Math 1000-18 Quantitative Reasoning in Today’s World Course Syllabus 
Fall 2018, California State University, Los Angeles

Course Information

MyLab Course ID: parviz28455

Instructor: Behzad Parviz

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Instructor’s Office and Office Hours. ET-A312, Tuesdays and Thursdays: 11:00 am - 12:15 pm

Meetings. Tuesdays and Thursdays 12:15 – 1:30 pm (KH B2009)

Prerequisite. Placement based on multiple assessment measures

Corequisite. Math 1001 if required by placement. You may enroll in any section of Math 1001.

Course Outline. Units and unit conversion, proportional reasoning, descriptive statistics, basic probability, financial mathematics, and voting. This course is graded ABC/C-/NC and satisfies General Education Area B4. You must earn a grade of C- or better to pass the course.

<table>
<thead>
<tr>
<th>Week</th>
<th>Sections to Cover</th>
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| 1    | 2A Understand, Solve, and Explain  
|      | 2B Extending Unit Analysis |
| 2    | 3A Uses and Abuses of Percentages  
|      | 3B Putting Numbers in Perspective |
| 3    | 3C Dealing with Uncertainty  
|      | 3D Index Numbers: The CPI and Beyond  
|      | 3E How Numbers Can Deceive: Polygraphs, Mammograms, and More |
| 4    | 4A Taking Control of Your Finances |
| 5    | 4B The Power of Compounding |
|      | **MIDTERM 1** |
| 6    | 4C Savings Plans and Investments  
|      | 4D Loan Payments, Credit Cards, and Mortgages |
| 7    | 4E Income Taxes |
| 8    | 4F Understanding the Federal Budget |
| 9    | 5A Fundamentals of Statistics  
|      | 5B Should You Believe a Statistical Study? |
|      | 5C Statistical Tables and Graphs |
**Student Learning Outcomes.** Students who successfully complete this course will be able to do the following:

1. List the elements of a discrete sample space, assigning appropriate probabilities to them whether they are equiprobable or not (e.g., spinner spaces). Identify the outcomes that comprise various events to compute their probability. Find the probability of the intersection or union of two events. Use the conditional probability formula when appropriate, including the calculation of posterior probabilities. Determine whether two events are independent. Compute expected value.
2. Gain competency with various visual displays of data, including data grouped in intervals.
3. Compute mean, median, mode, and standard deviation for data.
4. Compute maturity value, interest earned, and present value with respect to simple interest.
5. Compute the daily unpaid balance for credit card debt with respect to a prescribed interest rate and billing period, where the initial unpaid balance is given and intermediate payments and additional purchases are known.
6. Use the compound interest formula to find maturity value, interest earned, and present value. Compute annual yield, a.k.a. the effective interest rate.
7. Apply and understand the maturity value and present value ordinary annuity formulae applicable to a sequence of equal payments at the end of equal time intervals where the interest conversion period coincides with the payment period. Apply them to payout annuities, sinking funds and the amortization of debt. For debt amortization, compute the unpaid balance after a prescribed number of payments and construct an amortization schedule showing how each payment is divided between interest and principal.
8. Use deductive reasoning in a pure mathematical context to draw conclusions and provide an irrefutable logical justification for them; from the formula for the sum of a finite geometric sequence, obtain formulas for the present value and the future value of an annuity.
9. Recognize when the techniques discussed are limited and when they can and cannot be applied to certain problems.
10. Formulate and communicate a position on a real-world question and use appropriate quantitative information in support of that position (for instance, to compare two or more investment alternatives using present value analysis).
11. Conduct expository writing in the study of financial mathematics and analyze and compare investment alternatives.

**Required Textbook.** Bennett and Briggs, *Using and Understanding Mathematics: A Quantitative Reasoning Approach*, Seventh Edition. The book is online only and an access code can be purchased at the website: www.pearson.com/mylab or at the Golden Eagle Bookstore. Students who are repeating the course for the first time after dropping or not passing in the previous semester may re-use their code.

**Required Materials.** Notebook with paper, pencils with erasers, scientific calculator with the ability to raise a number to an exponent (graphing calculators prohibited), computer with access to Microsoft Excel. Excel is accessible from any of the computer labs on campus or the library.

**Important Dates.** TBA

**Emergency Information.** TBA

**Course Policies**

**Attendance and Participation.** You are expected to attend class regularly and participate in class activities. If you are going to be absent, please E-mail me to let me know; otherwise, the absence will be treated as unexcused. You will lose one points each time you are absent. Points will also be deducted for lack of participation in class activities, not completing assignments and homework, and leaving class early unexcused. Attendance and participation are worth 5% of your grade.

**Homework.** All odd numbered of “BASIC SKILLS & CONCEPTS” section of exercises are mandatory. For practice with MyLab, you must obtain an access code and register for an account at the link provided under the “Textbook” section of this syllabus. It is important that you do your homework, since the quizzes, midterms, and final exam will be based on it. Late homework will not be accepted. Homework is worth 15% of your grade.

**Signature Assignments.** You will have two signature assignments due at the end of weeks 5 and 10, respectively. The first assignment will be a 2-3 page essay on your choice of topics. The second assignment will require your use of Microsoft Excel for a practical project. The signature assignments are worth 20% of your grade.
The essay will be due at the end of week 3. On week 8, you will submit your proposal for the Excel assignment along with an explanation about why you chose that assignment. The Excel assignment will be due at the end of week 13.

**Quizzes.** There may be a one or two-problems quiz each week that will allow me to give you week-to-week feedback on your understanding of course material. You will have 5-10 minutes to complete each quiz; the remaining class time will be dedicated to other activities. Quizzes are worth 5% of your grade.

**Midterms.** There will be two midterms given at the end of weeks 5 and 10, respectively. You will have 60 minutes to complete each midterm. The midterms will be based on the homework and are worth 30% of your grade.

**Final Exam.** There will be a comprehensive final exam given at the end of the course on the date specified in the “Important Dates” section. The final is worth 25% of your grade. If you do not take the final, you will receive an automatic grade of NC for the course regardless of other work you have completed.

**Grading.** The following is a breakdown of the weights of course components.

- Participation: 5%
- Homework: 15%
- Signature Assignments: 20% (5% for the essay, 15% for the Excel assignment)
- Weekly One-Problem Quizzes: 5%
- Two Exams: 30% (15% each)
- Final Exam: 25%

The following letter grades are guaranteed for each corresponding percent range:

- 91 - 100 %: A
- 81 - 90%: B
- 71 - 80%: C
- 61 - 70 %: C-
- 0-60 %: NC

**Classroom Conduct.** Please arrive to class prepared with all of your course materials, including notebooks, writing utensils, and a scientific calculator for quizzes, midterms, and the final. Participation points may be deducted for lack of preparedness, as well as for behaviors such as taking out your cell phone during class, talking while someone else is speaking, working on coursework for another course, and other disruptions. You may not leave the classroom during a quiz, midterm, or the final exam.
**Quality of Work.** This is a college-level math class; consequently, your work is expected to reflect this. You must show all work and simplify all answers to receive full credit. On quizzes, midterms, and the final, your solutions to problems are to be written in a logical manner using correct notation with steps clearly shown. Emphasis will also be placed on correct vocabulary. All work is to be completed in pencil. Points will be deducted from work that violates these principles as well as work that is disorganized or does not follow the instructions in the problem.

**Academic Dishonesty.** Cheating is not tolerated; if you are caught, you will be referred to the Student Conduct Officer for disciplinary action in accordance with university policy pertaining to academic dishonesty. This policy can be found in the university catalog. You are encouraged to study together and help one another on homework and the signature assignments, but the work you hand in must be your own. You may use a scientific calculator on quizzes, midterms, and the final (and, indeed, one is required), but books, notes, graphing calculators, cell phones, and other electronic devices are prohibited.

**Student Responsibilities.** Students are responsible for being aware of all announcements that are made in class, such as changes in exam dates, due dates of homework and papers, and cancellation of class due to the instructor’s absence. Students are responsible for announcements made on days that they are absent.

Students must check their CSULA email account regularly for information from the instructor and the Mathematics Department. Not doing this may result in missed deadlines or other consequences that might adversely affect students. Note that you can forward this E-mail account to any other account of your choosing.

**Reasonable Accommodation.** Reasonable accommodation will be provided to any student with a documented disability who is registered with the Office for Students with Disabilities (OSD) and who requests needed accommodation.

The OSD website can be found at [http://web.calstatela.edu/univ/osd](http://web.calstatela.edu/univ/osd).

**Smart Start Learning Community (Proactive Advising and Supplemental Instruction).** To assist you in successfully completing this course, the Math Department and Smart Start Communities will reach out to students who might benefit from additional advisement or supplemental instruction. If you receive an email from Smart Start, you will be invited to a mandatory meeting with a Smart Start advisor and will invited to become part of the Smart Start learning community where students come together to strengthen their math, critical thinking, and study skills.
Resources to Help You Succeed

1. Attend every class, don’t be late. Take thorough notes. Use colored pencils or pens or highlighters to emphasize vocabulary and key points and steps. Be sure to actively participate in class discussions and activities.
2. If you have to miss class due to illness or emergency, let me know through E-mail and be sure to obtain your class notes and homework from a classmate.
3. Review your notes daily and ask me about what doesn’t make sense.
4. If you lose focus and miss part of a lecture, leave a space and ask a classmate or me to help you fill in the blank.
5. Attend office hours. This is your time to get help on your homework and clarify things from the course material that are confusing you.
6. Form study groups. Bouncing ideas off of each other and studying together is a great way to succeed.
7. Check out videos on YouTube and visit the Khan Academy (https://khanacademy.org).
8. EdReady is another great website that can help you brush up on your algebra skills.