



**DEPARTMENT SCIENCE**  
**COURSE OUTLINE – WINTER 2017**

**MA1010 : CALCULUS II – 3.5 (3-1-0) 60 Hours**

**INSTRUCTOR:** Dallas Sawtell                      **PHONE:** 780-539-2989  
**OFFICE:** C412    **E-MAIL:** dsawtell@gprc.ab.ca  
**OFFICE HOURS:** TBA

**CALENDAR DESCRIPTION:** The course includes applications of integration to lengths, volumes and masses. Transcendental functions. Methods of integration, polar coordinates and parametric equations, vector functions and derivatives are explored.

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

**REQUIRED TEXT/RESOURCE MATERIALS:** Calculus Early Transcendentals by James Stewart

**DELIVERY MODE(S):** Lecture: A3      M W F      9:30-10:30 J228  
Seminar: AS1      M      11:30-12:30 J228

**COURSE OBJECTIVES:** A successful student will be able to adequately demonstrate an understanding of the calculus concepts stated in the outcomes.

**LEARNING OUTCOMES:**

- 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
- 11.1-11.9              Sequence and Series, Integral and Comparison Tests, Alternating Series, Absolute Convergence and the Ratio and Root Tests, Power 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:**

Please consult the Alberta Transfer Guide for more information ([www.albertatransfer.com](http://www.albertatransfer.com))

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

<b>EVALUATIONS:</b> Worksheets	10%
Quizzes	15% Every other Wednesday, starting Jan. 11
Midterm	25% Friday, February 17
Final Exam	50% April 17-27 inclusive including Saturdays and evenings

**GRADING CRITERIA:**

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**. This means **DO NOT GET LESS THAN “C-” IF YOU ARE PLANNING TO TRANSFER TO A UNIVERSITY**. And a D or a D+ may not be accepted as a prerequisite at the college and elsewhere.

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	95-100	C+	2.3	66-69
A	4.0	90-94	C	2.0	62-65
A-	3.7	85-89	C-	1.7	58-61
B+	3.3	80-85	D+	1.3	55-57
B	3.0	75-79	D	1.0	50-54
B-	2.7	70-74	F	0.0	00-49

**COURSE SCHEDULE/TENTATIVE TIMELINE:** See course outcomes.

**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.

Cellphone use is not permitted in the classroom. This includes texting. Please turn off and put away your cellphone during class. You may be asked to leave the classroom if using a cellphone.

No recording of any kind is allowed in the class, seminar or during consultation with the instructor.

**STATEMENT ON PLAGIARISM AND CHEATING:**

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, 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.