

Waterloo-Oxford District Secondary School

Mathematics Department

Student Course Outline: MAP4CI 2019-2020

Textbook: Foundations for College Mathematics 12: McGraw-Hill Ryerson (Replacement Cost \$80.00)

Teacher: Mrs. L. Behnke <http://teachers.wrdsb.ca/behnke/>

Units of Study

Unit	Title	Essential Skills
1– 18%	Measurement and Geometry	<ul style="list-style-type: none"> <input type="checkbox"/> Perform conversions between the metric and imperial systems <input type="checkbox"/> Solve problems involving the areas of triangles, rectangles, circles and related composite figures <input type="checkbox"/> Solve problems involving the volumes and surface areas of rectangular prisms, triangular prisms and cylinders and or related composite figures. <input type="checkbox"/> Recognize and explain the significance of optimal perimeter, area, surface area, and volume in various applications. <input type="checkbox"/> Determine the optimal dimensions of a two-dimensional shape in metric or imperial units for a given constraint. <input type="checkbox"/> Determine the optimal dimensions of a right rectangular prism, right triangular prism and a cylinder for a given constraint.
2– 18%	Trigonometry	<ul style="list-style-type: none"> <input type="checkbox"/> Solve problems using the Trigonometry of Right Angles (determine side lengths and angles) <input type="checkbox"/> Find angles that correspond to trigonometric ratios <input type="checkbox"/> Use calculator to compare trigonometric ratios for supplementary angles <input type="checkbox"/> Find angles and side lengths using the Sine Law and Cosine Law <input type="checkbox"/> Solve problems involving oblique triangles using the Sine and Cosine Laws
3– 15%	Two-Variable Data	<ul style="list-style-type: none"> <input type="checkbox"/> Distinguish between one-variable and two-variable data, graphs, and questions. <input type="checkbox"/> Describe characteristics of an effective survey <input type="checkbox"/> Design questionnaires or experiments <input type="checkbox"/> Collect two-variable data, organize and store data <input type="checkbox"/> Create a scatter plot to summarize two-variable data (includes work with independent/dependent variables, line of best fit) with and without technology. <input type="checkbox"/> Determine equation of line of best fit with and without technology <input type="checkbox"/> Extrapolate and Interpolate, describe interpretations and misinterpretations, assess the correlation. <input type="checkbox"/> Make conclusions and describe the reasonableness of conclusions.
4– 12%	Data Management	<ul style="list-style-type: none"> <input type="checkbox"/> Recognize and interpret common statistical terms and expressions (percentile, quartile, accurate 19 times out of 20, weighted mean) <input type="checkbox"/> Describe examples of statistical indices used by the media <input type="checkbox"/> Interpret statistics presented in the media (use, misuse to present a point of view) <input type="checkbox"/> Assess validity of conclusions by examining sources of data, methods of data collection, possible sources of bias, questioning the analysis of the data, and conclusions drawn from the data
5– 14%	Graphical Models	<ul style="list-style-type: none"> <input type="checkbox"/> Interpret graphs to describe a relationship <input type="checkbox"/> Given a graph, describe the trend and make predictions <input type="checkbox"/> Given a graph or table of values, determine the rate of change and its units. <input type="checkbox"/> Given a table of values or a graph of a relation, identify when the rate of change is zero, constant or changing. <input type="checkbox"/> Compare the graphs of relations by describing initial conditions and rate of change behavior. <input type="checkbox"/> Identify a model as linear, quadratic or exponential and solve related problems
6– 12%	Algebraic Models	<ul style="list-style-type: none"> <input type="checkbox"/> Simplify algebraic expressions containing integer exponents using the multiplication, division and power of a power exponent laws. <input type="checkbox"/> Evaluate numerical expressions with rational exponents and rational bases. <input type="checkbox"/> Solve exponential equations by systematic trial and by determining a common base. <input type="checkbox"/> Given the exponential equation for a real-world application, solve problems with graphs or table of values generated with technology.

7– 11%	Personal Finance	<input type="checkbox"/> Describe an annuity and identify real-world applications <input type="checkbox"/> Determine the effects of changing the conditions of an ordinary simple annuity <input type="checkbox"/> Solve problems that involve the amount, the present value and the regular payment of an ordinary simple annuity. <input type="checkbox"/> Demonstrate the advantages of starting payments earlier when investing in long-term savings annuities. <input type="checkbox"/> Describe features associated with mortgages and the different mortgage types. <input type="checkbox"/> Read and interpret an amortization table for a mortgage. <input type="checkbox"/> Generate an amortization table for a mortgage, calculate total interest compared to original principal <input type="checkbox"/> Gather and Interpret information about living on your own (including advantages and disadvantages) – renting vs. owning, fixed costs and variable costs. <input type="checkbox"/> Design a budget suitable for a given situation and make adjustments to accommodate changes in circumstances.
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Reporting

Report Card Distribution: November 21, February 13

Semester 2: April 27, July 6

Parent Teacher Nights: October 23 5 p.m. – 7 p.m.

Semester 2: April 8 5 p.m. – 7 p.m.

Parents are encouraged to contact the teacher whenever they have a concern or question. Parent emails on file in the “trillium” system in the office will receive regular mark reports throughout the course. If you are not receiving mark reports, email linda_behnke@wrdsb.ca and ask to have your email included in the markbook program.

Supplies: Three ring binder with paper. Pencils, erasers, pens and ruler.

Scientific Calculator: must have trigonometric functions: (sin, cos, tan).

Please Note: iPods, cell phones and other electronic storage devices may not be used.

You may purchase graph paper from your teacher when graphing units arise or provide your own.

Evaluation:

Term Work

70%

Final Examination

30%

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 on the *first day back to school in ROOM 540 AT LUNCH*. See your teacher at 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. An optional cumulative project – weighting 10% may be completed to decrease the weighting of the exam. Late projects will not be accepted.

Extra Help:

Mrs. Behnke is happy to provide extra help at lunch in room 540. If you would like help before or after school please make arrangements with Mrs. Behnke ahead of time.