

MATH 222 Section S20N01

Calculus IV

Jan – Apr 2020



VANCOUVER ISLAND
UNIVERSITY

Time & Location: Tue & Thu 10:00-11:30 in Bldg 380 Rm 201, Fri 9:30-10:30 in Bldg 360 Rm 324

Instructor: Glen Pugh
glen.pugh@viu.ca (This is by far the best way to reach me!)
Bldg 359 Rm 201
(250)753-3245 ext. 2752

Office Hours: Mon 2:30-3:30, Tue 12:00-1:00, Thu 1:30-2:30 & Fri 12:30-1:30, or by appointment.
I am available at office hours to answer questions and help with homework. Come prepared to show me your attempted homework, and have your class notes organized.

webpage: <https://web.viu.ca/pughg/Spring2020/math222S20N01>
This page will be updated weekly with announcements, handouts, homework assignments and test solutions.

Prerequisite: Min. "C" in MATH 221.

Text:

1. *Essential Calculus: Early Transcendentals, 2nd Edition* by James Stewart
2. *Differential Equations and Boundary Value Problems, 2nd Custom Ed. for Uvic* by Edwards, Penney, Calvis.

Course Outline: This course has two main topics: vector calculus, an extension of the study of multivariable calculus to vector functions, and differential equations. Topics covered and corresponding sections from the texts are

- ◆ Vector Calculus: 13.1-13.9 of the Stewart text: Vector fields, divergence, gradient and curl operators, line integrals; Green's Theorem; surface integrals; flux; Divergence Theorem; StokesTheorem.
- ◆ Differential Equations: Chapters 1 through 6 of Edwards, Penney & Calvis: first order differential equations, mathematical models, higher order linear equations, Laplace transform methods, power series methods, Fourier series methods.
- ◆ Multivariate Taylor Series: Supplemental material to be provided.

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Homework: Weekly homework assignments from the textbook will be posted on the course website.

Doing practice problems is essential for learning mathematics and it is crucial that you complete and understand all assigned homework. In addition to the assigned problems, you should also attempt additional problems from the text to reinforce your understanding.

It is important that you are able to solve problems on your own; however, you are also encouraged to work together on the problem sets. Explaining your solutions to others and discussing problem solving strategies contributes enormously to your understanding. You may of course also see me for help with homework problems.

Homework will not be collected for grading, though you will be tested on the homework material. Answers to odd-numbered problems are in the back of the text.

Tests: There will be 80 minute class tests given on **Thu Jan 30, Thu Mar 5** and **Thu Apr 2**. Class tests are comprehensive, covering all material since the beginning of the course. Each test is worth 20% of your final grade.

No make-up tests will be given, but if you miss a class test for a good reason allowances may be made. Documentation must be provided to explain your absence: doctor's note in the case of illness, death certificate in the case of death in the family, police report in the case of car accident, etc. No exceptions.

Test absence due to religious observance may be accommodated, however you must notify me in advance of the test and provide full details of the observance in question.

If you are ill on test day and you elect to write the test anyway, your grade will stand.

Final Exam: There will be a comprehensive final exam in April worth 40% of your grade. The exam period is Apr 15-24 2020. Travel plans should not be made until the final exam schedule is released, which is at least one month before exams begin. **In no event will the final exam be rescheduled to accommodate travel plans.**

Grading Summary: Class Tests (3): 60%
Final Exam: 40%

Grade Review: If you do not agree with the grade received on a test, you may submit your paper for regrading within three days of the date it was returned to you. In such cases, the entire paper will be regraded.

There is no possibility of end-of-term extra credit assignments or supplemental exams to improve final grades.

If you miss two or more tests I will recommend that you withdraw from the course, and I will support a request for late withdrawal in the case of medical related issues. I will not support a request for late withdrawal once the final exam has been attempted.

Grading Scale:

A+ : 90-100%	B+ : 76-79%	C+ : 64-67%	D : 50-54%
A : 85-89%	B : 72-75%	C : 60-63%	F : 0-49%
A- : 80-84%	B- : 68-71%	C- : 55-59%	

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**Disability
Access
Services:**

VIU's Disability Access Services (DAS) provides services to students with learning disabilities, mental health disabilities, attention deficit hyperactivity disorder, autism, chronic medical conditions, and impairments in mobility, hearing, and vision.

If you have a disability requiring academic accommodations in this course but are not yet registered with DAS, please contact them at

disabilityaccessservices@viu.ca

or visit them in BLDG 200 (2nd floor). If you are already registered with DAS, please provide me with your accommodation letter, either in person during my office hours or by email.

Attendance:

Attendance will not be taken, however you are encouraged to attend all lectures. If you miss class, read the textbook sections covered and borrow notes from a classmate. I do not lend my class notes.

Student email:

Ensure that you have an active email address listed in your student record and that you check it regularly. I occasionally email the class with reminders or notices.

**Classroom
Environment:**

I like the classroom environment to be relaxed yet respectful. I encourage you to ask questions, discuss the topics at hand, and quietly listen while your colleagues ask questions or offer comments. Please don't sit and chat if you don't feel like being in class on a particular day. Arrive on time, and if you must leave class early for an appointment, please advise me ahead of time so that disruption is minimized. During class, texting, listening to music, surfing the web, etc is rude: please don't do it.

**Academic
Misconduct:**

Incidents of cheating or other academic misconduct carry severe consequences and will be dealt with seriously. Refer to VIU Policy 99.01 and Procedure 99.01.001.

Calculators:

A basic scientific (non-financial, non-calculus, non-programmable, non-graphing) calculator may be used for quizzes, tests and the final exam.

Cell Phones:

Turn off and put away before class. Cell phones may NOT be used as clocks or calculators during tests.

**Formula
Sheets:**

A single double-sided letter-size "cheat sheet" containing formulae, theory and numerical values may be used for tests and the final exam. The cheat sheet may not contain worked examples and must be submitted when you hand in your test (it will be returned to you along with your graded test.)