

# Mathematics 2131 WA

## Vector Calculus, Fall 2024

**Instructor:** Dr. Luis Santiago

**Email:** lsantiag@lakeheadu.ca

**Lectures:** Mondays and Wednesdays from 2:30 PM to 4:30 PM in room RB 1021.

**Office hours:** Mondays from 4:00 PM to 5:20 PM in room RB 3008.

**Recommended Textbooks:** *Calculus: Early transcendental functions*, by Larson and Edwards, Brooks/Cole. *Calculus* or *Multivariable Calculus* by James Stewart, Books/Cole.

**Course Content:** The course will cover the following topics: vectors and operations on vectors, space coordinates, lines, planes, surfaces, vector-valued functions and their differentiation and integration, tangent and normal vectors, functions of several variables, limits, continuity, partial derivatives of functions of several variables, tangent planes and normal lines, iterated integrals, double integrals, triple integrals, volume and surface areas, Jacobians, line integrals, Green's Theorem, surface integrals, Divergence Theorem, and Stokes' Theorem.

### Grading Scheme:

Assignments	10 %
Midterm Exam 1 (Wednesday February 7)	30 %
Midterm Exam 2 (Wednesday March 13)	30 %
Final Exam	30 %

**Assignments:** Assignments will be collected and graded online using the free online homework system WebWork. A link to WebWork can be found on the d2l webpage of the course.

**Accommodations:** Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please visit:

<http://studentaccessibility.lakeheadu.ca>

**Important Dates:** Please note the following important dates:

Monday January 8	First day of classes
Tuesday April 9	Final day of classes
Friday January 19	Final date to register
Friday March 8	Final date to withdraw
Friday April 12 to Monday April 22	Examination Period
Tuesday April 23	Exam Contingency Date
Monday February 19 to Friday February 23	Study Week