Faculty of Science Course Syllabus  
Department of Mathematics and Statistics  
MATH 2001, Intermediate Calculus  
Fall, 2020

Instructor(s): Robert Milson

Lectures: MWF 15:35-16:25 online

Laboratories: n/a

Tutorials: in class

Course Description
Topics include review of parametric equations, polar coordinates, conic sections, coordinate systems and vectors, dot product and cross product, vector functions, derivatives and integrals of vector functions, arc length and curvature, functions of several variables and partial derivatives, directional derivatives and double and triple integrals.

Course Prerequisites
Math 1010

Course Objectives/Learning Outcomes
Parametric curves and polar coordinates: Chapter 1 (numbers indicate sections in the text)
Three-dimensional vectors and analytic geometry: Chapter 2
Derivatives and integrals of vector functions -- arclength, curvature, velocity, acceleration: Chapter 3
Functions of several variables: 4.1
Partial derivatives: 4.3, 4.4
Multi-variable Chain Rule: 4.5
Directional derivatives and the gradient vector: 4.6
Max and min values, Lagrange multipliers: 4.7, 4.8
Double integrals: 5.1-5.3

Course Materials
OpenStax Calculus 3, https://openstax.org

Course Assessment

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight (% of final grade)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter Tests (8 sessions)</td>
<td>30%</td>
<td>TBA</td>
</tr>
<tr>
<td>Final exam (3 hours)</td>
<td>50%</td>
<td>(Scheduled by Registrar)</td>
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<tr>
<td>online quizzes</td>
<td>20%</td>
<td></td>
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</tbody>
</table>
Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>90-100</td>
</tr>
<tr>
<td>B+</td>
<td>77-79</td>
</tr>
<tr>
<td>C+</td>
<td>65-69</td>
</tr>
<tr>
<td>D</td>
<td>50-54</td>
</tr>
<tr>
<td>A</td>
<td>85-89</td>
</tr>
<tr>
<td>B</td>
<td>73-76</td>
</tr>
<tr>
<td>C</td>
<td>60-64</td>
</tr>
<tr>
<td>F</td>
<td>&lt;50</td>
</tr>
<tr>
<td>A-</td>
<td>80-84</td>
</tr>
<tr>
<td>B-</td>
<td>70-72</td>
</tr>
<tr>
<td>C-</td>
<td>55-59</td>
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</tbody>
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Course Policies

- Be sure to plan your term to include the dates and times of the tests and the examination. Conflicts with travel arrangements, jobs, etc. cannot be accommodated.
University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate.

Academic Integrity
At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity. Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility
The Advising and Access Services Centre is Dalhousie’s centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia). Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct
Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don’t follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can’t be reached, or would be inappropriate, procedures exist for formal dispute resolution. Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect
Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness. Statement: http://www.dal.ca/cultureofrespect.html

Recognition of Mi’kmaq Territory
Dalhousie University would like to acknowledge that the University is on Traditional Mi’kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca). Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)
https://www.dal.ca/academics/important_dates.html

University Grading Practices
https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Missed or Late Academic Requirements due to Student Absence (policy)
https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html

Student Resources and Support

Advising
General Advising https://www.dal.ca/campus_life/academic-support/advising.html
Science Program Advisors: https://www.dal.ca/faculty/science/current-students/academic-advising.html
Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html
Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html
International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: https://libraries.dal.ca/
Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html
Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html
Copyright Office: https://libraries.dal.ca/services/copyright-office.html

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html
Student Advocacy: https://dsu.ca/dsas

Safety

Biosafety: https://www.dal.ca/dept/safety/programs-services/biosafety.html
Chemical Safety: https://www.dal.ca/dept/safety/programs-services/chemical-safety.html
Radiation Safety: https://www.dal.ca/dept/safety/programs-services/radiation-safety.html
Scent-Free Program: https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html