

MAT 203, Calculus III with applications

Fall 2014

Xiuxiong Chen

Professor, [Mathematics](#) [SUNY Stony Brook](#)

Office: 4-100B Mathematics Building My Phone: (631)-632- 8327

Time and place: lectures MF1:00-2:20pm, Library W4550

TA: J. Adams (jdfadams@math.sunysb.edu) and B. Sokolowsky (bsokolowsky@math.sunysb.edu),

We will follow the textbook 'Multivariable Calculus' by Ron Larson, Bruce Edwards (10th edition), chapter 11-15.

Content of the course: Vector algebra in two and three dimensions, multivariate differential and integral calculus, optimization, vector calculus including the theorems of Green, Gauss, and Stokes. Applications to economics, engineering, and all sciences, with emphasis on numerical and graphical solutions; use of graphing calculators or computers. May not be taken for credit in addition to AMS 261 or MAT 205.

Prerequisite: C or higher in MAT 127 or 132 or 142 or AMS 161 or level 9 on the mathematics placement examination

Homework problems will be assigned from the text and will be handed in at the recitation sections. The recitation instructor will grade

and return the homework and go over the solutions as necessary. Unless otherwise stated, homework will be due at the recitation of each week, starting in Week 2.

In class Midterm: Oct 17, 2014. My colleague Prof Varolin has posted a practice exam [here](#).

Final exam, Dec. 17, 2014, 08am-10:45am, same classroom.

The final will count 40% of your grade and the midterm and homeworks will count 30% each.

Weekly Homework assignments:

Week 1, Aug. 25th, Chapter 11 Homework: 11.1: 4, 8, 28, 50 ; 11.2: 6, 26, 44, 58 ; 11.3: 4,10,14, 42.

Week 2, Sept. 1st, Chapter 11, homework 11.4: 1-6 ,16, 28, 38.

Week 3, Sept. 8th, Chapter 11 Homework: 11.5, 14, 26, 42, 82; 11.6, 10, 14, 20, 24; 11.7,6, 12, 20, 28, 44.

Week 4, Sept. 15th, Chapter 12 Homework: 12.1, 12, 26, 32,50; 12.2, 10, 22, 40, 56; 12.3, 6,18, 28, 34

Week 5, Sept. 22nd, Chapter 12 Homework: 12.4, 2, 6, 14, 16, 34, 50; 12.5 (arc length only), 4, 6, 14, 18.

Week 6, Sept 29th, Chapter 13 Homework: 13.1, 16, 18, 38, 40; 13.2, 18, 20, 42, 50; 13.3, 20, 26, 36, 50, 52.

Week 7, Oct 6th, Chapter 13 Homework: 13.4, 10, 25, 30, 33; 13.5, 4, 7, 9, 22, 23; 13.6, 2, 12, 15, 34

Week 8, Oct 13, In class midterm (oct. 17) and no homework due.

Week 9, Oct 20, Chapter 13 Homework: 13.7, 8, 16, 29, 46; 13.8, 4, 10, 16, 38; 13.9, 2, 4, 10, 12; 13.10, 4, 6, 14, 26

Week 10, Oct 27, Chapter 14 Homework: 14.1, 8, 10, 20, 30; 14.2, 6, 10, 14, 32; 14.3, 7, 14, 20, 26; 14.4, 4, 6, 18, 36

Week 11, Nov. 3rd, Chapter 14 Homework: 14.5, 10, 16, 18, 36; 14.6, 6, 8,

16, 26; 14.7, 6, 10, 14, 22

Week 12, Nov. 10th, Chapter 14 Homework: 14.8, 2, 4, 8, 12, 16, 18, 22;
Chapter 15 Homework: 15.1, 18, 23, 42, 46, 63,
69; 15.2, 7, 9, 13, 17, 35, 45.

Week 13, Nov. 17th, Chapter 15 Homework: 15.3,4, 8, 12, 20, 28; 15.4, 2,
8, 12, 20; 15.5, 8, 10, 26, 28, 40.

Week 14, Nov. 17th, Chapter 15 Homework: 15.6, 6, 18, 26,30

Week 15, Nov. 17th, Chapter 15 Homework: 15.7, 2, 8, 18, 24; 15.8,6, 10,
16.