MATH 151 Engineering (Sections 513-515, 821-824)

This is a tentative syllabus. It is subject to changes without notice. The changes will be announced at the course homepage.

Textbook: J. Stewart, Calculus: Early Vectors, Brooks/Cole, ISBN 113344427x

- Week 1 (Aug. 27– 29)
  Appendix D, Section 1.1: Introduction, trigonometry review, two-dimensional vectors
- Week 2 (Sept. 3–7)
  Sections 1.21.3, 2.2: dot product, parameterized curves, (qualitative) definition of limit
- Week 3 (Sept. 10–14)
  Sections 2.3, 2.52.6 Calculation of limits, limits at infinity, continuity
- Week 4 (Sept. 17–21)
  Sections 2.7, 3.13.2: velocity, differentiation
- Week 5 (Sept. 24 – 28):
  Sections 3.33.4: Rates of Change. Derivatives of the trigonometric functions, and Exam I (Covering thru Section 3.2
- Week 6 (Oct. 1–5)
  Sections 3.53.7: Chain rule, implicit differentiation, derivatives of vector-valued functions
- Week 7 (Oct. 8–12)
  Sections 3.83.10: Higher derivatives, tangents of parameterized curves. Related rates
- Week 8 (Oct. 15–19)
  Sections 3.11, 4.14.2: Differentials and approximation, exponential and inverse functions.
- Week 9 (Oct. 22–26)
  Sections 4.34.4: Logarithmic functions, derivatives of logarithms, and Exam II (Covering Sections 3.34.2)
- Week 10 (Oct. 29–Nov. 2)
  Sections 4.54.6, 4.8: Exponential growth and decay, inverse trigonometric functions, L'Hospital's Rule
- Week 11 (Nov. 5–9)
  Sections 5.15.3: Graphical interpretation of the derivative, first and second derivative tests
- Week 12 (Nov. 12–16)
  Sections 5.5, 5.7, 6.1: Applied max/min, antiderivatives, Riemann sums

- Week 13 (Nov. 19–23)
  Sections 6.26.3: Area and the definite integral. Thanksgiving falls this week.
- Week 14 (Nov. 26–30)
  Section 6.4: The Fundamental Theorem of Calculus and Exam III (Covering Sections 4.36.3)
- Week 15 (Dec. 3–7)
  Review for FINAL
- final exam