



18.02 | Spring 2006 | Undergraduate

Multivariable Calculus

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18.02 Supplementary Notes and Problems

These notes and exercises were written by Prof. Arthur Mattuck and are designed to supplement the textbook.

Part I: Notes

SECTIONS	TOPICS
D	Determinants (PDF)
M	Matrices and Linear Algebra (PDF)
K	Kepler’s Second Law (PDF)
TA	The Tangent Approximation (PDF)
SD	Second Derivative Test (PDF)
LS	Least Squares Interpolation (PDF)
N	Non-independent Variables (PDF)
P	Partial Differential Equations (PDF)
I	Limits in Iterated Integrals (PDF)
CV	Changing Variables in Multiple Integrals (PDF)
G	Gravitational Attraction (PDF)

Part II: Vector Integral Calculus

SECTIONS	TOPICS
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V7	Laplace's Equation and Harmonic Functions (PDF)
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Part III: Exercises

Feedback

SECTIONS

Problems*

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2	Partial Differentiation (PDF)
3	Double Integrals (PDF)
4	Line Integrals in the Plane (PDF)
5	Triple Integrals (PDF)
6	Vector Integral Calculus in Space (PDF)

Solutions

1	Vectors and Matrices (PDF)
2	Partial Differentiation (PDF)
3	Double Integrals (PDF)
4	Line Integrals in the Plane (PDF)
5	Triple Integrals (PDF)
6	Vector Integral Calculus in Space (PDF)

* Problems with * are not solved



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TOPICS