

INDEPENDENT UNIVERSITY, BANGLADESH (IUB)
MAT 251: Calculus II
Section 1
Spring Semester – 2016

Instructor: K.M Ariful Kabir

Lecture Time: 15:20p.m. –16:50p.m. M/W

Class Room: BC#5002

Text Book: 1) Calculus – 10th Edition

By – Howard Anton, Irl Bivens and Stephen Davis

2) Elementary Differential Equations & Boundary Value Problems- 7th Edition

By – Boyce, Diprima

Reference Book: 1) Calculus- 9th Edition, By- Thomas/ Finney

**2) Advanced Engineering Mathematics, Erwin Kreyszig, 7th edition,
John Wiley.**

Grading Policy:

<i>A 85% above</i>	<i>C+ 60-64</i>
<i>A- 80-85</i>	<i>C 55-59</i>
<i>B+ 75-79</i>	<i>C- 50-54</i>
<i>B 70-74</i>	<i>D 40-50</i>
<i>B- 65-69</i>	<i>F less than 40%</i>

Mark Distribution: 2 Class Tests (Average): 25%
Mid-Term: 35%
Class performance: 5%
Final Exam: 35%
Total: 100%

Course Content

Chapter 13. Partial Derivatives

13.1 Functions of Two or More Variables (**Week 1**)

13.2 Limits and Continuity (**Week 1**)

13.3 Partial Derivatives (**Week 2**)

13.4 Differentiability, Local Linearity and differentials (**Week 2**)

13.5 The Chain Rule (**Week 3**)

13.6 Directional Derivatives and Gradients (**Week 3**)

13.7 Tangent Planes and Normal Vectors (**Week 4**)

13.8 Maxima and Minima of Functions of Two Variables (**Week 4**)

Chapter 14 Multiple Integrals

14.1 Double Integral (**Week 5**)

14.2 Double Integrals over Nonrectangular Regions (**Week 5**)

14.3 Double Integrals in Polar Coordinates (**Week 6**)

14.5 Triple Integrals (**Week 6**)

14.7 Triple Integrals in Cylindrical and Spherical Coordinates (**Week 7**)

14.8 Change of variables in Multiple Integrals; Jacobians (**Week 7**)

(MIDTERM)

Chapter 15 Topics in Vector Calculus

15.1 Vector Fields (**Week 8**)

15.2 Line Integrals (**Week 9**)

15.3 Independence of Path; Conservative Vector Fields (**Week 10**)

15.4 Green's Theorem (**Week 11**)

15.5 Surface Integrals (**Week 10**)

15.7 The Divergence Theorem (**Week 11**)

15.8 Stoke's Theorem (**Week 12**)

Chapter

Exact Equations and Integrating Factors (**Week 13**)

**FINAL EXAM WILL BE HELD ACCORDING TO THE GREEN BOOK
SCHEDULE.**