

# Quantitative Reasoning

**Faculty:** John Hemmerling  
Academic Advisor  
School for New Learning

<b>Phone/contact:</b>		<b>Class Time:</b>	Tuesday 6:30 to 9:30 P.M.
Voice Mail	(312) 476-4358	<b>Dates:</b>	9/15 to 11/24
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<b>Competence Offered</b>	
L-6	Can use mathematical symbols, concepts and methods to describe and solve problems.

**Credit Hours:** 4

## Course Description

This course provides an introduction to various topics in quantitative reasoning that most adults will be exposed to throughout their university course work, their careers and their daily lives and how to more effectively handle these topics. It covers different approaches to problem solving, how numbers are used in the real world, how to manage your personal finances, basic concepts in statistics and how they are applied in everyday settings and , finally, how money and populations grow and decay. Scientific calculators and the Excel spreadsheet program will be used as tools for exploring algebraic and statistical concepts. Excel spreadsheets and charts are used extensively to illustrate graphically how to display, analyze and interpret data. Using mathematical models to understand real-world phenomena and to make predictions is an important component of the course. Quantitative reasoning will be a large part of the class discussion.

## Specific Learning Outcomes:

By the end of this class, students will be able to:

- Use units of measurement to solve problems and check answers.
- Apply a general set of guidelines and hints for effective problem solving.
- Use percentages and understand how they can be abused.
- Understand how to put very large and small numbers into perspective.
- Deal more effectively with uncertainty.
- Understand how errors can affect measured numbers.
- Critique how numbers may be deceiving.
- Understand the power of compound interest.
- Make informed decisions when comparing investment plans, savings plans and loan payments.
- Use various financial calculators to analyze investment plans, savings plans and loan payments.
- Understand the statistics that appear daily in newspapers, on TV and in magazine articles.
- Understand linear and exponential growth.
- Build linear and exponential models and use them to make predictions.
- Use Excel to manipulate, analyze and display data as pie charts, bar charts, maps and line graphs.
- Improve your critical thinking skills to more effectively interpret graphs.
- Appreciate more deeply how critical quantitative reasoning skills are to your survival to navigating a world exploding with numerical data.

## Course Curriculum

Module	Text Chapter	Text Chapter Description	Assessment			Time (weeks)
			In Class Discussion	Excel Projects	Quizzes	
1	2	Approaches to Problem Solving	Data and Graphs in Everyday Life	Charting	Module 1	2
2	3	Numbers in the Real World	Everyday Use of Percentages	US Poverty Level	Module 2	2
3	5	Statistical Reasoning	The Influence of Statistics on Your Life	Statistical Reasoning	Module 3	2
4	4	Probability: Living with the Odds	Probability in Everyday Life	CPI Project	Module 4	2
5	4	Financial Management	Major Purchases in Your Life	Financial Management	Module 5	2

**Evaluation & Grade Policy:** Grades are based on quizzes, projects and class participation.

Quizzes	Projects	Attendance/Class Participation
There are 5 quizzes worth 30%	There are 5 projects worth 50%	There are 5 discussion topics/assignments worth 20%

Grading Scale	
90% - 100 %	A
80% - 89 %	B
70% - 79 %	C
60% - 69%	D
Less than 60%	F

Any grade lower than C- is unacceptable for the SNL program. Students can opt for a Pass/Fail grade but must earn a 70% or higher to receive the passing grade. A passing grade does not factor into a student's GPA but a failing grade does.

### Attendance:

Attendance is important and mandatory. Students are expected to arrive on time, and to participate in every scheduled class session. Students must take the module quizzes online. There will be a 7 to 10 day window to take each quiz up to three times. The quiz will not be available after the window closes. They cannot be made up. Missing class makes assessment a difficult process, and all students who miss any class work are subject to grade reduction. Missing more than two classes (or 6 hours of class time) can result in a Failing Grade for the quarter.

## **Required Text Book**

**Essentials of Understanding Mathematics: A Quantitative Reasoning Approach**

**Bennett & Briggs**

**Addison Wesley**

**W/ My Math Lab Student Access Kit (MML SAK)**

**ISBN: 0321205596**

**This text has a supporting website that we will use extensively in this class. You must purchase the book and MML Student Access Kit to gain access to this website. You have two options to do this.**

### **Option 1**

You can purchase a new textbook which comes packaged with the MyMathLab access code.

Textbook + MyMathLab purchase online at <http://www.aw->

[bc.com/catalog/academic/product/0,1144,0321228197,00.html](http://www.aw-bc.com/catalog/academic/product/0,1144,0321228197,00.html) or through the DePaul bookstore.

Students can get next day shipping on their textbook/access code purchase through the publisher..

### **Option 2**

With this option you do not get a hard copy textbook. You can go to the MyMathLab Website to purchase

SAK online at [http://info.coursecompass.com/website/student\\_register.html](http://info.coursecompass.com/website/student_register.html)

Students get their access code immediately.

There are two main differences between the two options. The first difference is cost. The second difference is that Option 2 will provide you with an electronic version of the text, but no hard copy. However, you can print whatever you need from the electronic text one page at a time. Option 1 provides you with a hard copy of the text, as well as an electronic text. If you are comfortable using only an electronic text book, then do option 2.

**Extra Help:** To be discussed in class.