GPRC

DEPARTMENT OF ACADEMIC UPGRADING

COURSE OUTLINE – WINTER 2014

Mathematics 30-3 Equivalent

INSTRUCTOR:	Sukhvir Sandhu	**PHONE:**	(780) 539 - 2234
OFFICE:	Math Lab A210 or C310	**E-MAIL:**	ssandhu@gprc.ab.ca
OFFICE HOURS:	Daily, 10:00-11:00 am and 2:30-3:30 pm in the Math Lab		

PREREQUISITE(S)/COREQUISITE:

MA0123 or greater than or equal to 60% in Math 20–3 in the last 2 years

REQUIRED TEXT/RESOURCE MATERIALS:

Math Works 12 Workbook, scientific calculator, graph paper

(Math Works 12 Textbook will be available to students in the Math Lab during lab hours.)

CALENDAR DESCRIPTION:

This is a modularized course which covers linear relations; limits to measurement; statistics; probability and odds; properties of geometric figures; transformations; trigonometry of oblique triangles; planning for and owning a small business. Emphasis is placed on applications related to trades and personal use.

CREDIT/CONTACT HOURS:

MA 0133, Mathematics 30 - 3 Equivalent 5 (5-0-0)

Time: 75 Hours

DELIVERY MODE:

MA 0133 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 on-line under the link http://pacificedpress.ca/files/books/MW12-WB-AK.pdf . 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.**

After each chapter you must write a test. When writing a test, be sure to show all of your work on the test paper. Marks are given for method as well as for final answers. A passing mark of 60% is required on the test before continuing on to the next chapter. If you are unable to attain this mark, you must review the material and rewrite the test. The first and second test marks will be averaged.

A 50-minute midterm, which will cover the first four chapters, must be written by **Friday, February 28.** If you miss this date, you will receive a mark of 0% on your midterm. Upon completion of all the seven chapters, you will write a three hour final exam. Be sure to leave time to prepare for these important exams!   They are worth a large percentage of your final grade.

The recommended test date for each chapter and the midterm is included in this outline. Follow these dates as closely as you can. You are encouraged to write a test early if you are prepared. **Consult your instructor immediately if you find yourself falling behind schedule.** Your instructor may need to reassess your math skills to ensure that you are placed in a course where you can be successful**. All tests must be written by April 14.**

Bonus
When you write your module tests on or before the given date, you will be awarded an additional 2% on your score for each test.

SUCCESS STANDARD:
Although 50% is considered a pass for this course, if you wish to be successful at the next level, we strongly recommend that you achieve a mark of 60% or better.

GRADING CRITERIA:
Your final mark is determined by:

8 Chapter tests	48%
Midterm	17%
Final Exam	35%

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**

TRANSFERABILITY:
This course is listed in the Alberta Transfer Guide. It is accepted at colleges and universities in Alberta as equivalent to Mathematics 30 – 3.

Learning Outcomes:

1. **Linear Relations**
   - Recognize linear and non-linear relations in graphs, tables of values, and equations.
   - Create table of values and graph.
   - Write equations representing linear relations.
   - Study trends in data displayed in scatterplots and use equations to express linear trends.
   - Use equations to extrapolate and interpolate data based on a trend.

2. **Limits to Measurement**
   - Explore the concept of measurement accuracy.
   - Examine the concept of measurement precision.
   - Distinguish between accuracy and precision.
   - Calculate measurement uncertainty.
   - Examine acceptable tolerance in various workplaces.

3. **Statistics**
   - Discover different forms for expressing an average.
   - Determine what a percentile rank is and how to calculate it.
   - Investigate the similarities and differences between average and percentiles.

4. **Probability and Odds**
   - Express a given probability as a fraction, decimal, percent, or in a statement form.
   - Calculate the probability of an event occurring based on a data set or based on the odds for or against.
   - Explain the difference between odds and probability.
   - Apply probability to analyze and interpret problems.

5. **Properties of Geometric Figures**
   - Describe and show properties of triangles, using side lengths and angle measures.
   - Describe and show properties of quadrilaterals, using side lengths, angle measures, diagonal lengths, and angle of intersection.

- Describe and show properties of regular polygons, including pentagons, hexagons, and octagons.
- Identify uses of different geometric shapes.

6. Transformations
- Identify and draw transformations performed on two-dimensional shapes.
- Identify transformations performed on three-dimensional objects.
- Draw and analyze two-dimensional shapes that result from a combination of successive transformations.
- Create, analyze, and describe designs in all four quadrants of a coordinate plane.
- Solve problems involving transformations.

7. Trigonometry
- The students will work with oblique triangles to solve for:
    - an unknown side length using Sine law;
    - an unknown angle measure using Sine law;
    - an unknown side length using Cosine law;
    - an unknown angle measure using Cosine law.

8. Owning a Small Business
- Explore whether a business is likely to succeed.
- Investigate how a business earns and spends money.
- Examine whether a business makes or loses money.
- Explore ways to improve the financial performance of a business.

Winter 2014
MA0133 Tests / Exams

Chapter	Topic	Recommended Time & Test Date	Date written	Your mark
1	Linear Relations	9 Days Monday, Jan. 20		
2	Limits to Measurements	7 Days Wednesday, Jan. 29		
3	Statistics	8 Days Monday, Feb. 10		
4	Probability and Odds	7 Days Wednesday, Feb. 26		
	Review for the Midterm	1 Day		
	Midterm – must be written on or before	**Friday, Feb. 28**		
5	Properties of Geometric Figures	8 Days Wednesday, March 12		
6	Transformations	7 Days Friday, March 21		
7	Trigonometry	7 Days Tuesday, April 1		
8	Owning a Small Business	8 Days Friday, April 11		
	Review for the Final	1 Days		
	Final Exam – 3 Hours	**T.B.A** **April 16 - 28**		

STUDENT RESPONSIBILITIES:

In addition to the *Student Rights and Responsibilities* as set out in the **College Calendar** (pages 47-50), the following guidelines will maintain an effective learning environment for everyone.

1. Attend math classes regularly; your success in math is directly linked to your attendance. Attendance will be taken daily.

2. Arrive on time for class and remain for the duration of the scheduled class.

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. Arrange appropriate childcare; children are not permitted in the classroom.

7. Notify your instructor of any extenuating circumstances which may affect participation in class.

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 ON PLAGIARISM:

Please refer to pages 48-49 of the College Calendar regarding plagiarism, cheating, and the resultant penalties. These are serious issues and will be dealt with severely.