



**St. Joseph Secondary School
Department of Mathematics**

Course Code: MHF 4U1
Course Name: Advanced Functions
Level: Grade 12

Student's Name: _____

Textbook #: _____

Course Description:

This course extends students' experiences with functions. Students will investigate the properties of polynomial, rational, logarithmic, and trigonometric functions; develop techniques for combining functions; broaden their understanding of rates of change; and develop facility in applying these concepts and skills. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. This course is intended for both students taking the Calculus and Vectors course as a prerequisite for a university program, and for those wishing to consolidate their understanding of mathematics before proceeding to any one of a variety of university programs.

Overall Course Expectations:

This curriculum integrates appropriate technologies, such as graphing calculators, into the learning and doing of mathematics, while recognizing the continuing importance of students' mastering essential arithmetic and algebraic skills. As a result, students will be expected to use the equipment with respect, as it is an integral part of the curriculum.

Ontario Catholic School Graduate Expectations (Vision of the Learner):

The graduate is expected to be:

1. A discerning believer
2. An effective communicator
3. A reflective, creative and holistic thinker
4. A self-directed, responsible, lifelong learner
5. A collaborative contributor
6. A caring family member
7. A responsible citizen

Prerequisite Course:

Functions, Grade 11 University Preparation

OR

Mathematics for College Technology, Grade 12 College Preparation

Efforts will be made to meet the individual learning needs of students to promote student success with respect to meeting the expectations of this course.

My signature below indicates that I have read the Course Handout, and I am in agreement with its contents.

Parent's/Guardian's Signature: _____ **Date:** _____

Student's Signature: _____ **Date:** _____

Units of Study:

- *Unit 0* - Review
- *Unit 1* - Understanding Rates of Change
- *Unit 2* - Polynomial Functions
- *Unit 3* - Solving Polynomial Equations & Inequalities
- *Unit 4* - Rational Functions, Equations & Inequalities
- *Unit 5* - Trigonometric Functions
- *Unit 6* - Trigonometric Identities
- *Unit 7* - Exponential and Logarithmic Functions
- *Unit 8* - Combinations of Functions

There is **no** Culminating Performance Task (CPT) for this course. The final exam will be weighted at 30% of the final mark.

Resources:

The course will use a variety of resources which will be distributed to students during the first week of the course. The text and all other resources assigned to each student are the responsibility of the student.

Resources for this course include:

Advanced Functions textbook (Nelson), individual student resources to complete projects, Chromebooks, personal electronic devices (PEDs)

Any damage incurred will result in payment for replacement: \$100 for text

Evaluation Policies:

1. Student marks will be determined by evaluating process & product according to 4 categories (see below) & 4 levels of the Achievement Chart as found in the Ministry Policy document.

Evaluation Structure:

Knowledge/Understanding	30%
Application	30%
Communication	20%
Thinking	20%

Term Evaluations: 70% of the final mark

Final Evaluation: 30% of the final mark (30% exam and no CPT)

2. Feedback will also be provided for student **learning skills:** Responsibility, Organization, Independent Work, Collaboration, Initiative and Self-Regulation are assessed apart from student achievement in the four categories outlined above and will conform to the coding:

E – Excellent G – Good S – Satisfactory N - Needs Improvement

3. **Assignments** submitted after the due date established by the teacher will receive a penalty **in accordance with our Board Assessment & Evaluation Policy Document** as outlined in the agenda.
4. Should a student miss an evaluation due to a legitimate absence, **in accordance with our Board A&E Policy Document**, the student and teacher will make arrangements to address the missed evaluation in a timely manner. In the cases of **extended vacation** or **prolonged absence**, consultation with the appropriate administrator is required.
5. In the event that the student does not make up the missed evaluation(s), a zero may be assigned. If it is determined that the evaluation(s) has/have been missed as a result of a skip/truancy or has/have been plagiarized, a zero may be assigned.
6. For all other cases of absence and/or missed evaluations (including absence during the final examination period), please refer to our Board A&E Policy as outlined in the student agenda.

St. Joseph – Pray For Us. May God bless your efforts this semester!