Waterloo-Oxford District Secondary School - Mathematics Department

Student Course Outline: **MCR3UI 2019–2020**

Textbook Mathematics 11: McGraw-Hill Ryerson (Replacement Cost $ 95.00)

Teacher Mrs. J. Wagler http://teachers.wrdsb.ca/wagler/

Units of Study

Unit	Title	Essential Skills
1	Algebraic Tools – Factoring & Rational Expressions	Operations with Polynomials Factoring: Common, Trinomial {a ∈ 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	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 or partial factoring Solve quadratic equations by factoring and by using the quadratic formula Applications to real-world problems
3	Transformations of Functions	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	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	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	Demonstrate an understanding of periodic behavior Graph sinusoidal functions including transformations Solve trigonometric equations
7	Sequences and Series	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

Reporting **Report Card Distribution:** April 27, July 6
Parent Teacher Nights: April 8
Note: Parents are encouraged to contact the teacher whenever they have a concern or question.

Evaluation

Content (Tests 55%, Quizzes and Assignments 15%)	70%
Final Examination (June 18th)	30%

EXPECTATIONS:

1. Attitude

Come to class with a positive attitude. Be diligent in your work, attentive during lessons, volunteer ideas, ask questions and work quietly and cooperatively. Come prepared with all required materials, be on time and be prepared to work for the entire period. Work to the best of your ability and respect the rights of others to learn.

2. Homework

Mathematical skills are developed in the classroom and are strengthened during homework and study sessions; difficulties must be discussed with your teacher – individually or in either small group or full class situations. Be conscientious about doing your homework. See your teacher early about difficulties; do not let them drag on until the end of a unit

3. Extra Help

I am happy to provide extra help at lunch every day in room 113 or for help after school, please make an appointment with me beforehand.

4. Policy regarding missed Tests and Quizzes

Students are expected to write the test or quiz on the **FIRST DAY** back to school. See your teacher to write your test.

All **unit tests** are considered **major components** of the course and must be completed to earn this credit:
In the event a student fails to follow through on a missed unit test, the teacher will:

a) Speak with the student to negotiate a new test date.
b) Communicate with the student's parent or guardian about the missed test.

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 in order to earn the course credit. and the teacher will use his/her professional judgment 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.

5. Policy regarding Attendance and Lates

The Waterloo-Oxford District Secondary School policy states that all students are expected to attend all classes and arrive on time. Excessive absences may contribute, directly or indirectly to the student losing the credit.

When the bell rings students should be in their seats ready to begin class. If a student arrives late he/ she should sit down quietly and join the class. After the third late a detention will be assigned in the office or the math room, where the student is expected to catch up on math work.

6. Supplies

Bring to class with you EVERY DAY:

- 3 ring binder with paper
- pencil, eraser and ruler
- graph paper: you may purchase this from your teacher when graphing units arise or provide your own.
- textbook
- Scientific Calculator (must have trigonometric functions (sin, cos, tan)*

*Note Calculators may NOT be shared during assessments and will NOT be lent to you by the teacher.
The use of cell phones, ipods. audio- or video-recording devices, digital music players or e-mail or text messaging devices during the assessments are prohibited.

7. Class notes

Class notes and other important information will be available on Mrs. Wagler's website (http://teachers.wrdsb.ca/wagler) which can also be accessed through the school website at: http://wod.wrdsb.ca/academics/mathematics. It is **your responsibility** to view the material and be caught up for the next class if you are away. Please see me if you have any questions about the posted lessons and/or notes.