

## **DEPARTMENT OF SCIENCE**

# COURSE OUTLINE – MA1000 ENGINEERING CALCULUS I FALL 2012

**INSTRUCTOR:** Dallas Sawtell **PHONE:** 539-2989

**OFFICE:** C204 **E-MAIL:** dsawtell@gprc.ab.ca

OFFICE HOURS: TBA

PREREQUISITE(S)/COREQUISITE: Pure Math 30 and Math 31 are prerequisites

**REQUIRED TEXTS:** Calculus Early Transcendentals by James Stewart

**CALENDAR DESCRIPTION:** Polar coordinates, analytic geometry, functions, transcendental functions, limites, continuity, derivatives and applications, Taylor expansion, integration and applications.

CREDIT/CONTACT HOURS: (3-2-0) 4 credits

**DELIVERY MODE(S):** Lecture: A2 M W 10:30-11:20 J228

F 9:30-10:20 J228

Seminar: AS1 T 2:30-4:20 J228

AS2 W 2:30-4:20 J228

### **COURSE SCHEDULE:**

2.1-2.8 Limits, Continuity and The Definition of a Derivative

3.1-3.6,3.9-3.11 Derviatives of Polynomials, Exponentials, Logarithms, Trigonometric Functions, Inverse

Trigonometric Functions, Hyperbolic and Inverse Hyperbolic Functions, the Product

and Quotient Rule, Chain Rule, Related Rates and Linear Approximation, Differentials

4.1-4.5,4.7,4.9 Maximum and Minimums, Mean Value Theorem, Rolle's Theorem, Increase, Decrease,

Graphing, L'Hospital's Rule, Optimization Problems, Antiderivatives

5.1-5.5 Areas and Distances, The Definite and Indefinite Integral, The Fundamental Theorem

of Calculus, The Substitution Rule

6.1 Area Between Curves

11.10 Taylor and Maclaurin Series

14.3 Partial Derivatives

## TRANSFERABILITY: See www.gprc.ab.ca and www.acat.gov.ab.ca

\*\* Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions and may not meet the prerequisite requirements for other math courses. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability

#### **GRADING CRITERIA:**

GRANDE PRAIRIE REGIONAL COLLEGE			
GRADING CONVERSION CHART			
Alpha Grade	4-point Equivalent	Percentage Guidelines	Designation
$\textbf{A}^{^{+}}$	4.0	95 – 100	EXCELLENT
Α	4.0	90 – 94	
A <sup>-</sup>	3.7	85 – 89	FIRST CLASS STANDING
B <sup>+</sup>	3.3	80 – 84	
В	3.0	75 – 79	GOOD
B <sup>-</sup>	2.7	70 – 74	
C <sup>+</sup>	2.3	66 – 69	SATISFACTORY
С	2.0	62 – 65	
c⁻	1.7	58 – 61	
D <sup>+</sup>	1.3	55 – 57	MINIMAL PASS
D	1.0	50 – 54	
F	0.0	0 – 49	FAIL
WF	0.0	0	FAIL, withdrawal after the deadline

**EVALUATIONS:** Worksheets 10%

Quizzes 15% Every other Monday, starting Sept. 17

Midterm 25% Wednesday, Oct. 24

Final Exam 50% Dec. 13-22 inclusive including Saturdays and evenings

**STUDENT RESPONSIBILITIES:** Students are responsible for all lecture material, seminars and readings. Students are expected to practice the material by doing problems from the textbook. No late worksheets will be accepted. Quizzes cannot be made up if missed. If the midterm is missed due to illness the weight will be put on the final (ie. the final will be worth 75%). If the final is missed due to illness it will be deferred (see calendar for information). A doctor's note and a phone message or email will be required in both cases.

**STATEMENT ON PLAGIARISM AND CHEATING:**Refer to the Student Conduct section of the College Admission Guide at <a href="http://www.gprc.ab.ca/programs/calendar/">http://www.gprc.ab.ca/programs/calendar/</a> or the College Policy on Student Misconduct: Plagiarism and Cheating at <a href="http://www.gprc.ab.ca/about/administration/policies/\*\*">www.gprc.ab.ca/about/administration/policies/\*\*</a>

<sup>\*\*</sup>Note: all Academic and Administrative policies are available on the same page.