

IMPORTANT TOPICS MATH 214

Chapter 12

12.5 LINES AND PLANES

12.6 CYLINDERS AND QUADRIC SURFACES

Chapter 13

13.1 CURVES IN SPACE. VECTOR FUNCTIONS

13.3 ARC LENGTH AND CURVATURE. NORMAL PLANE. OSCULATING PLANE. BINORMAL VECTOR.

Chapter 14

14.2 LIMITS AND CONTINUITY

14.3 PARTIAL DERIVATIVES

14.4 TANGENT PLANES

14.5 CHAIN RULE

14.6 DIRECTIONAL DERIVATIVES. GRADIENT.

14.7 14.8 MAXIMUM AND MINIMUM VALUES. LAGRANGE MULTIPLIERS.

Chapter 15

15.2, 15.3 ITERATED INTEGRALS: RECTANGLES AND GENERAL REGIONS.

15.4 DOUBLE INTEGRALS IN POLAR COORDINATES

15.6-15.8 TRIPLE INTEGRALS: CARTESIAN, CYLINDRICAL, AND SPHERICAL COORDINATES.

15.9 CHANGE OF VARIABLES IN MULTIPLE INTEGRALS

Chapter 16

16.2 LINE INTEGRALS: SCALAR AND VECTOR FIELDS.

16.3 – 16.4 FUNDAMENTAL THEOREM FOR LINE INTEGRALS AND GREEN'S THEOREM.

16.5 DIFFERENTIAL OPERATORS: CURL, DIVERGENCE, GRADIENT, LAPALCIAN.

16.6-16.9 PARAMETRIC SURFACES. AREA OF SURFACES. SURFACE INTEGRALS OF SCALAR AND VECTOR FIELDS. STOKE'S THEOREM. DIVERGENCE THEOREM.