**UT Math 1840: Course Inventory in CEMS**

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| Course # | Math 1840 |
| Course Title | Calculus II for Mathematicians, Scientists, and Educators |
| Campuses (Main, Regional) | Main |
| Beginning Term (when is (was) it offered for the first time?) | Spring 2006 |
| Credit Hours (including the entire course, lecture/lab) | 4 |
| Co-/Pre-requisite | Math 1830 or Math 1850 or Math 1920 (Calculus I) |
| Catalog Description | Techniques of integration, polar coordinates and calculus or plane curves, infinite series and Taylor series. Of interest to students requiring a conceptual understanding of calculus. |
| Textbook/Lab Manual | ISBN: 978-0321643698  Title: Thomas' Calculus: Early Transcendentals  Publisher: Pearson  Author: George B. Thomas, Maurice D. Weir and Joel Hass  Edition: 12th edition  Copyright Year: 2009  Additional Notes: |
| Outside Readings/Ancillary Materials/ Instructional Resources |  |
| Instructional Goals or Objectives | The successful Calculus II student should be able to:  1. Use antiderivatives to evaluate definite integrals and apply definite integrals in a variety of applications to model physical, biological or economic situations.  2. Employ a variety of integration techniques to evaluate special types of integrals, including substitution, integration by parts, trigonometric substitution, and partial fraction decomposition.  3. Evaluate improper integrals, including integrals over infinite intervals, as well as integrals in which the integrand becomes infinite on the interval of integration.  4. Determine the existence of and find algebraically the limits of sequences. Determine whether a series converges by using appropriate tests, including the comparison, ratio, root, and integral.  5. Find the nth Taylor polynomial at a specified center for a function and estimate the error term. Use appropriate techniques to differentiate, integrate and find the radius of convergence for the power series of various functions.  6. Analyze curves given parametrically and in polar form and find the areas of regions defined by such curves.  7. Perform and apply vector operations, including the dot and cross product of vectors, in the plane and space.  8. Become familiar with mathematical logic, definitions and theorems. Students will be required to justify their solutions, therefore writing is very important in this course. |
| Description of Assessment and/or Evaluation of Student Learning | Quizzes: 25-30%  2-3 Midterm exams: 40-45%  Comprehensive final exam: 25-30% |
| Additional Information |  |

Please attach syllabi (including co-/pre-requisite and current working and master syllabi for Transfer Module courses).