

Single Variable Calculus II

Classes:	Mon-Fri 9:00-10:00 a.m. in Room 2601
Instructor:	Tim Topper, Ph.D.
Office:	C2211 (in the southeast corner of the library)
Phone:	668-8775
Email:	ttopper@YukonCollege.yk.ca
Office Hrs:	Feel free to drop by my office anytime, or make an appointment by email or in class if you want to ensure my availability.

Course description

This is a second course in calculus with emphasis placed on integration. The topics include log and exponential functions, techniques of integration, improper integrals, linear differential equations, infinite series, polar coordinates and parametric equations.

Prerequisites

Math 100 or equivalent.

Required textbooks/materials:

Anton, Howard, Irl Bivens and Stephen Davis. *Calculus: Single Variable (Late transcendentals)*. Ninth edition. New York: Wiley, 2009. ISBN: 978-0-470-18347-2.

Equivalency/transferability:

KWAN	Math 1220 (3)	OC	Math 122 (3)
SFU	Math 152 (3) – Q	TRU	Math 1240 (3)
TRU-OL	Math 1241 (3)	TWU	Math 124 (3)
UAF	Math 201 (3)	UAS	Math 201 (3)
UBC	Math 101 (3)	UBCO	Math 101 (3)
UFV	Math 112 (3)	UNBC	Math 101 (3)
UR	Math 111 (3)	UVIC	Math 101 (1.5)
VIU	Math 122 (3)		

For more information about transferability contact the School of Science office.

Delivery methods/format

The course content is covered through lectures, tutorials and assignments using the prescribed textbook. *Most students find the course demanding. You should plan on spending between two and four hours in study and preparation outside class for each hour spent in class.*

Attendance and Participation

Attendance is strongly recommended.

Missing a quiz or examination (either by absence or arriving too late to write) will normally mean forfeiture of the mark. An opportunity to write a missed quiz will be granted *only for documented medical illness or similar emergency*. Vacation scheduling is not an acceptable excuse for missing or re-scheduling a quiz or examination.

Homework

The only way to learn math is to do math. The bulk of a student's time outside class should be spent doing problems. To this end, problems will be assigned in most classes, and solutions to them will be available on the course website.

Quizzes (30%)

There will be *around* ten quizzes during the term, worth 30% of the final mark. Most questions on the quizzes will be drawn from the assigned problems, thus completing the homework should guarantee good quiz results. Missed quizzes cannot be made up, but the lowest quiz result will be discarded.

Midterm (20%)

There will be one midterm test, likely on February 19th, worth 20%.

Final Examination (50%)

A comprehensive final examination will be held at the end of the term. The examination date will be announced as soon as it is set.

Evaluation

Quizzes	30%
Mid-term test	20%
Final examination	50%

Plagiarism

Plagiarism involves representing the words of someone else as your own, without citing the source from which the material is taken. If the words of others are directly quoted or paraphrased, they must be documented according to standard procedures (APA). The

resubmission of a paper for which you have previously received credit is considered a form of plagiarism.

Plagiarism is academic dishonesty, a serious academic offence, and will result in you receiving a mark of zero (F) on the assignment or the course. In certain cases, it can also result in dismissal from the college.

Students with disabilities or chronic conditions

Reasonable accommodations are available for students with a documented disability or chronic condition. It is the student's responsibility to seek these accommodations. If a student has a disability or chronic condition and may need accommodation to fully participate in this class, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.

Week	Topic
1	Log and exponential functions 6.1 Exponential and Logarithmic functions 0.4 Inverse Functions 6.2 Derivatives and integrals involving Logarithmic functions 6.3 Derivatives of inverse functions; Derivatives and integrals of exponential functions
2	6.4 Graphs and applications involving logarithmic and exponential functions 6.5 L'Hôpital's rule 6.6 Logarithmic functions from the integral point of view 6.8 Hyperbolic functions and hanging cables.
3	Techniques of Integration 7.2 Integration by Parts 7.3 Trigonometric Integrals
4	7.4 Trigonometric Substitutions 7.5 Integration using Partial Fraction Expansions
5	7.6 Tables of Integrals 7.8 Improper Integrals 7.7 Numerical Integration: Simpson's Rule
6	Differential Equations 8.1 First order Differential Equations
7	8.3 Modelling with first-order differential equations Midterm
8	Infinite Series 9.1-9.2 Sequences
9	9.3 Infinite series 9.4 Convergence Tests 9.5 More Convergence Tests
10	9.6 Alternating Series 9.8 Maclaurin and Taylor series; Power series <i>March 20th is the last day to withdraw without academic penalty.</i>
11	<i>Reading Week</i>
12	9.7 Maclaurin and Taylor polynomials 9.9 Taylor Series Convergence 9.10 Differentiating and Integrating Power Series; Modeling with Taylor series
13	Analytic Geometry 10.1 Parametric Equations 10.2 Polar Coordinates 10.3 Area in Polar Coordinates
14	Review and Exam Preparation
15-16	Examination Period

**School of Science
Mathematics 101
Winter 2015**