

MATH 2110
Calculus III
Department of Mathematical Sciences
The University of Memphis

Course Description:

This course, the third in the Calculus sequence, is intended to provide students majoring in the physical sciences with the mathematical tools and concepts needed to complete their course work in other topics. The main emphasis of Calculus III lies in shifting from the study of analytic geometry in the plane (two-dimensional) to that of higher dimensions, involving vector-valued and multivariate functions.

The first part of this course is almost purely geometric, involving hardly any differential or integral calculus, covering vectors, lines and planes in three dimensions, and graphing techniques for three-dimensional coordinate systems. The next part of the course covers vector-valued and multivariate differential calculus, and the last part of the course covers multiple integration and vector-valued integral identities. An argument could be made that the whole point of studying calculus (at least, for the engineering or applied physics major) is to get to the topics we will cover at the end of this course.

Course Prerequisites:

MATH 1910 (Differential Calculus) and MATH 1920 (Integral Calculus).

Text:

Calculus: Early Transcendentals, Stewart, 7th or 8th edition

Course Content:

Chapters 12 through 16 from the text.

Web Resources:

WebAssign: www.webassign.net (publisher's website)

Dr. Dwiggins's Home Page: dpdsdogs.com/dpd/math/

Class Meetings:

9:40 – 11:05 Tuesday/Thursday, 10:20 – 11:15 Friday, Dunn Hall, Room 123

Instructor:

D. P. Dwiggins, PhD (send e-mail: ddwiggins@memphis.edu)

Office:

Room 368, Dunn Hall (third floor)

Hours:

9:00-noon Mon/Weds, 11:30-1:00 Tues/Thurs

Telephone:

678-4174

Course Evaluation:

There will be three 100-point tests and a 100-point daily average based on quizzes and/or written homework assignments. The lowest of these four scores will be dropped, leaving a total of 300 points. The final exam is also worth 100 points, and can be used to replace the lowest test score. The semester average is then based on dividing this 400-point total by four. You can raise this average using the additional homework assignments posted online, giving a 500-point total to be divided by five.

Grade Calculation:

Based on the semester average, grades are assigned according to the posted [Grade Scale](#).

Make-Up Policy:

Three-day make-up (with excuse) for missed test or exam.

Attendance Policy:

As needed for purposes of reporting to the University.