



Grande Prairie Regional College
Department: Academic Upgrading

COURSE OUTLINE—FALL 2008

INTRODUCTION TO MATH 0131

Instructor: _____

Phone number: _____

Instructor's office: _____

Email: _____

Calendar Description:

MA 0131 Mathematics Grade 12 Calculus Equivalent 5 (5-0-0) Time: 75 Hours

Description: This course includes slopes and tangents, distance, velocity and acceleration, maxima and minima, sequences, limits and derivatives, derivatives of functions, tangents, derivatives and graphs, further applications of derivatives and anti-derivatives.

Prerequisite: [MA 0120](#) or equivalent (Pre- or Co requisite [MA 0130](#)).

Resource requirements:

Scientific calculator

Package of MA0131 Modules (2007)

Attendance:

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 during class. Any student **missing more than 15 classes may be debarred from writing the final exam.**

Course Delivery and Evaluation:

This course is divided into 9 separate units called modules. The instructions for each topic are given in the modules, followed by several examples and exercises. Study the instructions and work through the examples before starting each exercise. The answers for each exercise are given at the end of the module. Check your work **often** to make sure you understand each new topic.

The key to success in working with modules 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 module 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 final answer. A passing mark of 50% is required on the test before continuing on to the next module. 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 modules, must be written by **Monday, October 20**. If you miss this date, you will receive a mark of 0% on your midterm. Upon completion of all the course modules, 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 module and the midterm is on the next page. 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 Monday December 8, 2008.**

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.

Your final mark is determined by:

9 module tests	45%
Midterm	15%
Final Exam	40%

Final grades are given as follows:

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	76 - 79	
B	3.0	73 - 75	Good
B-	2.7	70 - 72	
C+	2.3	67 - 69	Satisfactory
C	2.0	64 - 66	
C-	1.7	60 - 63	
D+	1.3	55 - 59	Minimal Pass
D	1.0	50 - 54	
F	0.0	0 - 49	<i>Fail</i>

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Module	TOPIC/DESCRIPTION	Recommended Time & Test Date	Date written	Your mark
1	Review -review of factoring, rational expressions, rationalizing numerators & denominators, functional notation, graphs of functions.	6 days September 11 Thursday		
2	Limits -limits of sequences and series -left and right-hand limits; continuity	7 days September 22 Monday		
3	The Derivative -secants, tangents and normals -derivatives from first principles -power rule; sum or difference rule; derivative of a constant; derivative and slope relation	8 days October 2 Thursday		
4	More Derivatives - chain rule, product rule, quotient rule -implicit differentiation -derivatives of higher order	9 days October 16 Thursday		
	MIDTERM - must be written on or before	Monday October 20		
5	Curve Sketching -graph sketching using first and second derivatives	5 days October 27 Monday		
6	Applications: Maximum/Minimum -maximum/minimum problems involving numbers or geometry -extreme values of distance and time	6 days November 4 Tuesday		
7	Applications: Rate of Change -applications involving velocity, acceleration, area, volume, related motion	7 days November 17 Monday		
8	Anti-derivatives and Area -introduction to antiderivatives; families of curves -differential equations -the antiderivative as an area -position from velocity, velocity from acceleration	9 days November 28 Friday		
9	Derivatives of Trigonometric Functions -trigonometric identities -limits of trigonometric functions -derivatives of trigonometric functions	6 days December 8 Monday		
	FINAL EXAM - 3 HOURS	To be announced (Dec. 10 – 19)		

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Homework Schedule

1. Review

1 2 3 4 5
Sept.4 5 8 9 10

Test: Thursday Sept. 11

2. Limits

1 2 3 4 5 Review
Sept.12 15 16 17 18 19

Test: Monday Sept. 22

3. The Derivative

1 2 3 4 5 6 Review
Sept.23 24 25 26 29 30 Oct. 1

Test: Thursday Oct.2

4. More Derivatives

1 2 2&3 3 4 4 5 Review
Oct.3 6 7 8 9 10 14 15

Test: Thursday Oct. 16

Midterm Exam on Monday October 20

5. Curve Sketching

1 2 2 Review
Oct.21 22 23 24

Test: Monday Oct. 27

6. Applications: Maximum/Minimum

1 2 3 4 Review
Oct.28 29 30 31 Nov.3

Test: Tuesday Nov. 4

7. Applications: Rate of Change

1 2 3 4 5 Review
Nov.5 6 7 12 13 14

Test: Monday Nov. 17

8. Anti-derivatives and Area

1 2 3 4 5 6 7 Review
Nov.18 19 20 21 24 25 26 27

Test: Friday Nov. 28

9. Derivatives of Trigonometric Functions

1&2 3 4 5 Review
Dec.1 2 3 4 5

Test: Monday Dec. 8

The Academic Upgrading Department is an adult education environment. Students are expected to show respect for each other as well as faculty and staff. They are expected to participate fully in achieving their educational goals in a timely manner.

Certain activities are disruptive and not conducive to an atmosphere of learning. In addition to the ***Student Rights and Responsibilities*** as set out in the College calendar, the following guidelines will maintain an effective learning environment for everyone. We ask the cooperation of all students in the following areas of classroom deportment.

1. Students are expected to turn off cell phones during class time or in labs.
2. Refrain from disruptive talking or socializing during class time.
3. Be respectful of others regarding food or beverages in the classroom. Clean up your eating area and dispose of garbage.
4. Recycle paper, bottles and cans in the appropriate containers.
5. Students are expected to be punctual. Arrive on time for classes and remain for the duration of scheduled classes or related activities.
6. Children are not permitted in the classrooms.
7. Students are expected to notify his/her instructor of any extenuating circumstances.

Electronic Devices

No unspecified electronic devices will be allowed in exams.

Success Standard

Although 50% is considered a pass in most courses, if you wish to be successful at the next level, we strongly recommend that you have a mark of 60% or better in your pre-requisite courses.

Examinations:

The final exam will be 3 hours long and is scheduled by the registrars' office during December 10 – 19.

Statement on Plagiarism:

The instructor reserves the right to use electronic plagiarism detection services.