

## COURSE OUTLINE

School:	Keewaytinook Internet High School
Department Name:	Mathematics
Ministry of Education Course Title:	Mathematics for Everyday Life
Grade Level:	11 Workplace Preparation
Ministry Course Code:	MEL3E

Teacher's Name: Zafer Erol

Developed by: Erik Tu Date: September 2016

Revision Date: September 2017

Developed from: The Ontario Curriculum, Grades 11 and 12:  
Mathematics 2007

Text: None

Prerequisite: Mathematics, Grade 10, Academic or Applied or  
Locally Developed

Credits: 1

Length: 110 hours

Principal's Name: Kevin Dempsey

Principal's Approval (signature):



Approval Date: September 11, 2017

## ***Course Description/Rationale***

This course enables students to broaden their understanding of mathematics as it is applied in important areas of day-to-day living. Students will solve problems associated with earning money, paying taxes, and making purchases; apply calculations of simple and compound interest in saving, investing, and borrowing; and calculate the costs of transportation and travel in a variety of situations.

## ***Overall Curriculum Expectations***

### **Earning, Paying Taxes, and Purchasing**

- Interpret information about different types of remuneration, and solve problems and make decisions involving different remuneration methods;
- Demonstrate an understanding of payroll deductions and their impact on purchasing power;
- Demonstrate an understanding of the factors and methods involved in making and justifying informed purchasing decisions.

### **Saving, Investing, and Borrowing**

- Describe and compare services available from financial institutions;
- Demonstrate an understanding of simple and compound interest, and solve problems involving related applications;
- Interpret information about different ways of borrowing and their associated costs, and make and justify informed borrowing decisions.

### **Transportation and Travel**

- Interpret information about owning and operating a vehicle, and solve problems involving the associated costs;
- Plan and justify a route for a trip by automobile, and solve problems involving the associated costs;
- Interpret information about different modes of transportation, and solve related problems.

## ***Course Content***

<b><i>Unit</i></b>	<b><i>Length</i></b>
Unit 1: Working for your Money	17 hours
Unit 2 : Hello, Good Buy!	14 hours
Unit 3: Bank On It!	18 hours
Unit 4: Making your Money Work	13 hours
Unit 5: It's in your Best Interest	14 hours
Unit 6: You Auto Know	18 hours
Unit 7: Transportations	16 hours
<b>Total</b>	110 hours

## ***Unit Descriptions***

### **Unit 1: Working for your Money**

Students investigate remuneration and personal taxation. Students use appropriate technology to develop a working knowledge of salary, hourly rate, overtime, commission, and personal income tax. Utilizing this information, students investigate the relationship between net pay and gross pay. Opportunities are given for students to explore various spending habits as related to pay period. Students investigate the resources necessary for the completion of personal income tax returns. Throughout this unit, students utilize charts, spreadsheets, and appropriate technology to support their understanding of personal income.

### **Unit 2: Hello, Good Buy!**

Throughout this unit, students are involved in various investigations and activities that allow them to apply responsible decision-making to purchasing situations. Students are given the opportunity to make correct change, perform cost comparisons, and calculate discounts, sale prices, and taxes. Students also identify and compare various purchase plans. Technology is used to enhance student understanding. Students are encouraged to utilize estimation to ensure that their calculated results are reasonable.

### **Unit 3: Bank on It!**

Students explore the world of financial institutions as it relates to saving their money. Particular emphasis is placed on simple and compound interest. Students identify and investigate various financial services in the context of real-life situations. Applying appropriate technology, students calculate investment growth, examine differences between simple interest and compound interest, and compare savings alternatives.

### **Unit 4: Making your Money Work**

Students investigate different types of investment strategies and associated characteristics. Students examine both long-term and short-term investments. Applications of both simple interest and compound interest with varying compounding periods are compared. Using appropriate technology, students analyse expected growth of investments and their associated risks. The results of this analysis enable students to make informed decisions regarding money management to optimize investment opportunities.

### **Unit 5: It's in your Best Interest**

Students investigate the features and conditions of credit cards, debit cards, and short-term loans. Using spreadsheet software, students examine the financial implications of delayed credit card payments and of personal loan features. The total interest paid is compared to the principal amount to determine advantages or disadvantages of borrowing options. Various payment alternatives are explored to make informed decisions regarding available loan features.

## **Unit 6: You Auto Know**

Students investigate the costs of owning and operating both new and used vehicles by collecting data from current resources such as newspapers, Internet, and local car dealers. The long-term fixed and variable-operating costs of buying and leasing vehicles will be compared to the costs of using public transportation. Students explore issues relating to vehicle insurance, to obtaining a driver's license, and to the consequences of irresponsible operation of a vehicle. Particular emphasis is placed on making informed financial decisions. Appropriate technology is used to aid in the analysis of data.

## **Unit 7: Transportations**

Students access authentic resources, such as automobile associations, Internet, and travel guides, to plan an automobile trip, and to identify and estimate any associated costs. Students explore the costs of completing this trip using alternate modes of transportation, such as by airplane, bus, and train. By examining and evaluating the advantages and the disadvantages of these options, students justify and present a decision on the most appropriate choice for their trip.

## ***Teaching/Learning Strategies***

This teacher will:

- use current and local information to promote relevance;
- provide many opportunities for student success;
- provide regular, constructive feedback;
- use positive reinforcement to foster students' confidence in their mathematical abilities;
- provide review and remediation where appropriate;
- integrate technology when appropriate; and
- draw from a workplace setting.

In achieving the expectations of this course, students:

- become independent and active learners;
- recognize the importance of math in the workplace and in daily life;
- investigate and explore concepts using technology;
- utilize a variety of resources to solve problems;
- become informed consumers and develop personal financial management skills;
- use estimation to judge the reasonableness of their answers; and
- create a glossary of terms and add to it on an on-going basis.

## ***Evaluation***

The final grade will be determined as follows:

- Seventy per cent of the grade will be based on evaluation conducted throughout the course. This portion of the grade should reflect the student's most consistent level of achievement throughout the course, although special consideration should be given to more recent evidence of achievement.
- Thirty per cent of the grade will be based on a final evaluation administered at or towards the end of the course. This evaluation will be based on evidence from one or a combination of the following: an examination, a performance, an essay, and/or another method of evaluation suitable to the course content. The final evaluation

allows the student an opportunity to demonstrate comprehensive achievement of the overall expectations for the course (p. 47).

*Growing Success: Assessment, Evaluation and Reporting in Ontario Schools.* Ontario Ministry of Education Publication, 2010, p. 41.

Type of Assessment	Category	Details	Weighting (%)	
<b>Term Work (70%)</b>	Knowledge/ Understanding	-calculate the total interest paid over the life of a personal loan -make the correct change from an amount offered to pay a charge	13	
	Thinking	-compare the effects of various payment periods on the length of time taken to repay a loan and on the total interest paid -compare the unit prices of related items to help determine the best buy	19	
	Communication	-describe the relationship between gross pay, net pay, and payroll deductions -describe ways of failing to operate a vehicle responsibly and possible financial and non-financial consequences -describe the relationship between gross pay, net pay, and payroll deductions	19	
	Application	-solve problems and make decisions involving different remuneration methods and schedules -estimate the sale price before taxes when making a purchase	19	
<b>Final Assessment (30%)</b>	Culminating Activity (15%)	-plan and manage a band tour -investigate vehicle purchase/lease/renting options -calculate travel costs such as fuel, food, hotels -calculate income from tour, including deductions (taxes, IE, etc.) -investigate options for borrowing money to pay for new equipment -produce an investment folder	K/U	3
			T	4
			C	4
			A	4
	Final Exam (15%)	-solve problems from all strands of the course -compare banking options -calculate investment outcomes -calculate costs for travel, plan travel route -calculate loan costs	K/U	3
			T	4
			C	4
			A	4
<b>TOTAL</b>			100	

## **Assessment/Evaluation Strategies**

Teachers should use a variety of assessment methods to assess:

- Understanding/Knowledge through tests and quizzes;
- Thinking/Inquiry/Problem Solving through performance assessment, and projects;
- Communication through performance assessments and presentations;
- Application in familiar settings through tests, quizzes, and performance assessment.

Assessment and Evaluation tools to be used throughout the course may include:

- the four-level Achievement Chart for Mathematics;
- checklists;
- rating scales;
- marking schemes;
- anecdotal comments,
- online forums.

## **Resources**

Ministry of Education, Ontario. (2010) *Growing Success, Assessment, Evaluation, and Reporting in Ontario Schools*. Toronto ON: Queen's Printer for Ontario.

Ontario Ministry of Education (2017). *Indigenous Education Strategy*. Toronto ON: Queen's Printer for Ontario. Retrieved from <http://www.edu.gov.on.ca/eng/aboriginal/>

Ontario Ministry of Education (2016). *Ontario Schools, Kindergarten to Grade 12: Policy and Program Requirements*. Toronto ON: Queen's Printer for Ontario. Retrieved from <http://www.edu.gov.on.ca/eng/document/policy/os/index.html>

## **Websites**

[www.allcanadianjobs.com](http://www.allcanadianjobs.com)

[www.ccr-aadrc.gc.ca](http://www.ccr-aadrc.gc.ca)

[www.bmo.com](http://www.bmo.com)

[www.royalbank.ca](http://www.royalbank.ca)

## **Software**

MS Excel Sheets

Word

Power Point

## **Program Planning**

This course is offered to indigenous students living in northern Ontario communities which do not have access to regular high school facilities, equipment or teachers associated with secondary education. This course uses the internet for instruction, demonstration and research. It utilizes a student-centered semi-virtual classroom which capitalizes on the strengths of internet program delivery to minimize the disadvantages of geographic remoteness.

Students are presented with 1320 minutes of instruction/activity via the internet over the

period of one week. All lessons, assignments, questions and course material is presented in this manner, with approved print materials available as a student resource in each classroom. The student and instructor communicate via the internet, while a classroom mentor (a fully qualified teacher) assists students in completing tasks in a timely manner and provides tutoring as required. . Students may also receive support from various programs at KIHS, including the First Nation Student Success Program and the Special Education Program.

Indigenous and local content is used throughout the course to meet students' learning needs. Considerations are made to the learning preferences of the student population, and lessons can be adjusted for individual students as required.