



## DEPARTMENT OF SCIENCE

### COURSE OUTLINE – MA1010 ENGINEERING CALCULUS II WINTER 2012

**INSTRUCTOR:** Dallas Sawtell                      **PHONE:** 539-2989  
**OFFICE:** C204    **E-MAIL:** dsawtell@gprc.ab.ca

**OFFICE HOURS:** TBA

**PREREQUISITE(S)/COREQUISITE:** MA1000

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

**CALENDAR DESCRIPTION:** Applications of integration to lengths, areas, and volumes. Methods of integration, polar coordinates and parametric equations, vector functions and derivatives. Sequence and series.

**CREDIT/CONTACT HOURS:** (3-1-0) 3.5 credits

**DELIVERY MODE(S):** Lecture:                      A3                      T R 8:30-10:00 J228  
Seminar:    AS1                      M 12:30-1:30 J228

#### COURSE SCHEDULE:

6.2, 6.3                      Volumes by Slicing, Discs and Cylindrical Shells  
7.1-7.5, 7.7, 7.8                      Integration by Parts, Trigonometric Integrals, Trigonometric Substitution, Integration of Rational Functions by Partial Fractions, Approximate Integrations, Improper Integrals  
8.1, 8.2                      Arc Length and Area of a Surface of Revolution  
9.1-9.3, 9.5                      Separable and Linear Differential Equations  
10.1-10.4                      Curves defined by Parametric Equations, Calculus of Parametric Curves, Polar Coordinates, Areas and Lengths in Polar Coordinates  
11.1-11.11                      Sequence and Series, Integral and Comparison Tests, Alternating Series, Absolute Convergence and the Ratio and Root Tests, Power Series, Taylor and Maclaurin Series  
12.6, 13.1-13.4                      Cylinders and Quadric Surfaces, Vector Functions and Space Curves, Derivatives and Integrals of Vector Functions, Arc Length and Curvature, Motion in Space, Velocity and Acceleration

**TRANSFERABILITY:** See [www.gprc.ab.ca](http://www.gprc.ab.ca) and [www.acat.gov.ab.ca](http://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
A <sup>+</sup>	4.0	95 – 100	EXCELLENT
A	4.0	90 – 94	
A <sup>-</sup>	3.7	85 – 89	FIRST CLASS STANDING
B <sup>+</sup>	3.3	80 – 84	
B	3.0	75 – 79	GOOD
B <sup>-</sup>	2.7	70 – 74	
C <sup>+</sup>	2.3	66 – 69	SATISFACTORY
C	2.0	62 – 65	
C <sup>-</sup>	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 Thursday, starting Jan. 12  
 Midterm 25% Thursday, Feb 16  
 Final Exam 50% April 16-26 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 <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at [www.gprc.ab.ca/about/administration/policies/\\*\\*](http://www.gprc.ab.ca/about/administration/policies/**)

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