GPRC

DEPARTMENT OF SCIENCE

COURSE OUTLINE – Fall 2019

MA1000 A2: CALCULUS I – 4 (3-2-0) UT

75 Hours for 15 Weeks

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

CALENDAR DESCRIPTION: This course covers coordinates, polar coordinates, analytic geometry, functions, transcendental functions, limits, continuity, derivatives and applications, Taylor expansion, integration and applications.

PREREQUISITE: Math 30-1 and Math 31 or equivalent

REQUIRED TEXT/RESOURCE MATERIALS: We will use a free open source textbook found at www.lyryx.com . You do not need to register. Go to the website and click on subjects, Math and Statistics and go to the bottom of that page. We will mainly use the Open Stax ALLY book titled Calculus Volume 1 . The authors are G. Strang and E, "Jed" Herman. Another resource is Differential Calculus and Integral Calculus textbooks and problem books at http://www.math.ubc.ca/~CLP/index.html

DELIVERY MODE(S): Lecture: A2   M W F   9:30-10:20 J204
Seminar: AS1   T   11:00-1:50 J201

COURSE OBJECTIVES: The aim of this course is to present the fundamental ideas and techniques of calculus alongside its many applications to science and engineering.

LEARNING OUTCOMES:
A successful student will be able to adequately demonstrate an understanding of the concepts stated below (among others): From Calculus Volume I Open Stax

2.1-2.5	Limits, Continuity and The Definition of a Derivative
3.1-3.9, 6.9	Derviatives of Polynomials, Exponentials, Logarithms, Trigonometric Functions, Inverse Trigonometric Functions, Hyperbolic and Inverse Hyperbolic Functions, the Product and Quotient Rule, Chain Rule
From Volume 3: 4.3	Partial Derivatives
4.1-4.8,4.10	Related Rates and Linear Approximation, Differentials, Maximum and Minimums, Mean Value Theorem, Rolle's Theorem, Increase, Decrease, Graphing, L'Hopital's Rule, Optimization Problems, Antiderivatives
From Volume 2: 6.3, 6.4	Taylor and Maclaurin Series
5.1-5.7	Areas and Distances, The Definite and Indefinite Integral, The Fundamental Theorem of Calculus, The Substitution Rule
6.1	Area Between Curves

TRANSFERABILITY: Please consult the Alberta Transfer Guide for more information.

http://www.transferalberta.ca or

http://alis.alberta.ca/ps/tsp/ta/tbi/onlinesearch.html?SearchMode=S&step=2

** 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**

EVALUATIONS:	Worksheets during the seminars	10%
	Quizzes every other Wednesday starting Sept 11	15%
	Midterm Wednesday Oct 23	25%
	Final Exam Dec 11-20 inclusive (including Saturdays and evenings) 50%	

It is the student's responsibility to be available to write the final exam at the scheduled time. Writing early is not permitted.

 No calculators or formula sheets are allowed on quizzes, midterm or the final exam

COURSE SCHEDULE/TENTATIVE TIMELINE: See Learning Outcomes

GRADING CRITERIA:

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

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 all 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: : 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 http://www.gprc.ab.ca/about/administration/policies/

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