

# Cedar Crest College

**Calculus III – MAT 211-00** (Three Credits)

Fall 2008

MWF 8:00 a.m. – 8:50 a.m.

BHA 202

**Professor:** Patrick Ratchford

**Office:** Curtis 217

**Phone:** ext. 3375

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## Office Hours

Monday, Wednesday 11:30 a.m. – 2:00 p.m.

Tuesday 1:00 p.m. – 3:00 p.m.

Thursday 10:00 a.m. – 2:00 p.m.

*Additional office hours are available by appointment.*

**Required Text:** Stewart, *Calculus*, 6<sup>th</sup> ed., Thomson-Brooks/Cole, © 2008.

**Calculator:** A Texas Instruments graphing calculator is required.

**Course Objectives :** Picking up where Calculus II leaves off, in this course we will continue to study integral and differential calculus, but in new settings. We will study new ways of representing functions and curves in the plane.

**Course Outcomes:** Specifically, upon successful completion of the course the student will demonstrate logical reasoning and problem solving skills within the following contexts”

- Determine if certain improper integrals converge or diverge and compute the value of convergent improper integrals.
- The use of a graphing calculator to approximate the value of definite integrals.
- Applying divergence tests, integral tests, comparison tests, alternating series tests, ratio and root tests to determine the convergence of series.
- The representation functions as Power Series (Maclaurin series and Taylor series)
- The representation of functions with parametric and polar equations

**Class format:** The format of the course will be lecture/discussion with much emphasis on homework discussion. In order for this to work it is vitally important for you to come to class prepared.

## Assessment:

- ◆ There will be three exams each accounting for 25% of your final average. Each exam may consist of both in-class and take-home portions. The remaining 25% will consist of take-home assignments and/or short in-class quizzes. Homework will be assigned and discussed daily. *There will be no extra credit given.*
- ◆ The grade scale that I will use to assign final grades is A (93 and up), A- (90-93), B+ (87-90), B (83-87), B- (80-83), C+ (77-80), C (73-77), C- (70-73), D+ (67-70), D (60-67), F(Below 60).

- ◆ Attendance in class is expected of all students and mandatory on exam days, but it will not be factored numerically into your grade. Make-up exams will be given only with prior notification and documentation of a legitimate excuse. All assignments are due in-class on the due date and will not be accepted otherwise without prior notification and documentation of a legitimate excuse.

**Notes:**

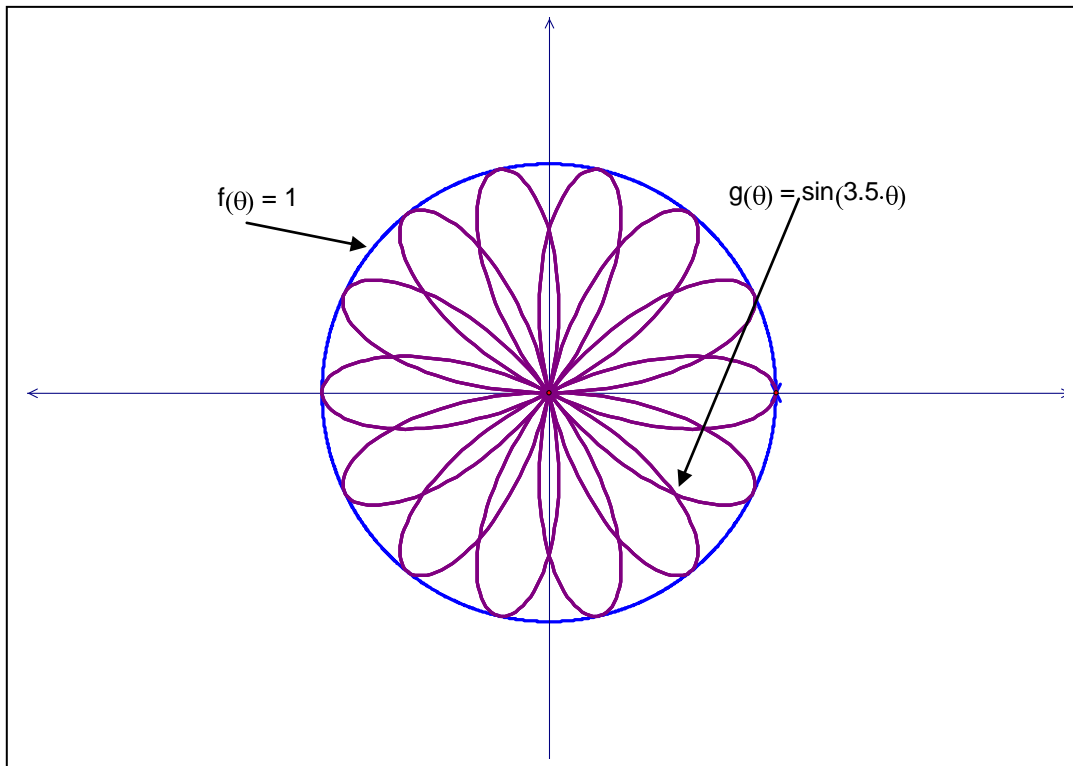
- ◆ I fully support the Cedar Crest College Honor Code and the Classroom Protocol code as stated in the Customs Book. Appropriate classroom behavior is implicit in the Cedar Crest College Honor Code. Such behavior is defined and guided by complete protection for the rights of all students and faculty to a courteous, respectful classroom environment. That environment is free from distractions such as late arrivals, early departures, inappropriate conversations and any other behaviors that might disrupt instruction and/or compromise students’ access to their Cedar Crest College education.
- ◆ Cell phones should be turned **off** for the duration of the class.
- ◆ Calculus I and Calculus II are prerequisites for this course.
- ◆ Collaboration on daily homework is expected and encouraged, but any work turned in for a grade should be your own. Violations of the college plagiarism policy will be reported to the dean and result in a grade of zero for the particular assignment / exam.
- ◆ It is vitally important for you to keep current with the work. Students who fall behind early will quickly find themselves in a hole that is very difficult, if not impossible, to get out of. I’m more than willing to meet with you during my office hours or otherwise to help you succeed, but you must make the effort. Feel free to drop by my office, even if it’s not my scheduled office hour.
- ◆ It will be beneficial for you to have read the day’s material **before** coming to class.
- ◆ Students with documented disabilities who may need academic accommodations should discuss these needs with me during the first two weeks of class. Any student who wishes to request accommodations should contact the Advising Center.

**Tentative Schedule**

| <b>Day</b> | <b>Date</b> | <b>Material Covered *</b>   |
|------------|-------------|-----------------------------|
| Monday     | 8/25        | Introduction/Review         |
| Wednesday  | 8/27        | 12.1                        |
| Friday     | 8/29        | 12.1                        |
| Monday     | 9/1         | <b>No Class – Labor Day</b> |
| Wednesday  | 9/3         | 12.2                        |
| Friday     | 9/5         | Problem Session             |
| Monday     | 9/8         | 12.3                        |
| Wednesday  | 9/10        | 12.3                        |
| Friday     | 9/12        | 12.4                        |
| Monday     | 9/15        | 12.5                        |
| Wednesday  | 9/17        | Problem Session             |
| Friday     | 9/19        | 12.5                        |
| Monday     | 9/22        | 12.6                        |
| Wednesday  | 9/24        | 12.7                        |

|            |            |                              |
|------------|------------|------------------------------|
| Friday     | 9/26       | Problem Session              |
| Monday     | 9/29       | <b>Exam I</b>                |
| Wednesday  | 10/1       | 12.8                         |
| Friday     | 10/3       | 12.9                         |
| Monday     | 10/6       | 12.9                         |
| Wednesday  | 10/8       | Problem Session              |
| Friday     | 10/10      | 12.10                        |
| Monday     | 10/13      | <b>No class – Fall Break</b> |
| Wednesday  | 10/15      | 12.10                        |
| Friday     | 10/17      | 12.11                        |
| Monday     | 10/20      | 12.11                        |
| Wednesday  | 10/22      | Problem Session              |
| Friday     | 10/24      | Problem Session              |
| Monday     | 10/27      | Problem Session              |
| Wednesday  | 10/29      | <b>Exam II</b>               |
| Friday     | 10/31      | 9.1                          |
| Monday     | 11/3       | 11.1                         |
| Wednesday  | 11/5       | 11.1                         |
| Friday     | 11/7       | Problem Session              |
| Monday     | 11/10      | 11.2                         |
| Wednesday  | 11/12      | 11.2                         |
| Friday     | 11/14      | 11.3                         |
| Monday     | 11/17      | 11.3                         |
| Wednesday  | 11/19      | 11.4                         |
| Friday     | 11/21      | 11.4                         |
| Monday     | 11/24      | Problem Session              |
| Wednesday  | 11/26      | <b>No Classes</b>            |
| Friday     | 12/28      | <b>Thanksgiving Break</b>    |
| Monday     | 12/1       | 11.5                         |
| Wednesday  | 12/3       | 11.5                         |
| Friday     | 12/5       | 11.6                         |
| Monday     | 12/8       | Review/Problem Session       |
| <b>TBA</b> | 12/9-12/15 | <b>Exam III</b>              |

- Section numbers from *Stewart*



$$P(x) = x - \frac{x^3}{6} + \frac{x^5}{120} - \frac{x^7}{5040}$$
$$f(x) = \sin x$$