3 credits

Section 11854 MW 11:00 - 12:15

# **FALL 2012**

# **MAT 212**

Section 34179 TR 11:30 - 12:45

Room MA 115

***Instructor reserves the right to make changes on this syllabus as needed***

*Course webpage***:** [**http://www.phdmathgeek.com**](http://www.phdmathgeek.com)

**Instructor:** Phong Chau, Ph.D. **Office:** MA 189

**Email:** [phong.chau@gccaz.edu](mailto:phong.chau@gccaz.edu) **Phone:** (623) 845-4789

**Office Hours**: TWRF 1:00 - 1:50 pm,

M 1:00 – 1:50 pm at Math Solution

**Prerequisite**: Grade of "C" or better in (MAT150 or MAT151 or MAT152 and MAT182) or MAT187 or equivalent or satisfactory score on district placement exam.

**Course Objectives and Competencies:** The Maricopa Community College Course competencies and objectives may be found at the following website.

<http://www.maricopa.edu/curriculum/M-Z/102mat212.html>

**Text:** Finite Mathematics and Calculus with Applications, *9th Edition,* by Lial, Greenwell, Ritchey.

**Graphing Calculator:** A TI-83 or TI-84 graphing calculator is required. A limited number of these calculators are available for lease from the Math Solution. If you use any other calculator, you will be on your own as all instruction will reference the TI-84.

**Attendance:**

* Regular attendance is a requirement of this course. If you miss a class, it is your responsibility to obtain any lecture notes, assignments, etc. from another student. Anything that is said and decided upon in class overrules the syllabus. Keep posted!
* At the end of the semester I will assign a grade for attendance, class participation and adherence to the conduct and cell phone use policy. Participation means coming to class prepared to learn, paying attention to what is going on during class and asking questions. Also, have your homework completed and be ready to ask questions over the homework, if you have any, at the beginning of class. Don’t be afraid to ask me questions and come to me for help. If possible, read the section to be covered that day before you come to class.
* Do not engage in behaviors that disrupt the attention of other students. Examples are **texting**, ***talking during class*,** leaving or packing up before class is over, arriving late to class, etc.
* I reserve the right to withdraw a student with five or more absences, tardies, and/or early departures from class.

**Group work:**

A portion of class time will be spent working on group activities in class.  You will be expected to work on assigned problems in group during class once a week. No makeup group work will be allowed for any reason**.**  Credit will be assigned for completion.  I will also be walking around the room during these activities and expect to see you participating.  If you are not participating, you will not receive credit with your group.

**Homework:**

While homework will not be collected nor graded, your success in this class is dependent upon dedication to the homework and class activities.

**Quizzes:**

There will be three quizzes throughout the semester.  They will be based on any homework or material covered prior to the quiz date.  Therefore, it is very important to do your homework daily. Questions on the quiz will come directly from the homework assignments and the notes I give in class. No Make-up quizzes will be given for any reasons.

**Exams:**

There will be three exams during the semester and a cumulative final exam. I will provide reviews before each exam. Make-up exams will be given only in extreme circumstances.

**Grading Criteria**:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Points Allocation** | |  | **Grades** | |
| Attendance and Participation | 50 | A | 630 - 700 |
| 12 Group Exercises @ 5 pts each | 60 | B | 560 - 629 |
| 3 Quizzes @ 30 pts each | 90 | C | 490 - 559 |
| 3 tests @ 100 pts each | 300 | D | 420 - 489 |
| 1 Final exam | 200 | F | 0 - 419 |
| Total | 201 700 |  |  |

Withdrawal Policy:

If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. The "W" or withdrawal grade will be awarded only to students who officially withdraw from the course by filling out a withdrawal form by Monday, November 26th, 2012.

**Math Solution**:  The math solution is a free drop-in tutoring center.  The Math Solution hours are Monday - Thursday 8:00am to 8:30pm, Friday 8:00am to 4:00pm, and Saturday 10am to 2pm.

**Miscellany:**

* Anything that is said and decided upon in class overrules the syllabus.
* Please do not engage in behaviors that disrupt the attention of other students. (Examples are talking during class, leaving or packing up before class is over, arriving late to class, etc)
* All cell phones, pagers, etc. should be turned off before class.
* Audio taping of lectures will not be permitted.
* If you have a disability that may have some impact on your work in this class and for which you may require accommodations, you need to notify the Disability Services and Resources office.  Their phone number is 623.845.3080.  Also, please let me know so we can plan accommodations.

Tentative Schedule

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Week** | | Date | Sections | Topics | Comments | |
| 1 | | Tuesday 8/21 | 1.1, 1.2 | Equations of Lines, Linear Functions |  | |
| Thursday 8/23 | 11.1 | Limits | Group Exercise 1 |
| 2 | | Tuesday 8/28 | 11.2 | Continuity | Group Exercise 2 | |
| Thursday 8/30 | 11.3 | Average Rates of Change | **Quiz 1** |
| 3 | | *Tuesday 9/4* | *-* | *-* | *-* | |
| Thursday 9/6 | 11.4 | Derivatives | Group Exercise 3 |
| 4 | | Tuesday 9/11 | Ch. 11 | Review Limits | Group Exercise 4 | |
| **Thursday**  **9/13** | **Ch. 11** | **Limits** | **Test 1: Chapter 11** |
| 5 | | Tuesday 9/18 | 12.1 | Techniques for finding derivatives | Group Exercise 5 | |
| Thursday 9/20 | 12.2 | Product & Quotient Rules |  |
| 6 | | Tuesday 9/25 | 12.3 | Chain Rule | Group Exercise 6 | |
| Thursday 9/27 | 12.4 | Derivatives of Exponential Functions |  |
| 7 | | Tuesday 10/2 | 12.5 | Derivatives of Logarithmic Functions | Group Exercise 7 | |
| Thursday 10/4 | Ch. 12 | Review Derivatives | Group Exercise 8 |
| 8 | | Tuesday 10/9 | 13.1 | Increasing and Decreasing Functions |  | |
| **Thursday**  **10/11** | **Ch. 12** | **Derivatives** | **Test 2: Chapter 12** |
| 9 | | Tuesday 10/16 | 13.2 | Local Extrema | Group Exercise 9 | |
| Thursday 10/18 | 13.3 | Higher derivatives & Concavity |  |
| 10 | | Tuesday 10/23 | 13.4 | Curve Sketching | Group Exercise 10 | |
| Thursday 10/25 | 14.1 | Absolute Extrema | **Quiz 2** |
| 11 | | Tuesday 10/30 | 14.2 | Applications of Extrema | Group Exercise 11 | |
| Thursday 11/1 | 14.3 | Further Business Application | Group Exercise 12 |
| 12 | | Tuesday 11/6 | 14.4 | Implicit Differentiation |  | |
| Thursday11/8 | Ch 13&14 | Review Applications | Group Exercise 13 |
| 13 | | *Tuesday 11/13* | *-* | *Problem Session* |  | |
| **Thursday**  **11/15** | **Ch 13&14** | **Applications of Derivatives** | **Test 3:**  **Chapters 13 & 14** |
| 14 | Tuesday 11/20 | 15.3 | Areas and Definite Integrals |  |
| Thursday 11/22 | 15.1 | Anti-derivatives | Group Exercise 14 |
| 15 | | Tuesday 11/27 | 15.2 | Substitution |  | |
| Thursday 11/29 | 15.4 | Fundamental Theorem of Calculus | **Quiz 3** | |
| 16 | | Tuesday 12/4 | 15.5 | Areas between curves | Group Exercise 15 | |
| Thursday12/3 | Review | Review Chapters 11, 12, 13, 14, 15. |  |
| **TBA** | **Final** | **Cumulative** | **11:00 – 12:50 pm** |

**MAT 212 HW Assignments**

**8th edition**

If you are using 9th edition, please go to the course web page to print out

the exercise-by-exercise transition guide from 8th edition to 9th edition.

(Unless stated otherwise, do the odd-numbered problems only)

The answers for these problems are on the back of the textbook.

* 1. # 13, 15, 19, 27, 29, 31, 39, 45, 49, 59, 71.
  2. # 3, 7, 9, 19, 21, 23, 27, 29, 31, 33, 37.

11.1 # 1 – 11, 15, 17, 19, 31 – 35, 36, 41 – 49, 79, 81.

11.2 # 1 – 11, 19, 21, 22.

11.3 # 1, 5, 7, 11, 15, 17, 25, 29, 31.

11.4 # 5, 11, 12, 15, 19, 25, 27, 33, 35, 37, 47.

12.1 # 1 – 21, 27 – 39, 46, 51, 55.

12.2 # 1 – 25, 39.

12.3 # 11, 13, 17, 19, 23 – 31, 37, 39, 41, 45, 54, 57.

12.4 # 1, 7, 11 – 27, 37, 41.

12.5 # 5 – 29, 55, 57.

13.1 # 5, 7, 13 – 23, 31, 47.

13.2 # 5, 7, 13 – 19, 25 – 29, 47.

13.3 # 3 – 13, 17, 27 – 41, 57, 59, 73.

13.4 # 3 – 13, 25.

14.1 # 1 – 17, 31, 43, 45.

14.2 # 1 – 13, 17, 23, 25.

14.3 # 15 – 23.

14.4 # 1, 3, 5, 17, 19, 27, 29, 35.

14.5 # 1 – 11, 21.

15.1 # 5 – 27, 33, 37, 39, 45, 49, 57, 59.

15.2 # 3 – 21, 25 – 31, 39.

15.3 # 7, 9, 15, 19, 21, 25.

15.4 # 1 – 15, 21, 29, 31 – 37, 41, 43.

15.5 # 1 – 17.