



**Catalog Description:**

Integral calculus, sequences and series, parametric curves, polar coordinates, vectors.

**Prerequisite:**

C- or better in 1151, 1156, 152.xx, 161.xx or 161.01H; or 114 or 1114.

**Exclusions:**

Not open to students with credit for any higher numbered math class or with credit for quarter-system Math courses numbered 153.xx or above.

**Text:**

*Calculus for Scientists and Engineers: Early Transcendentals*, 2<sup>nd</sup> OSU custom edition, by Briggs, Cochran, Gillett, published by Pearson, ISBN: 9781256776468

**Topic List:**

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|---------------------------------------|---|
| 7.1 Basic Approaches to Integration   | <i>Midterm 2</i>                          |
| 6.2 Regions Between Curves            |   |
| 6.3 Volume by Slicing                 | 10.1 Approximating Functions with Polyn   |
| 6.4 Volume by Shells                  | 10.2 Properties of Power Series           |
| 6.5 Length of Curves                  | 10.3 Taylor Series                        |
| 6.6 Surface Area                      | 10.4 Working with Taylor Series           |
| 6.7 Physical Applications             | 8.1 Basic Ideas of Differential Equations |
| 7.2 Integration by Parts              | 8.2 Direction Fields and Euler's Method   |
|                                       | 8.3 Separable Differential Equations      |
| <i>Midterm 1</i>                      | 11.1 Parametric Equations                 |
|                                       | 11.2 Polar Equations                      |
| 7.3 Trigonometric Integrals           |   |
| 7.4 Trigonometric Substitution        | <i>Midterm 3</i>                          |
| 7.5 Partial Fractions                 |   |
| 7.8 Improper Integrals                | 11.3 Calculus in Polar Coordinates        |
| 9.1 Overview of Sequences and Series  | 12.1 Vectors in the Plane                 |
| 9.2 Sequences                         | 12.2 Vectors in Three Dimensions          |
| 9.3 Series                            | 12.3 Dot Products                         |
| 9.4 Divergence and Integral Tests     | 12.4 Cross Products                       |
| 9.5 Ratio, Root, and Comparison Tests | 12.5 Lines and Curves in Space            |
| 9.6 Alternating Series                |   |
|                                       | <i>Final</i>                              |