



York Region District School Board
BUR OAK SECONDARY SCHOOL
Mathematics Department
Course Outline

COURSE:	Grade 12 Advanced Functions
CODE:	MHF4U1
TEXTBOOK:	Advanced Functions 12, McGraw-Hill Ryerson (\$90.00)
CREDIT VALUE:	One
PREREQUISITES:	MCR3U or MCT4C
DEPARTMENT HEAD:	B. Merchant
COURSE TEACHERS:	Y. Lam

COURSE DESCRIPTION:

This course extends students' experience 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. <http://www.edu.gov.on.ca/eng/curriculum/secondary/math1112currb.pdf>

COURSE EXPECTATIONS:

This course is based on curriculum expectations found in the *Ontario Curriculum: Grades 11 and 12 Mathematics 2007 (Revised)*. A copy of this document is available in the Math Office as well as on-line at <http://www.edu.gov.on.ca/eng/curriculum/secondary/math1112currb.pdf>

COURSE TOPICS:

1. Polynomial Functions
2. Polynomial Equations and Inequalities
3. Rational Functions
4. Trigonometry
5. Trigonometric Functions
6. Exponential and Logarithmic Functions
7. Combining Functions

ASSESSMENT AND EVALUATION:

Assessment **for/as** Learning may include, but is not limited to the following: diagnostic assessments, quizzes, conversations, observations, exit cards, cooperative learning strategies.

Assessment **of** Learning may include, but is not limited to the following: critical thinking problem sets, performance tasks, culminating projects, presentations, assignments, tests.

Knowledge & Understanding	25%
Application	20%
Communication	10%
Thinking & Inquiry	15%
Final Exam	30%

Refer to the *Bur Oak Secondary School Assessment, Evaluation and Communication Policy*

STUDENT WELL BEING:

The Mathematics Department is committed to providing programming which accommodates students of all backgrounds. The department actively promotes classroom environments in which deep learning occurs, and in which the mental health and well-being of students is a priority.

- Teachers as “lead learners” will pay consistent attention to equity, inclusivity and mental health, while overall well-being will be at the forefront of modern learning¹.
- The role of students:
 - Honouring principles of differentiation in instruction, assessment and evaluation.
 - Student voice and involvement in the assessment process with emphasis on equity and inclusivity².
 - Student ownership of learning, using a model of gradual release of responsibility, with awareness of student mental health and well-being³ throughout.

¹Modern Learning is authentic and relevant deep learning that enables learners to create, connect, communicate, and share their learning with the world and be future ready.

²Equity and inclusive education:

- is a foundation of excellence;
- meets individual needs;
- identifies and eliminates barriers;
- promotes a sense of belonging;
- involves the broad community;
- builds on and enhances previous and existing initiatives;
- is demonstrated throughout the system.

³Well-being is a positive sense of self, spirit and belonging that we feel when our cognitive, emotional, social and physical needs are being met. Healthy development of the mind, body and spirit is contingent on balance and interconnectedness.

NOTES:

Students should come to class prepared with supplies and their textbook. Homework will be assigned on a regular basis. If a student is away on the day of an assessment, make arrangements prior to the assessment. If a student is ill on the day of an assessment, have a parent/guardian leave a message with your teacher (905-202-1234) and provide verification of illness. Assessment is to be completed on the day of return.

Enjoy!