Calculus III Syllabus

Math 32 Section 1

Spring 2016

Instructor

David Zeigler (don't call me "Mr. Zeigler")
141 Brighton Hall
916-278-6534
zeigler@csus.edu

Schedule

| MWF | BRH 204 | 8:00 am – 8:50 am |
| R | BRH 218 | 8:00 am – 8:50 am |

office hours: TBA, by appointment

Textbook

Calculus: Early Transcendentals 7/e, by James Stewart
ISBN-10: 0538497904 / ISBN-13: 9780538497909

Course materials, syllabus, announcements, grades, etc. are posted on SacCT.

Grading

Your course grade is determined from a Homework Score, Quiz Score, exams and a final exam.

Homework

The WebAssign system (`http://www.webassign.com`) will be used for homework. The WebAssign class key is **csus 1462 6074**. Homework is assigned regularly and are all due Friday, May 13, 2016 at 11:59 pm.

Quizzes

Quizzes are assigned regularly and will have a WebAssign component. Unless otherwise announced in class or by SacCT, students may expect weekly quizzes due every Friday.

A student's Homework Score and Quiz Score is the percentage of points earned according to WebAssign's points scale. For example, a student who scored 16/20, 19/21, and 13/19 on their homework earned 48 out of the 60 possible points. They earned 80% of the total homework points possible and so their Homework Score is 80. The maximum Homework Score and Quiz Score possible is 100.

Exams

There will be four 100-point exams that coincide with the completion of each chapter (Chapters 12-16) of the text. (Note: Chapter 13 is very short!)

Final

The cumulative 100-point final will be **Monday, May 16, 2016, 8:00 a.m - 10:00 a.m.** in the MWF lecture room.

There are 700 possible points:

$$\underbrace{100}_{\text{HW Score}} + \underbrace{100}_{\text{Quiz Score}} + 4(\underbrace{100}_{\text{Exam}}) + \underbrace{100}_{\text{Final}} = 700$$

A student's final grade is calculated based upon a straight percentage of the total points earned by the student(s) with the most points. For example, if the student with the most points finished the term with 675 points, then 607 and above is an A, $540 - 606$ is a B, $472 - 539$ is a C, etc.

Late work will not be accepted without a university authorized excuse and prior notification. If you feel that you will miss a deadline it is your responsibility to contact me prior to the deadline.

Gettin' Help

- Use the book!

- Math Lab (BRH 118)

- Ask questions!

- Form study groups!

- Utilize office hours!

- Extra/practice problems are easy to find. Our text has an ample supply as does any Calculus book in the library.

- Be wary of online resources - just because it's online doesn't mean it's correct!
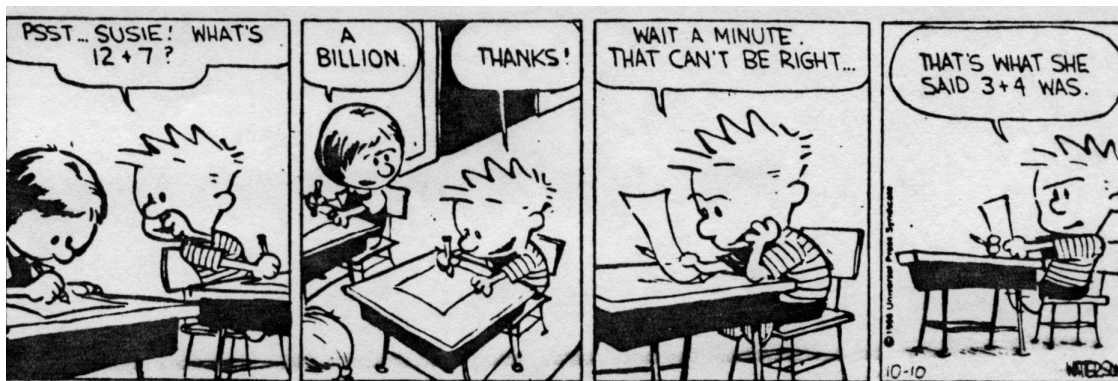
Topics

1. Three-Dimensional Analytic Geometry & Vectors

    (a) Three-dimensional coordinate system

    (b) Vectors

    (c) Dot & cross products

    (d) Vector equations of lines & planes

    (e) Vector functions of one variable & space curves

    (f) Arc length & curvature

    (g) Applications to motion in space

    (h) Cylindrical and spherical coordinates

2. Differentiation of Functions of Several Variables

    (a) Functions of several variables

    (b) Limits & continuity

(c) Partial derivatives

(d) Differentiability & tangent plane

(e) Chain rule

(f) Directional derivative & gradient

(g) Extreme values

(h) Other techniques; i.e. Lagrange multipliers

3. Multiple Integrals

(a) Double & triple integrals

(b) Iterated integrals

(c) Integrals in polar, cylindrical, & spherical coordinates

(d) Geometrical & physical applications

4. Vector Analysis

(a) Scalar & vector fields

(b) Divergence & curl

(c) Line integrals

(d) Conservative fields

    i. application to work & conservation of energy

(e) Green's theorem

    i. Stokes' theorem & divergence theorem in the plane