



**Mathematics 331**

**Multivariate Calculus**

(see Section 3.5C of Faculty of Science [www.ucalgary.ca/pubs/calendar/current/sc-3-5.html](http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html)  
and Course Descriptions: <http://www.ucalgary.ca/pubs/calendar/current/course-main.html>)

*Syllabus*

<u>Topics</u>	<u>Number of Hours</u>
Systems of linear Ordinary Differential Equations	8
Functions of several variables, graphs and level curves, partial derivatives, differentiability and gradient, repeated partial derivatives The chain rule, the tangent plane, directional derivatives, example of Partial Differential Equations	9
Double integrals, repeated integrals, polar coordinates, standard version of Green's theorem, line integrals	6
Triple integrals, cylindrical and spherical coordinates	7
Vector fields, Gauss Theorem, Stokes theorem	6
<b>TOTAL HOURS</b>	<b>36</b>

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