Waterloo-Oxford District Secondary School  
Mathematics Department

**Student Course Outline: MCR3UI Sections 04, 05  2019–2020 Semester 2**  
Textbook (Electronic Version is found in our google classroom – to join use code n0hn25r)

**Mathematics 11: McGraw-Hill Ryerson (Replacement Cost $ 95.00)**  
ELECTRONIC VERSION AVAILABLE IN GOOGLE CLASSROOM  
Number: ____

**Teachers**  
Mrs. L. Behnke  
http://teachers.wrdsb.ca/behnke/

**Units of Study**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Title</th>
<th>Essential Skills</th>
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| 1    | Algebraic Tools – Factoring & Rational Expressions  
10 classes | ☐ Operations with Polynomials  
☐ Factoring: Common, Trinomial \(a \in \mathbb{I}\), Difference of Squares, Perfect Squares  
☐ Simplify Rational Expressions (includes Multiplying, Dividing, Adding and Subtracting)  
☐ State restrictions on Rational Expressions |
| 2    | Quadratic Functions and Equations  
13 classes | ☐ Simplify radicals using radical properties  
☐ Operations with radicals (adding, subtracting, multiplying, rationalizing the denominator with and without the need for conjugates)  
☐ Complete the square with and without fractions  
☐ Find maximum and minimum values by completing the square  
☐ Solve quadratic equations by factoring and by using the quadratic formula  
☐ Applications to real-world problems |
| 3    | Transformations of Functions  
10 classes | ☐ Determine whether a relation is a function or not  
☐ Interpret and Apply Function Notation  
☐ Identify and interpret transformations of functions – graphically & algebraically  
☐ Find the inverse of a function – graphically and algebraically |
| 4    | Exponential Functions  
11 classes | ☐ Simplify expressions containing integer and rational exponents  
☐ Evaluate expressions containing integer and rational exponents  
☐ Solve exponential equations by trial and error  
☐ Write equations of exponential functions  
☐ Graph transformations of exponential functions  
☐ Apply exponential functions to real-life situations |
| 5    | Trigonometry  
11 classes | ☐ Solve problems using the Trigonometry of Right Angles  
☐ Find angles that correspond to trigonometric ratios  
☐ Solve problems using the Sine and Cosine Laws  
☐ Explore the ambiguous case of the Sine Law  
☐ Use special angles and CAST rule to determine trigonometric ratios  
☐ Prove simple trigonometric identities |
| 6    | Trigonometric Functions  
11 classes | ☐ Demonstrate an understanding of periodic behavior  
☐ Graph sinusoidal functions including transformations  
☐ Solve trigonometric equations |
| 7    | Sequences and Series  
9 classes | ☐ Demonstrate an understanding of relationships involved in arithmetic and geometric sequences and series  
☐ Demonstrate an understanding of the difference between a sequence and a series  
☐ Demonstrate an understanding of recursive sequences  
☐ Solve problems related to sequences and series  
☐ Demonstrate an understanding of using the sequence/series formulas to solve for a specific term, a term number, a total, a difference or a ratio  
☐ Expand binomials using Pascal’s Triangle |
| 8 | Compound Interest and Annuities | □ Demonstrate an understanding of the difference between simple and compound interest
□ Use formulas and spreadsheet software to solve for future value, present value, interest rate and time for various type of investments
□ Demonstrate an understanding of calculating the future or present value of annuities
□ Investigate the effects of changing the conditions of investments (payments, frequency of payments, interest rate etc.)
□ Solve problems involving loans/mortgages using formulas and spreadsheet software |
| 9 | 7 classes | □ EXAM REVIEW |

**Reporting**

**Parent Teacher Night:** April 8, 5:00 – 7:00 p.m.

Parents are encouraged to contact the teacher whenever they have a concern or question. If you are not receiving periodic electronic mark reports, please contact the main office to have your email included in the school “trillium” system.

**Supplies**

- Three ring binder with paper.
- Pencils, erasers, pens and ruler.
- Scientific Calculator: must have trigonometric functions (sin, cos, tan).

*Please Note:* Calculators will not be provided by the teacher and sharing calculators during evaluations is prohibited. Also, iPods, cell phones and other electronic storage devices may NOT be used as calculators during evaluations or class time.

Graph paper: you may purchase this from your teacher when graphing units arise or provide your own.

**Evaluation**

- Term Work: 70%
- Final Examination: 30%
  
  **MCR3UI-04 (Block B) Friday, June 19, 2020, MCR3UI-05 (Block D) Tuesday, June 23, 2020**

**Expectations**

- **Food/Drink:** There is no food or drink (except water) allowed in the classroom.
- **Homework:** Mathematical skills are developed in the classroom and strengthened with homework. Homework must be completed daily. If you have trouble completing your homework or understanding a topic, see your teacher for extra help. Do not let difficulties drag on until the end of a unit.
- **Missed Quizzes/Tests:** Students are expected to write missed quizzes/tests at lunch in room 540 on the first day back to school. See your teacher by the beginning of the school day when you return if you need to make other arrangements to write your test/quiz. Do NOT wait until the next math class.

  In the event the student does not take the responsibility to make up a missed test, the teacher will:
  - Speak with the student to negotiate a new test date.
  - Communicate with the student’s parent or guardian about the missed test.

  A pattern of missed tests and/or tests not completed after the negotiated date will be designated as incomplete. The essential learning skills required for this test will still need to be demonstrated and the teacher will use his/her professional judgement to determine an appropriate mark.

  Failure to complete non-major quizzes and assignments or missing them for any invalid reason MAY result in a mark of zero.

- **Extra Help:** I am happy to provide extra help at lunch in our math classroom. If you would like help before or after school please make arrangements with me ahead of time.