

**SINCLAIR COMMUNITY COLLEGE
DAYTON, OHIO**

**MATERIALS AVAILABLE FOR
MATH 203 - CALCULUS III**

MARCH 29, 2010

IX. Infinite Series

1. Sequences

Calculus DVDs Disk 8, 9.1 (disk required)
EV 6044 "Sequences and Convergence
Calculus II CD 7.1
116 (traditional) CD Lectures Disk 8, 8.1-8.3
116 Graphing CD Lectures 7.1-7.3
116 Nongraphing Computer Tutor 8.1-8.3
EV 6045 "Summation Notation"

2. Series and Convergence

Calculus DVDs Disk 8, 9.2 (disk required)
EV 6046 "Infinite Series"
V-LHE Tape 10 "Definition of Infinite Series"
Calculus II CD 7.2
EV 6045 "Summation Notation"

3. The Integral Test and p-Series

Calculus DVDs Disk 8, 9.3 (disk required)
EV 6048 "Integral test"
Calculus II CD 7.4

4. Comparisons of Series

EV 6047 "Comparison Test"
Calculus II CD 7.3

5. Alternating Series

EV 6049 "Absolute Convergence"
Calculus II CD 7.5

IX. 6. The Ratio and Root Tests

201-204 CD Lectures Disk 9, 9.6
EV 6050 “Ratio Test”
Calculus II CD 7.4

7. Taylor Polynomials and Approximations

EV 6021 “Taylor’s Formula”

8. Power Series

201-204 CD Lectures Disk 9, 9.8
EV 6051 “Power Series”
Calculus II CD 7.6

9. Representation of Functions By Power Series

201-204 CD Lectures Disk 9, 9.9
WORKSHEET – Power Series Representation

10. Taylor and MacLaurin Series

201-204 CD Lectures Disk 9, 9.10
EV 6052 “Taylor Series”
VOM C-37 “The MacLaurin Series”
VOM C-38 “Taylor Series”
EV 6021 “Taylor’s Formula”
Calculus II CD 7.7

X. Conics, Parametric Equations, and Polar Coordinates

2. Plane Curves and Parametric Equations

201-204 CD Lectures Disk 10, 10.2
Chalkdust Video 3 Sec 2 “Plane Curves and Parametric Curves”
Mosely Trig DVD #7, 6.6 “Parametric Equations”
117 CD Lectures 8.6 “Parametric Eqns., Graphs, and Applications”
Trigonometry Interactive Exercises 8.6
V-LHS 8.5-8.6 “Polar Equations and Parametric Equations”

X. 3. Parametric Equations and Calculus

XI. 3. The Dot Product of Two Vectors

201-204 CD Lectures Disk 10, 11.3
Chalkdust Video 4 Sec 2 “Vectors in Space”
Mosely Trig DVD #5, 3.4 "Vectors and Dot Products"
EV 6054 “Dot Product and Length”

4. The Cross Product of Two Vectors in Space

201-204 CD Lectures Disk 10, 11.4
Chalkdust Video 4 Sec 3 “Cross Product of 2 Vectors”
EV 6056 “Vector Cross Product”

5. Lines and Planes in Space

201-204 CD Lectures Disk 11, 11.5
Chalkdust Video 4 Sec 4 “Lines and Planes in Space”
WORKSHEET – Lines in Space
WORKSHEET – Vector Methods in Three Space

6. Surfaces in Space

7. Cylindrical and Spherical Coordinates

Calculus DVDs Disk 10, 11.7 (disk required)

XII. Vector-Valued Functions

1. Vector-Valued Functions

Calculus DVDs Disk 10, 12.1 (disk required)

2. Differentiation and Integration of Vector-Valued Functions

201-204 CD Lectures Disk 11, 12.2

3. Velocity and Acceleration

4. Tangent Vectors and Normal Vectors

201-204 CD Lectures Disk 11, 12.4

5. Arc Length and Curvature