:

*Foundations of Mathematics and Pre-calculus 10* is a more-challenging math course than most Grade 10 students will have taken up to this point. In order to succeed, it is expected that you adhere to the following points.

- **You need to be responsible for your own success.**
  You need to study the topics and complete assigned exercises yourself. The percentages and letter grades that appear on your report cards are based on assessments of your work.

- **You should attend every class.**
  Irregular attendance will likely lead to low marks, and possibly course failure. If you are ill or unable to attend for a legitimate reason then your mother, father, or guardian should contact the school at 604-713-8974 and us via our e-mail addresses.

- **You should catch up on all notes, assignments, and tests you miss when you are absent.**
  Ask us and/or other students about what you may have missed during an absence, and find out what you need to do to get caught up.

- **You should arrive on time for class.**
  Try to not be late for class. If you are late for class, enter the room quietly and without disruption.

- **You should focus on *Foundations of Mathematics and Pre-calculus 10* lessons and assigned work.**
  Pay attention during lessons, and do the assigned work. Do not study for other courses during this class. Do not play with your smartphone (or other tech devices) in class. Be the best *math* student you can be.
- **You should complete all homework and assignments in a timely manner.** Neglecting your homework and failing to complete assignments will typically result in poor test scores.
- **You should ask us questions and get extra help from us when you are having difficulty understanding how to do something in this course.** We are available in class for help (when not presenting a lesson) as well as outside of class time.
- **You should earn the best marks you can.** Aim for at least a “B” (73%). You will be given regular assignments, tests, and other assessments, which will be used to assess your learning.

**MATERIALS:**

- Bring your copy of the *Foundations and Pre-calculus Mathematics 10* textbook to each class.
- Bring a scientific calculator to each class. Such calculators can be purchased for as little as $5.00 from outlets such as Staples, Real Canadian Superstore, and Costco.
- Bring a binder with paper, pen and pencil, “white out” and eraser, and straight edge or ruler each period.

**ASSESSMENT & EVALUATION:**

Understanding will be checked in a variety of ways. Informal assessments will be made on an ongoing basis to ensure general student comprehension. There will be many small quizzes and in-class assignments throughout the course, regular tests will be given throughout each term to reflect.

Course marks will be calculated using the following weightings:

<table>
<thead>
<tr>
<th>Marks for Each Report</th>
<th>Final Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments/Quizzes</td>
<td>School Mark</td>
</tr>
<tr>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>Tests/Quizzes</td>
<td>Provincial Final Exam</td>
</tr>
<tr>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
</tr>
</tbody>
</table>
| 100%                         | (Blended after the Provincial Final Exam) | 100%

**COURSE CONTENT:**

The Foundations of Mathematics and Pre-calculus 10 curriculum approved by the BC Ministry of Education will be covered. All of the chapters from the *Foundations and Pre-calculus Mathematics 10* (Pearson) textbook will be completed.

Also, take a look at main topics and chapters that begins on the next page. Note that the stated number of periods devoted to each chapter is approximate and is subject to some change.
# FOUNDATIONS OF MATHEMATICS AND PRE-CALCULUS 10 Main Topics and Chapters

*NOTE: the stated number of periods assigned to each chapter is approximate and may be subject to change during the course.*

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>SUBTOPICS</th>
<th>APPROX. # OF PERIOD(S)</th>
</tr>
</thead>
</table>
| **CHAPTER 1 Measurement** | • Imperial Measures of Length  
• Relating SI and Imperial Units  
• Surface Areas and Volumes of Right Pyramids and Right Cones  
• Surface Areas and Volumes of Spheres  
• Solving Problems Involving Objects | 10 Periods |
| **CHAPTER 2 Trigonometry** | • The Tangent, Sine, and Cosine Ratios  
• Using the Tangent, Sine, and Cosine Ratios to Calculate Lengths  
• Applying Trigonometric Ratios  
• Solving Problems Involving More Than One Triangle | 10 Periods |
| **CHAPTER 3 Factors and Products** | • Factors and Multiples of Whole Numbers  
• Perfect Squares, Perfect Cubes, and Their Roots  
• Common (Monomial) Factors of a Polynomial  
• Modelling Trinomials as Products of Binomials  
• Factoring Polynomials of The Form $x^2 + bx + c$ and of the form $ax^2 + bx + c$  
• Factoring Special Polynomials  
• Multiplying Polynomials | 11 Periods |
| **CHAPTER 4 Roots and Powers** | • Estimating Roots  
• Irrational Numbers  
• Mixed and Entire Radicals  
• Fractional Exponents and Radicals  
• Negative Exponents and Reciprocals  
• Applying the Exponent Laws | 10 Periods |
### Main Topics Taught by Mr. Yuill—Relations and Functions

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>SUBTOPICS</th>
<th>APPROX. # OF PERIOD(S)</th>
</tr>
</thead>
</table>
| CHAPTER 5 Relations and Functions | • Representing Relations  
• Properties of Functions  
• Interpreting and Sketching and Drawing Graphs  
• Graphs of Relations and Functions  
• Properties of Linear Functions  
• Interpreting and Drawing Graphs of Linear Functions | 14 Periods |
| CHAPTER 6 Linear Functions | • Slope of a Line  
• Slopes of Parallel and Perpendicular Lines  
• Graphs of Linear Functions  
• Slope-Intercept Form of a Linear Equation  
• Slope-Point Form of a Linear Equation  
• General Form of a Linear Equation | 12 Periods |
| CHAPTER 7 Systems of Linear Equations | • Developing Systems of Linear Equations  
• Solving a System of Linear Equations Graphically  
• Solving a System of Linear Equations Algebraically Using Substitution and Elimination  
• Properties of Systems of Linear Equations | 12 Periods |

### ALSO...

| Course-End Review (Mr. Yuill and/or Ms. Lee) | Topics covered throughout the Foundations of Mathematics and Pre-calculus 10 course. | 5 Periods |
| Course-End Provincial Final Exam (January or June 2016) | MANDATORY. Failure to show up and write this exam will result in an “I” (Incomplete) as the letter grade for this course.  
WORTH 20% OF THE OVERALL COURSE MARK  
Mark to be blended at a later time with the school mark. This mark will not appear on the school report card. |  