



DEPARTMENT OF ACADEMIC UPGRADING

Course Outline – Winter 2016

MA0113 (A3): Mathematics Grade 10-3 Equivalent – 5 (5-0-0) HS

INSTRUCTOR: Sukhvir Sandhu **PHONE:** (780) 539-2810 or 2234

OFFICE: A205 or B301B **E-MAIL:** ssandhu@gprc.ab.ca

OFFICE HOURS: TBA

CALENDAR DESCRIPTION:

This course is a modularized program of study which covers unit pricing and currency exchange; earning an income; measurement including surface area and volume; conversion between SI and imperial units, Celsius and Fahrenheit temperature scales; angles and parallel lines; scale diagram of polygon figures; and trigonometry of right triangles.

PREREQUISITES:

MA0091 or MA0093 or equivalent math placement test scores

REQUIRED TEXT/RESOURCE MATERIALS:

- Math Works 10 Workbook; Math Works 10 Textbook will be available to students in the Math Lab during lab hours.
- Other supplies you will need include a binder, lined paper, unlined paper, graph paper, mechanical pencil, scientific calculator, geometry set.

DELIVERY MODE:

- MA 0113 is a modularized math course divided into 8 separate topics called chapters. Each chapter is further divided into sections. Each section introduces one new skill at a time followed by a new term written in **bold letters**, with its explanation on the left margin. Each new skill is demonstrated with an example with clearly stated instructions, followed by **Build Your Skills** exercise questions. Study the term and its explanation and

work through the example before starting the exercise. The answers to all the exercises are available in the back of your workbook.

- The mastery of all the skills covered under each section is further tested in an exercise called **Practice Your New Skills**. Check your work often to make sure you understand the newly introduced concepts. The key to success in working with a one-to-one delivery method is to ask questions whenever you have difficulty understanding the instructions, the examples, or the exercises. **Do not hesitate to ask for help.**
- **Section assignments/tests must be written as listed on page 5**Error! Reference source not found.. Follow these dates as closely as you can. You must revise and review the material thoroughly before taking section(s) test/exam. You are encouraged to write a test early if you are prepared. When writing a test, be sure to show all of your work on the test paper. Marks are given for the method as well as the final answer. Even though 50% is a passing mark, a mark of at least 60% in any section(s) test is recommended.
- **Only one test re-write of your choice is allowed. It will replace the corresponding mark, and must be taken during the last week of classes.**
- Upon completion of the first four chapters, a midterm test will be written on or before **Friday, March 4**. If you miss this date, you will receive a mark of 0% on your midterm. Upon completion of all eight chapters, you will write a three hour final exam. Be sure to leave time to prepare for this important exam! It is worth a large percentage of your final grade.
- **Consult your instructor immediately if you find yourself falling behind schedule.** Your instructor may ask you to spend more time in the Math Lab and get help often. **All tests / rewrite must be written by Monday, April 11**

COURSE OBJECTIVES:

This course introduces students to:

- the concept of conversion between Canadian currency and foreign currencies using proportional reasoning
- the terminology of income such as wages including overtime, salary, contracts, commissions, piecework etc.
- SI units and imperial units and their conversion

- real life problems, using SI and imperial units, that involve surface area and volume of complex figures
- the concept of mass and weight, and temperature conversions
- determining whether two lines are parallel using certain angles
- the characteristics that make triangles similar
- the concept of angle of elevation and angle of depression and primary trigonometric ratios

COURSE OUTCOME:

As a result of taking this course, students will gain the ability to:

- Calculate percent and solve problems that involve unit pricing using proportional reasoning
- Convert between Canadian currency and foreign currencies
- Calculate deductions, given the rate of deductions, and find net pay
- Convert measurement between SI units and imperial units
- Solve problems, using SI and imperial units, that involve the surface area and volume of general and complex 3-D object
- Perform conversions such as between mass and volume, and temperature scales
- Solve problems involving angles and pairs of angles, and parallel, non-parallel, perpendicular and transversal lines
- Identify images that are not similar to the original diagrams
- Solve problems that require the manipulation and application of formulas related to the Pythagorean Theorem and primary trigonometric ratios

TRANSFERABILITY: N/A

GRADING CRITERIA:

GRANDE PRAIRIE REGIONAL COLLEGE			
GRADING CONVERSION CHART			
Alpha Grade	4-point Equivalent	Percentage Guidelines	Designation
A⁺	4.0	90 – 100	EXCELLENT
A	4.0	85 – 89	
A⁻	3.7	80 – 84	FIRST CLASS STANDING
B⁺	3.3	77 – 79	
B	3.0	73 – 76	GOOD
B⁻	2.7	70 – 72	
C⁺	2.3	67 – 69	SATISFACTORY
C	2.0	63 – 66	
C⁻	1.7	60 – 62	
D⁺	1.3	55 – 59	MINIMAL PASS
D	1.0	50 – 54	
F	0.0	0 – 49	FAIL
WF	0.0	0	FAIL, withdrawal after the deadline

**Winter 2016
Topics / Tests / Exams**

Chapter	% towards the Final Exam	Topics	Recommended Test Date	Date Written	Mark Obtained
1&2	10%	Unit Pricing and Currency Exchange & Earning An Income	January 29 Friday		
3&4	10%	Length, Area, and Volume & Mass, Temperature, and Volume	March 2 Wednesday		
Midterm	20%	All of the Above	March 4 Friday		
5&6	10%	Angles and Parallel Lines & Similarity of Figures	March 23 Wednesday		
7&8	10%	Trigonometry of Right Triangles & Review for the Final	April 10 Thursday		
Final Exam	40%		TBA (April 15-26)		

EVALUATION CRITERIA:

Your final mark is determined by:

4 Module tests	40 %
Midterm	20 %
Final Exam	40 %

MA0113 Homework Schedule

Jan. 7 Do: Get familiar with the Math Works Workbook and get to know each other.

Chapter 1: Unit Pricing and Currency Exchange

Jan. 8 Do: Example 1 on page 10 to Build Your Skills ending on page 21.

Jan. 11 Do: Practice Your New Skills on page 21 to Build Your Skills ending on page 31.

Jan. 12 Do: Practice Your New Skills on page 32 to Build Your Skills ending on page 41.

Jan. 13 Do: Example 4 on page 42 to Practice Your New Skills ending on page 48.

Jan. 14 Do: Example 1 on page 49 to Practice Your New Skills ending on page 58.

Jan. 15 Do: Example 1 on page 59 to Practice Your New Skills ending on page 69.

Jan. 18 Do: Chapter Test on page 70 to 73

Chapter 2: Earning an Income

Jan. 19 Do: Example 1 on page 74 to Build Your Skills ending on page 82.

Jan. 20 Do: Example 6 on page 83 to Practice Your New Skills ending on page 86.

Jan. 21 Do: Example 1 on page 87 to Build Your Skills ending on page 94.

Jan. 22 Do: Practice Your New Skills on page 95 to Practice Your New Skills on page 105.

Jan. 25 Do: Example 1 on page 106 to Practice Your New Skills on page 113.

Jan. 26 Do: Chapter Test on page 114 to 117

Jan. 27 & 28 Do: Review for the test

Jan. 29 **Test #1 (Chapter 1 and Chapter 2)** **(Friday)**

Chapter 3: Length, Area, and Volume

Feb. 1 Do: Study page 118 to Build Your Skills ending on page 129.

Feb. 2 Do: Practice Your New Skills on page 129 to Build Your Skills ending on page 132.

Feb. 3 Do: New Skills on page 132 to Practice Your New Skills ending on page 141.

Feb. 4 Do: Example 1 on page 142 to Build Your Skills ending on page 154.

Feb. 5 Do: Practice Your New Skills on page 155 to 157.

Feb. 8 Do: Example 1 on page 158 to Build Your Skills ending on page 166.

Feb. 9 Do: Practice Your New Skills on page 166 to 168.

Feb. 10 Do: Chapter Test on page 169 to 174

Chapter 4: Mass, Temperature, and Volume

Feb. 11 Do: Study page 175 to Practice Your New Skills ending on page 182.

Feb. 12 Do: Example 1 on page 183 to Build Your Skills ending on page 191.

Feb. 22 Do: Practice Your New Skills on page 192 to 194.

Feb. 23 Do: Example 1 on page 195 to Build Your Skills ending on page 200.

Feb. 24 Do: Practice Your New Skills on page 200 to 202.

Feb. 25 Do: Example 1 on page 203 to Practice Your New Skills ending on page 210.

Feb. 26 Do: Chapter Test on page 210 to 213

Feb. 29 & Mar.1 Do: Review for the test

Mar. 2 Test #2 (Chapter 3 & Chapter 4) (Wednesday)

Midterm on Mar. 4 (Friday)

Chapter 5: Angles and Parallel Lines

Mar. 7 Do: Study page 214 to Practice Your Skills ending on page 224.

Mar. 8 Do: Study page 225 to Practice Your New Skills ending on page 230.

Mar. 9 Do: Study page 231 to Practice New Skills ending on page 238.

Mar. 10 Do: Study page 239 to Build Your Skills ending on page 245.

Mar. 11 Do: Practice your New Skills on page 246 to Chapter Test ending on page 252

Chapter 6: Similarity of Figures

Mar. 14 Do: Study page 253 to Build Your Skills ending on page 262.

Mar. 15 Do: Practice Your New Skills on page 262 to Build Your Skills ending on page 269.

Mar. 16 Do: Practice Your New Skills on page 269 to Practice Your Skills ending on page 276.

Mar. 17 Do: Study page 277 to Build Your Skills ending on page 281.

Mar. 18 Do: Practice Your New Skills on page 282 to Chapter Test ending on page 287

Mar. 21 & 22 Do: Review for the test

Mar. 23 Test #3 (Chapter 5 & Chapter 6) (Wednesday)

Chapter 7: Trigonometry of Right Triangles

Mar. 24 Do: Study page 288 to Build Your Skills ending on page 295.

Mar. 28 Do: Practice Your New Skills on page 295 to Build Your Skills ending on page 303.

Mar.29 Do: Example 4 on page 304 to Practice Your New Skills on page 307.

Mar. 30 Do: Study page 308 to Practice Your New Skills ending on page 317.

Mar. 31 Do: Study page 318 to Practice Your New Skills ending on page 323.

Apr. 1 Do: Study page 324 to Build Your Skills ending on page 327.

Apr. 4 Do: Example 3 on page 328 to Practice Your New Skills ending on page 335.

Apr. 5 Do: Chapter test on page 336 to 339

Apr.6 & 7 Do: Review for the test

Apr. 8 Test #4 (Friday)

Final Exam (Apr. 15-26)

STUDENT RESPONSIBILITIES:

In addition to the *Student Rights and Responsibilities* as set out in the college website, the following guidelines will maintain an effective learning environment for everyone:

1. Regular attendance is expected of all students in all mathematics courses. Your success in math is directly linked to your attendance. Attendance will be taken daily.
2. Students are expected to be punctual. Arrive on time for classes and remain for the duration of scheduled classes.
3. Refrain from disruptive talking or socializing during class time.
4. Be respectful of others regarding food or beverages in the classroom. Clean up your eating area and dispose of garbage.
5. Recycle paper, bottles, and cans in the appropriate containers.
6. Children are not permitted in the classrooms.
7. Students are expected to notify the instructor of any extenuating circumstances.

ELECTRONIC DEVICES:

Students are expected to turn off cell phones during class time or in labs. No unspecified electronic devices will be allowed in exams.

STATEMENT OF PLAGIARISM:

Please refer to the College Website for policies regarding plagiarism and cheating as well as the resultant penalties. These are serious issues and will be dealt with severely.

STUDENT PRINTING POLICY:

Please refer to the College website (Home > Tuition and Fees) for the printing policy which limits the free use of paper; extra charges will applied if the limit is exceeded.