



St. Joseph Secondary School
Department of Mathematics
Course Outline

Course Code: MHF 4U2
Course Name: PreAP Advanced Functions
Level: Grade 12

Student Name: _____

Textbook #: _____

Course Description:

This course extends students' experience with functions in the PreAP Grade 11 Functions course. Students will investigate the properties of polynomial, rational, logarithmic, and trigonometric functions; develop techniques for combining functions; investigate rates of change; and develop facility in applying these concepts and skills. Students will also broaden the depth and breadth of their use of the mathematical processes necessary for success in the AP Calculus course. This course is intended for students taking the AP 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 technology, into the learning and doing of mathematics, while recognizing the continuing importance of students' mastering essential 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:

Grade 11 PreAP Functions, University Preparation

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 of Prerequisite Skills
- *Unit 1* - 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
- *Unit 9* - Limits 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:
ipads or TI-83+ or TI-84 calculators, Advanced Functions textbook (Nelson), individual student resources to complete projects, personal electronic devices (PEDs)

Any damage incurred will result in payment for replacement:
\$90 for text, \$195 for TI-graph.calc., \$500 for ipad.

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

70% of the grade will be based upon evaluations conducted throughout the course including tests, quizzes, activities, presentations, tasks, assignments, and contest participation, etc.

Final Exam - 30% of the final mark

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. All absences must be verified before or on the day of return with a phone call or note from a parent/guardian.
5. 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.
6. 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.
7. In order to successfully complete the requirements of this course, students must make a commitment to; catch up on any missed work due to absence, complete all practice homework and assignments on time, participate in 4 Math League Math contests and complete 2 sample contests before each contest, prepare to the best of their ability for all evaluations, and work collaboratively during group tasks.