Grande Prairie Regional College
Department: Academic Upgrading

COURSE OUTLINE—WINTER 2009 (No Friday Class)

INTRODUCTION TO MATH 0131

Instructor: **Sukhvir Sandhu**   Phone number: 539-2234 or 2810

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Calendar Description:

MA0131 Mathematics Grade 12 Calculus Equivalent 5 (5-0-0) Time: 75 Hours

Description: This course includes limits of sequences, series and functions, secants and tangents, derivatives from first principles, chain rule, product rule, quotient rule, implicit differentiation, curve sketching, maximum and minimum applications, related rates applications, anti derivatives and area, limits and derivatives of trigonometric functions. Prerequisite: MA0120 or equivalent (Pre- or Co-requisite MA0130).

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 for the 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 **Wednesday February 25**. 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 Tuesday 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.

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	*Fail*

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 Tuesday January 13		
2	Limits -limits of sequences and series -left and right-hand limits; continuity	7 days Thursday January 22		
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 Tuesday February 3		
4	More Derivatives - chain rule, product rule, quotient rule -implicit differentiation -derivatives of higher order	9 days Monday February 23		
	MIDTERM - must be written on or before	**Wednesday February 25**		
5	Curve Sketching -graph sketching using first and second derivatives	5 days Wednesday March 4		
6	Applications: Maximum/Minimum -maximum/minimum problems involving numbers or geometry -extreme values of distance and time	6 days Thursday March 12		
7	Applications: Rate of Change -applications involving velocity, acceleration, area, volume, related motion	7 days Monday March 23		
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 Thursday April 2		
9	Derivatives of Trigonometric Functions -trigonometric identities -limits of trigonometric functions -derivatives of trigonometric functions	6 days Tuesday April 14		
	FINAL EXAM - 3 HOURS	**To be announced (Apr. 16-27)**		

MA0131 Winter 2008
Homework Schedule (No Friday Class)

1. Review

1	2	3&4	5		**Test: Tuesday Jan. 13**
Jan.6	**7**	**8**	**12**		

2. Limits

1	2	3	4	5	Review	**Test: Thursday Jan. 22**
Jan.13	**14**	**15**	**19**	**20**	**21**	

3. The Derivative

1	2	3	4	5&6	Review	**Test: Tuesday Feb. 3**
Jan.22	**26**	**27**	**28**	**29**	**Feb.2**	

4. More Derivatives

1	2	2&3	3	4	4	5&Review	**Test: Monday Feb. 23**
Feb.3	**4**	**5**	**9**	**10**	**11**	**12**	

Midterm Exam on Wednesday February 25

5. Curve Sketching

1	2	2	Review	**Test: Wednesday Mar. 4**
Feb.25	**26**	**Mar.2**	**3**	

6. Applications: Maximum/Minimum

1	2	3	4	Review	**Test: Thursday Mar. 12**
Mar.4	**5**	**9**	**10**	**11**	

7. Applications: Rate of Change

1	2	3	4	5&Review	**Test: Monday Mar. 23**
Mar.12	**16**	**17**	**18**	**19**	

8. Anti-derivatives and Area

1	2	3	4	5	6	7& Review	**Test: Thursday Apr. 2**
Mar.23	**24**	**25**	**26**	**30**	**31**	**Apr.1**	

9. Derivatives of Trigonometric Functions

1	2	3	4	5	Review	**Test: Tuesday Apr. 14**
Apr.2	**6**	**7**	**8**	**9**	**13**	

AUD STUDENT CLASSROOM DEPORTMENT GUIDELINES DRAFT May 2008

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 April 16 – 27.

Statement on Plagiarism:
The instructor reserves the right to use electronic plagiarism detection services.