MA 1713 **Calculus I** Effective Fall, 2007

Calculus, 6th Edition, by James R. Stewart

The Calculus Committee makes the following recommendations to instructors of Calculus I:

(1) We hope that the Registrar will enforce prerequisites, but please check that students in your Calculus I classes are properly placed. Students must have either an ACT math subscore of at least 26, or a "C" or better in both College Algebra and Trigonometry, Ma 1313/1323, or in the new precalculus course, Ma 1453.

(2) Attendance should be kept on a regular basis, and excessive absences should be reported to the Freshman Retention Program at `http://www.ssrc.msstate.edu/fresh/`, Also, please record absences along with final grades on Banner. You may wish to reward regular attendance with a small bonus on the final average.

(3) Students are now required to buy access to Thomson/Brooks-Cole Enhanced WebAssign, and the use of on-line homework assignments is now a required component of Ma 1713. We have prepared over 25 on-line assignments that each instructor can modify for use in his/her sections. Many instructors give homework and quizzes together the same weight as one in-class test in students' final average. Please see Patricia Shaw to set up your course.

(4) Graphing calculators are no longer required in Calculus I and II. Most instructors feel that over dependence on graphing calculators undermines basic skills. A scientific calculator is sufficient. Instructors may wish to use on-line videos and applets to substitute for graphing calculators.

In the following, 1 hour equals 50 minutes.

Chapter

1. Review Section 1.1, Appendix D, and Section 1.3 . . . . . 3 hours
An early quiz on basic algebra and trig skills could be used to establish expectations of preparedness for calculus.

2. Limits and Continuity Sections 2.2–2.5 . . . . . 5 hours
Emphasis should be on developing a feeling for limits using graphical and numerical methods rather than on "ϵ–δ" notions. However, exercises such as 1–4 and 11 on page 95 are appropriate.

3. Differentiation Sections 3.1–3.9 . . . . . 12–14 hours
BCA on-line homework can be used to drill routine differentiation problems. A test of basic differentiation *without calculators* would be appropriate. In section 3.9, emphasize linear approximation rather than differentials.

4. Applications Sections 4.1–4.5; 4.7–4.9 . . . . . 14–16 hours

Total: 34–38 hours

The remaining time, 5–9 hours (Fall), should be spent on tests/review and on additional topics/projects selected by the instructor. Additional work on related rates, optimization and antidifferentiation is particularly encouraged if time permits.