

# MATH 101 Section V01 (Vantage College)

## Course Outline

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### RESOURCES

**Webpage.** All homework assignments and announcements will be posted on the course webpage, which is [www.math.ubc.ca/~nagata/m101/](http://www.math.ubc.ca/~nagata/m101/).

**The teaching team and types of teaching.** This course is taught by a team of 7 instructors. A typical week will include the following classes.

1. One *lecture*, normally on Monday, taught by your main instructor. The lecture will introduce the theoretical framework and main results for the week.
2. Two *recitations*, normally on Wednesday and Friday, taught by your recitation instructors. Recitations provide a chance to extend and explore the material introduced in the Monday lecture.

*In all of your classes, but particularly in your recitations, you are required to participate actively — to ask questions, propose solutions to problems and extend results.*

Contact information for the teaching team is as follows. “MI”, “GRI” and “URI” refer to “main instructor”, “graduate recitation instructor” and “undergraduate recitation instructor”, respectively.

Name	Role	Email	Office	Recitation(s)
Chan Gwak	URI	chan950927@gmail.com	–	V2B
Kevin Multani	URI	kevinmultani@gmail.com	–	V2D
Wayne Nagata	MI	nagata@math.ubc.ca	MATH 112	–
Megan Nantel	URI	megannantel@gmail.com	–	V2C
Vanessa Radzimski	GRI	ver09@my.fsu.edu	–	V2B, V2C
Pam Sargent	GRI	psargent@math.ubc.ca	AUDX 137	V2A, V2D
Emily Tyhurst	URI	emily@dogmead.com	–	V2A

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**Office hours.** Office hours provide an opportunity to ask questions about homework or mathematics in general. Office hours will take place on Wednesdays from 12:00 to 2:00, in ORCH 4016. You may also book appointments over email.

**Piazza.** Piazza is an online forum where you are encouraged to post and answer questions. If you email one of your instructors about a mathematics question, we will usually reply by asking you to post the question on Piazza, where others may benefit from it. There is a link to Piazza on the course web page.

**Textbook.** For this Vantage College section V01 of MATH 101, the textbook is *A first course in calculus*, by Fok-Shuen Leung, available online at [www.math.ubc.ca/~fsl/A first course in calculus.pdf](http://www.math.ubc.ca/~fsl/A_first_course_in_calculus.pdf). For other textbooks, see the web page for the non-Vantage College sections of MATH 101: [www.math.ubc.ca/~ward/teaching/101-Winter2017/notes.shtml](http://www.math.ubc.ca/~ward/teaching/101-Winter2017/notes.shtml).

## ASSESSMENT

**Assignments.** There are weekly homework assignments, each comprising up to two components: online problems, and written problems.

To achieve success in this course, assigned work is necessary but not sufficient. You must work through extra problems, some of which will be provided to you. The expectation is that you will spend at least eight hours per week outside the classroom on this course. You are encouraged to work on homework assignments together. However, you must write your solutions independently.

1. The *online problems* assess your technical and computational skills. In general, your answers will be in the form of numbers entered into a field, and only these “final answers” will be graded.

The online problems will be on WeBWorK, which may be accessed through the course webpage. You will need your CWL login and password to access online assignments on WeBWorK.

2. The *written problems* assess your ability to synthesize information and construct arguments. Your answers will be in the form of explanations written in plain English with mathematical notations. You will be graded on the mathematical, logical and grammatical coherence of your explanations, as well as on their economy and creativity. Note that the written problems are at a much more advanced level than the online problems; it is not unusual to spend several days working on them. Solutions to the written problems must be handed in at the beginning of class on the due date. Late assignments will not be accepted.

You are required to typeset these solutions. It is strongly recommended that you use L<sup>A</sup>T<sub>E</sub>X, a document preparation system widely used in mathematics and the sciences.

**Quizzes.** There are weekly quizzes. Each quiz will include a question taken directly from the homework assignments, as well as up to two other questions.

**Tests and exams.** There will be one 90-minute Midterm Test on February 15 at 6:00 p.m. The 150-minute Final Examination will take place in April. Calculators are not permitted on tests and exams.

The first question on the midterm test will assess fundamental technical and computational skills of the sort assessed in the online problems. *You must receive a passing grade on this question.* If you do not receive a passing grade on this question, you will be asked to rewrite it until you pass. However, no matter how many attempts you make before you pass, your original grade will remain.

**Grade summary.** Your final grade is based on assignments (15%), quizzes (15%), the midterm test (20%) and April exam (50%).

## SCHEDULES

**Lecture and recitation schedule.** The first class of every week (normally on Mondays, but occasionally on Wednesdays) will be at 10:00 (Mondays) in HENN 202. 1. The remaining classes (normally on Wednesdays and Fridays) will be recitations. The times and locations of recitations are below.

Recitation	Times	Locations	Instructors
V2A	9:00(W, F)	ORCH 4016(W, F)	Pam Sargent, Emily Tyhurst
V2B	9:00(W, F)	ORCH 3002(W), ORCH 3058(F)	Vanessa Radzimski, Chan Gwak
V2C	2:00(W, F)	ORCH 3016(W), ORCH 4016(F)	Vanessa Radzimski, Megan Nantel
V2D	10:00(W), 2:00(F)	ORCH 3016(W), MATH 225(F)	Pam Sargent, Kevin Multani

**Topics schedule.** An approximate schedule of topics is below. (A = Assignment, Q = Quiz)

Dates	Topic	Notes
Jan. 1–5	Riemann sums and integrability	No class Jan. 1, 3:00 lecture Jan. 3
Jan. 8–12	The Fundamental Theorem of Calculus	A1 due, Q1 on Jan. 12
Jan. 15–19	Techniques of integration, Part I	A2 due, Q2 on Jan. 19
Jan. 22–26	Techniques of integration, Part II	A3 due, Q3 on Jan. 26
Jan. 29–Feb. 2	Volumes	A4 due, Q4 on Feb. 2
Feb. 5–9	Work	A5 due, Q5 on Feb. 9
Feb. 12–16	Power series, Part I	No class Feb. 12, 3:00 lecture Feb. 14, Midterm Test Feb. 15
Feb. 26–Mar. 2	Power series, Part II	
Mar. 5–9	Linear and higher degree approximations, Part I	A6 due, Q6 on Mar. 9
Mar. 12–16	Linear and higher degree approximations, Part II	A7 due, Q7 on Mar. 16
Mar. 19–23	Differential equations, Part I	A8 due, Q8 on Mar. 23
Mar. 26–30	Differential equations, Part II	A9 due, Q9 on Mar. 28, No class Mar. 30
Apr. 2–6	Review	No class Apr. 2