

MATH 121–Honours Integral Calculus

Section 201 - MTWF 2-3 in Mathematics 102.

Instructor: E. Perkins

Office: Math. Annex 1207, 604-822-6670 **email:** perkins@math.ubc.ca

Course webpage: <http://www.math.ubc.ca/~perkins/teaching.html> will be used for posting homeworks, solutions, practice tests and the occasional handout. Lectures will not be posted.

Canvas will be used to access WebWork (practice only) and check your grades.

Office Hours (start Jan 7): M12-1:50, T 11-12 Math Annex 1207 (with Prof. Perkins)

Text: Calculus: A Complete Course, Loose Leaf Version, 9th Ed., by Robert A. Adams and Christopher Essex. Pearson, 2018, (text *might* be used in 226-227) **OR**

Calculus: Single Variable, 9th Ed., by R. A. Adams and C. Essex. Pearson, 2018.

Further Reading: Calculus, by Michael Spivak (any edition)

Course Outline

The course will be based on topics from chapters 5-9 of the text.

1. Integration (Ch. 5) (2.5 weeks)
2. Techniques of Integration (Ch. 6: 6.1-6.3, 6.5-6.7) (2.5 weeks)
3. Applications of Integration (Ch. 7: 7.1-7.6, 7.8-7.9) (2.5 weeks)
4. Conics, Parametric Curves and Polar Curves (topics from Sec. 8.2-8.6) (1 week)
5. Sequences, Series and Power Series (Ch. 9: 9.1-9.7, 4.10, 6.8) (3.5 weeks)

Grading Scheme

Weekly Assignments: 15

Two Tests **scheduled for Wed. Feb. 12 and Wed. March 18** : 35

Final exam: 50

Weekly homeworks will be assigned and collected in class on Wednesday. No lates. Webwork is not graded—some find it useful for integration practice.

About the Course

Math 121 is an honours version of Math 101, covering mostly the same topics but in greater foundational depth and with more emphasis on harder and/or theoretical exercises. Precise statements of theorems and proofs will be given. The final exam will have a significant overlap with the Math 101 exam. This will be used to normalize the final course grades in Math 121.

The prerequisite for Math 121 is a grade of 68% in Math 120, or 80% in Math 100, 102, 104, 180 or 184, or 5 in AP Calculus AB, or permission of the Undergrad Chair.

Policy on missed assignments and tests.

Students who are unable to hand in a homework due to a medical or equivalent excuse will have that hw not count towards their final grade.

Missing midterms: There are no make-up midterms in this course. Missing the midterm for a valid reason normally results in the weight of that midterm being transferred to the final exam. Examples of valid reasons include illness and travel to play a scheduled game for a varsity team. Examples of reasons that are not valid include conflicts with personal travel schedules or conflicts with work schedules. Any student who misses the midterm is to present to their instructor the Department of Mathematics self-declaration form for reporting a missed assessment to their instructor within 72 hours of the midterm date. This policy conforms with the UBC Vancouver Senate's Academic Concession Policy V-135 and students are advised to read this policy carefully.

Please note that a student who misses the midterm and has otherwise not

completed a substantial portion of the term work normally shall not be admitted to the final examination.

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious, spiritual and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available at <https://senate.ubc.ca/policies-resources-support-student-success>.