

**School for New Learning  
DePaul University  
Course Syllabus: LL 205 Quantitative Reasoning  
Winter 2010**

**1. General Information**

Faculty: John Tallarovic  
O'Hare Campus  
tallarovic@yahoo.com  
847-294-8180 (day)

Location: O'Hare Campus

Dates/Time: Thursday, January 7 to March 18, 2010 from 6:30 pm to 9:30pm

Credit Hours: 4

**2. Course Description and Faculty Biographical Sketch**

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.

The instructor is an aerospace engineer for the Federal Aviation Administration working on the certification of powerplant systems in aircraft. He is also in the Air Force Reserve. Previously, Mr. Tallarovic worked testing ejection seats and flight testing F-16 aircraft. Academic interests primarily include trying to infect students with his passion for mathematics and science.

**3. Competencies**

L-6 Can use mathematical symbols, concepts and methods to describe and solve problems

1. Can apply mathematics or statistics to describe relationships between events in one's life.
2. Can explain how one's perspectives are influenced by mathematical language or reasoning.
3. Can interpret data, charts, and graphs.
4. Can solve problems using mathematical or statistical techniques.
5. Can solve basic algebraic equations.
6. Can use basic statistical concepts to characterize data.

Every day we are all exposed to numbers, from percents to statistics. The demonstration of this competence should reflect the logic required to frame and solve problems using some form of mathematical symbols. This is open to algebra, probability, statistics, etc. The level must be beyond computational (arithmetic) skills. We encourage applications of such thinking processes to work and other situations.

#### 4. Learning Experience

##### **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 three 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.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**

Purchase a used copy of the text from the DePaul book store or an independent source such as amazon.com, borders.com, etc., and then purchase the MyMathLab access code as in Option 3.

##### **Option 3**

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 three options. The first difference is cost. Option 2 will be less expensive than Option 1 and Option 3 is the least expensive. The second difference is that Option 3 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. Options 1 and 2 provide 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 3.

##### **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. If you anticipate missing a class for any reason, let me know as soon as possible and we can schedule a work-around.

## 5. 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.

## 6. Evidence the Students will Submit

Grades are based on quizzes taken on-line, projects, and class participation.

## 7. Criteria for Assessment

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

Grading Procedures:

<b>Grading Scale</b>	
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.

## 8. Class Schedule

Date	Module	Text Chapter	Text Chapter Description	Assessment		
				In Class Discussion	Excel Projects	Quizzes
1/7/10	1	2	Approaches to Problem Solving		See Table Below	See Table Below
1/14/10	1	2	Approaches to Problem Solving	Data and Graphs in Everyday Life		
1/21/10	2	3	Numbers in the Real World			
1/28/10	2	3	Numbers in the Real World	Everyday Use of Percentages		
2/4/10	3	5	Statistical Reasoning			
2/11/10	3	5	Statistical Reasoning	The Influence of Statistics on Your Life		
2/18/10	4	4	Financial Management			
2/25/10	4	4	Financial Management	Major Purchases in Your Life		
3/4/10	5	8	Exponential Astonishment			
3/11/10	5	8	Exponential Astonishment	Investing		
3/18/10			Final Scheduled Period			

### Assignment Due Dates

Module	Discussion Topic	Test	Excel Project
1	1/14/10	1/20/10	1/21/10
2	1/28/10	2/3/10	2/4/10
3	2/11/10	2/17/10	2/18/10
4	2/25/10	3/3/10	3/4/10
5	3/11/10	3/17/10	3/18/10

## **DePaul University Academic Integrity Policy**

DePaul University is a learning community that fosters the pursuit of knowledge and the transmission of ideas within a context that emphasizes a sense of responsibility for oneself, for others and for society at large. Violations of academic integrity, in any of their forms, are, therefore, detrimental to the values of DePaul, to the students' own development as responsible members of society, and to the pursuit of knowledge and the transmission of ideas. Violations include but are not limited to the following categories: cheating; plagiarism; fabrication; falsification or sabotage of research data; destruction or misuse of the university's academic resources; alteration or falsification of academic records; and academic misconduct. Conduct that is punishable under the Academic Integrity Policy could result in additional disciplinary actions by other university officials and possible civil or criminal prosecution. Please refer to your Student Handbook or visit

<http://studentaffairs.depaul.edu/homehandbook.html> for further details.

## **DePaul University Incomplete Policy**

Undergraduate and graduate students have two quarters to complete an incomplete. At the end of the second quarter (excluding summer) following the term in which the incomplete grade was assigned, remaining incompletes will automatically convert to "F" grades. In the case of the Law School incompletes must be completed by the end of the semester following the one in which the incomplete was assigned. Ordinarily no incomplete grade may be completed after the grace period has expired. Instructors may not change incomplete grades after the end of the grace period without the permission of a college-based Exceptions Committee. This policy applies to undergraduate, graduate and professional programs. NOTE: In the case of a student who has applied for graduation and who has been approved for an Incomplete in his or her final term, the incomplete must be resolved within the four week grace period before final degree certification.

The SNL student who wishes to receive the grade of IN must formally request in writing that the instructor issue this grade. This request must be made before the end of the quarter in which the student is enrolled in a course. The policy is contained at:

<http://www.snل.depaul.edu/current/policies.asp#Incomplete>

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter, preferably within the first week of class, and make sure you have contacted:

PLuS Program (for LD, AD/HD) at 773-325-4239 in the Schmidt Academic Center, room 220 or;

The Office for Students with Disabilities (for all other disabilities) at 773-325-7290, DePaul University Student Center, room 307.