**Math 8 - College Algebra, Fall 2009 (#10165)** **Instructor: Patrick Quigley**

**Course Description**: This course is designed to prepare students for success in: A Brief Course in Calculus (Math 11). Topics covered include polynomial, rational, exponential, and logarithmic functions, matrices, determinants, systems of linear equations and inequalities, absolute value equations and inequalities, and polynomial equations and inequalities. Math 253, 255, or the equivalent is a prerequisite for this course.

**Student Learning Outcomes**: Students who successfully complete Math 8 will be able to demonstrate:

1. mastery of the computational skills necessary for success in A Brief Course in Calculus (Math 11).
2. the critical thinking skills necessary to solve word problems at the appropriate difficulty level.
3. proficiency in graphing.

**Class Attendance**: This class meets from **7:00 - 9:20 p.m. Tuesday and Thursday in room SM-129**. Daily class attendance is expected in this course and is important for your success. Excessive absences (six or more instructional hours) may result in your being dropped from the class. If you wish to withdraw from the class, it is your responsibility to do so before the deadlines. This semester, the last day to drop the class with a refund is **September 4**. The last day to drop the class without a '*W*' (or to petition for the *credit/no credit* grading option) is **September 25**, and the last day to withdraw with a '*W*' is **November 5**.

**Classroom Etiquette**: Students are expected to be on time and remain until class is dismissed. If you are tardy or must leave early, please enter or depart quietly. No food or drinks (other than water) are allowed in the classroom. Make certain that all cell phones are turned off before entering the classroom. Students listening to mp3 players or texting during class will be asked to leave for the rest of the class. This time will be counted as an absence. By district policy, smoking is not allowed inside any building or within 25 feet of any building.

**Academic Honor Code**: Saddleback College students are responsible for regulating their own conduct in accordance with the *Code of Conduct* approved by the Board of Trustees. The *Code of Conduct* is outlined in the *Student Handbook* (pages 39-42) and the *College Catalog* (pages 22-26). It is each student's responsibility to adhere to an academic honor code, which upholds the integrity of the institution and the educational process so all students have an equal opportunity to demonstrate their academic abilities. Academic dishonesty will not be tolerated. Penalties for academic dishonesty range from a score of zero on the assignment in question up to expulsion.

**Special Needs**: If you have a disability which requires accommodations, you need to contact the Special Services Office (Student Services Center - Room 113, 949-582-4885) immediately, and bring me notification of the necessary accommodations as soon as it is available. I can not make accommodations without advance notification. All information will remain confidential.

**Contact**: My voicemail is **(949) 582-4900**, mailbox number **3419**, and my e-mail address is **pquigley@saddleback.edu**. The class website is **www.saddleback.edu/faculty/pquigley**. You should familiarize yourself with '*MySite*' at **mysite.saddleback.edu** so that you will be able to receive important e-mails and gain access to your final grades. As a part-time instructor, I do not have an office or office hours. For additional help when I am not available the Learning Assistance Program (LAP) in Lib-114 offers free tutoring.

**Textbook**: Your textbook is one of your most important resources. The text for this semester is ***College Algebra*** 8th edition by Sullivan, Prentice Hall, 2007. I expect you to read the appropriate sections before they are discussed in class.

**Calculators**: You will need a basic scientific calculator for this course. Calculators may be used on some exams and in fact will be necessary for certain problems. **Graphing calculators, PDA's, cellular phones and similar devices will not be allowed on exams.**

**Homework**: Homework is an essential part of the learning process. You are responsible for understanding all assigned homework problems. Assignments will be collected with the exam covering that material. **Late homework will not be accepted**. To be complete, homework must be neatly written and clearly labeled. Homework is considered as part of your semester grade only in borderline cases.

**Exams**: There will be five one-hour midterm exams each of which is worth 100 points. The lowest of the five midterm scores will be dropped in computing your course grade. The final exam is worth 200 points and will be held on **Tuesday, December 15 from 7:30 - 9:30 p.m.** All students are required to take the exams at the scheduled times. **There will be no alternative exam times except when accommodating disabilities**. On the exams you must show all work, as demonstrated in class, in order to receive full credit.

**Semester Grade**: Your grade in this course is based upon the sum of your exam scores after the lowest midterm score is dropped. Your semester grade can be determined using the grading scale below. In borderline cases, the completion of homework assignments may be considered in your favor. **No extra credit is available for this course**.

**F**: 0-359 points **D**: 360-419 points **C**: 420-479 points **B**: 480-539 points **A**: 540-600 points

**Tentative Syllabus**

| Date | Topics | Description | Homework Problems |
|---|---|---|---|
| Aug. 25 | R.2 | Algebra Essentials | 47-63 odd, 73-93 odd |
| | R.4 | Polynomials | 27-103 odd |
| Aug. 27 | R.4 | *continued* | |
| | R.5 | Factoring Polynomials | 5-125 odd |
| Sep. 1 | R.6 | Synthetic Division | 5-25 odd |
| | R.7 | Rational Expressions | 5-89 odd |
| Sep. 3 | R.7 | *continued* | |
| | R.8 | Rational Exponents | 7-73 odd |
| Sep. 8 | 1.1 | Linear Equations; **Review** | 9-97 odd |
| Sep. 10 | **Exam 1** | *Ch. R Sections 2, 4-8* | |
| | 1.2 | Quadratic Equations | 9-91 odd |
| Sep. 15 | 1.3 | Complex Numbers | 9-79 odd |
| | 1.4 | Radical Equations | 7-85 odd |
| Sep. 17 | 1.4 | *continued* | |
| | 1.5 | Solving Inequalities | 23-99 odd |
| Sep. 22 | 1.6 | Absolute Value Equations and Inequalities | 7-75 odd |
| | 1.7 | Problem solving | 1-53 odd |
| Sep. 24 | 1.7 | *continued* | |
| | 2.2 | Graphs of Equations in Two Variables | 11-45 odd, 51-73 odd |
| Sep. 29 | 2.3 | Lines; **Review** | 11-89 odd |
| Oct. 1 | **Exam 2** | *Ch. 1 Sections 1-7* | |
| | 3.1 | Functions | 15-85 odd |
| Oct. 6 | 3.2 | The Graph of a Function | 9-27 odd |
| | 3.3 | Properties of Functions | 11-43 odd, 53-61 odd |
| Oct. 8 | 3.3 | *continued* | |
| | 3.4 | Piecewise-defined Functions | 9-43 odd |
| Oct. 13 | 3.5 | Transformations | 7-67 odd |
| | 3.6 | Building Functions | 1-19 odd |
| Oct. 15 | 3.6 | *continued* | |
| | 4.3 | Quadratic Functions | 11-89 odd |
| Oct. 20 | 4.4 | Building Quadratic Functions; **Review** | 3-17 odd |
| Oct. 22 | **Exam 3** | *Ch. 2 Sections 2-3, Ch. 3 Sections 1-6* | |
| | 4.5 | Quadratic Inequalities | 3-31 odd |
| Oct. 27 | 5.1 | Polynomial Functions | 11-87 odd |
| | 5.2 | Properties of Rational Functions | 11-51 odd |
| Oct. 29 | 5.2 | *continued* | |
| | 5.3 | Graphing Rational Functions | 7-43 odd |
| Nov. 3 | 5.4 | Polynomial and Rational Inequalities | 3-39 odd |
| | 5.5 | Real Zeroes of a Polynomial Functions | 11-79 odd |
| Nov. 5 | 5.5 | *continued* | |
| | 5.6 | Complex Zeros | 7-39 odd |
| Nov. 10 | 6.1 | Composite Functions | 7-51 odd |
| | 6.2 | One-to-one Functions; **Review** | 9-69 odd |
| Nov. 12 | **Exam 4** | *Ch. 4 Sections 3-5, Ch. 5 Sections 1-6* | |
| | 6.3 | Exponential Functions | 11-93 odd |
| Nov. 17 | 6.4 | Logarithmic Functions | 9-109 odd |
| | 6.5 | Properties of Logarithms | 7-71 odd |
| Nov. 19 | 6.6 | Logarithmic and Exponential Equations | 5-59 odd |
| | 6.7 | Compound Interest | 3-55 odd |
| Nov. 24 | 6.8 | Exponential Growth and Decay | 1-11 odd |
| | 8.1 | Substitution and Elimination | 7-53 odd |
| Nov. 26 | - | **Thanksgiving Holiday** | |
| Dec. 1 | 8.2 | Matrices; **Review** | 5-59 odd |
| Dec. 3 | **Exam 5** | *Ch. 6 Sections 1-8* | |
| | 8.3 | Determinants | 5-35 odd, 43-55 odd |
| Dec. 8 | 8.4 | Matrix Algebra | 7-63 odd |
| Dec. 10 | - | **To Be Announced** | |
| Dec. 15 | **Final Exam** | *Chapters R-6, and 8 (7:30 - 9:30 p.m.)* | |