



<b>Date</b>		<b>Credits</b>	3
<b>Course Title</b>	Statistics	<b>Course Number</b>	STA 2023
<b>Pre-requisite (s)</b>	None	<b>Co-requisite (s)</b>	None
<b>Hours</b>	45		

### *Place and Time of Class Meeting*

**San Ignacio University**  
**3905 NW 107 Avenue, Suite 301**  
**Miami, FL 33178**

### *Name and Contact Information of Instructor*

### *Book required*

*(San Ignacio University recognizes the use of the textbook in the classroom as part of the educational methodology and strategy applied in diverse materials. The textbook is part of the curriculum and is used to reach the student in an effective manner in the classroom. Every student is expected to acquire and use the textbook.)*

Introduction to Statistics & Data Analysis, Fourth Edition  
 Peck, Olsen, Devore  
 ©2012 | Cengage | Published:  
 ISBN-10: 0-8400-5490-4 | ISBN-13: 978-0-8400-5490-6

### **Classroom expectations for students**

#### *Attendance Policy*

Students are expected to attend all scheduled university classes for the courses that they are registered for and to achieve the goals set forth by each class instructor. Attendance is taken daily. Enrolled students are permitted no more than **2** “free” absences in one semester. Students missing **3-5** classes over the course of the semester will receive a one-letter grade deduction from their final course grade; missing more than **6** classes will result in failure of the course regardless of grade average. It is the student's responsibility to arrange to make up work missed because of an absence.

#### *Student Tardiness Policy*

A student is considered tardy/late if he/she comes to class 15 minutes late. With three tardies the student accumulates one full absence. If the student misses half of the class period, it is a full



absence. When a student has more than 6 tardies, the instructor will contact the San Ignacio University Coordinator of Student Affairs and Academic Department and request an intervention session with the student. The goal of the intervention session is to develop and implement an intervention program to help students learn new ways to save and manage time.

**NOTE:** Plagiarism is defined as the use, without proper acknowledgment, of the ideas, phrases, sentences, or larger units of discourse from another writer or speaker. Plagiarism includes the unauthorized copying of software and the violation of copyright laws. Students who commit plagiarism will obtain a grade of “Failure” on their exam or assignment.

*Course Description (must correspond exactly to Catalog description)*

The purpose of this course is to provide the students with the knowledge to make intelligent judgments and informed decisions by interpreting statistics and analyzing data. Among the topics studied are: collecting data, descriptive methods, probability material and inferential techniques.

*Learning Objectives*

At the end of this course student will be able to:

- Understand the main features of traditional and modern statistics.
- Identify how to analyze statistical data properly.
- Comprehend the role of formal statistical theory and informal data analytic methods.
- Gain an understanding of statistical methods relevant to upper division interdisciplinary courses.
- Sharpen students’ statistical intuition and abstract reasoning as well as their reasoning from numerical data through community-based and other research.
- Improve students’ critical thinking in domains involving judgments based on data and stimulate the type of independent thinking requiring research beyond the confines of the textbook, through projects, interdisciplinary examples and exercises.

*Topical Outline and Schedule*

DATE	WEEK 1
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• Identify the various fields in which statistical analyses are used</li> <li>• Describe the three steps necessary in order to be a knowledgeable consumer of reports</li> <li>• Define what five elements are necessary in order to understand and use data before making a decision</li> <li>• Examine the role of variability in order to collect, describe, analyze and make conclusions from data in the appropriate way</li> <li>• Define the two types of univariate data and numerical data</li> </ul>



	<ul style="list-style-type: none"> <li>Examine how frequency distribution is an effective way to summarize and communicate data</li> <li>Define when it is appropriate to use categorical data</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>Syllabus</li> <li>Discuss Library Orientation Course, Instructor to verify completion</li> <li>Examine the histogram graph Example 1.1 that shows heights in female athletes: basketball players vs. gymnast</li> <li>Define the three crucial tasks involves in statistics</li> <li>Examine the six steps of the data analysis process</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>Discussion of Syllabus</li> <li>Analysis of examples brought up in class</li> <li>Visuals aids and/or video</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<ul style="list-style-type: none"> <li>Review the Syllabus</li> <li><b>Complete the Library Orientation Course.</b> Instructor to verify completion.</li> <li><b>Homework:</b> Read Chapters 1-2 pp.1-28</li> <li><b>Chapter Review Exercises p.29-30</b></li> <li>.</li> </ul>
<b>DATE</b>	<b>WEEK 2</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>QUIZ I</li> <li>Discuss the importance of observation and experimentation in data analysis</li> <li>Describe the types of bias and how they differ from one another</li> <li>Evaluate random sampling and the various methods used to select a simple random sample</li> <li>Describe simple comparative experiments and how they are used to deal with the effect of certain explanatory variables</li> <li>Discuss the key concepts in experimental design and how to evaluate them</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>Discuss dotplots for numerical data</li> <li>Identify the two types of conclusions and when it is appropriate to draw a conclusion</li> <li>Analyze the issues that must be addressed in observational studies and experiments</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>Participate in a forum.</li> <li>Analysis of examples brought up in class</li> <li>Group activity led by instructor</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<p><b>Homework:</b> Read Chapter 2 pp.31-84</p> <p><b>Exploration 2.4</b> p.91-92</p>
<b>DATE</b>	<b>WEEK 3</b>

<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>Analyze graphical methods for describing data</li> <li>Comprehend how comparative bar charts can be used for visual comparison</li> <li>Discuss pie charts and identify when they are most effective</li> <li>Evaluate why pie charts are not effective to compare groups on the basis of categorical variable</li> <li>Define segmented bar graphs</li> <li>Recognize the importance of general shape in a histogram</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>Discuss Final Class Project &amp; Presentation,</li> <li>Interpret Example 3.2 pie chart on life insurance for fictional characters</li> <li>Examine Figure 3.7 segmented bar graph for study time data</li> <li>Explain the effectiveness of a stem-and-leaf display to sum up univariate numerical data</li> <li>Define when a histogram for discrete numerical data and histogram for continuous numerical data should be used</li> <li>Examine a scatterplot, the most crucial graph based on bivariate numerical data</li> <li>Understand the most effective ways to communicate and interpret the results of statistical analyses</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>Participate in a forum.</li> <li>Analysis of examples brought up in class</li> <li>Group exercise from textbook</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<ul style="list-style-type: none"> <li>Investigate concepts and kinds of objectives.</li> <li>Library Research. Develop Tentative Bibliography</li> <li><b>Due: Project Topic</b></li> <li><b>Due: Tentative Bibliography</b></li> </ul> <p><b>Homework:</b> Read Chapter 3 pp.93-159</p> <ul style="list-style-type: none"> <li>Chapter Review Exercises p.160-161</li> </ul>
<b>DATE</b> <span style="float: right;"><b>WEEK 4</b></span>	
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>Examine the numerical methods for describing data</li> <li>Define the two frequently used measures of center: mean and median</li> <li>Discuss the sample median and when it is obtained</li> <li>Define trimmed means and trimming percentages</li> <li>Describe a dichotomy and its correlation to sample proportion of successes</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>Analyze Example 4.2 – Country Population Sizes</li> <li>Evaluate how to provide variability in a data set</li> <li>Analyze Example 4.7 – the Big Mac Index</li> </ul>

	<ul style="list-style-type: none"> <li>Identify the commonly use way to avoid negative and positive deviations from offset one another</li> <li>Define the interquartile range and how it is based on quartiles</li> <li>Describe the two types of boxplots and how they differ</li> <li>Examine how the use of Chebyshev's rule is a way of obtaining distribution of data values when only the mean and standard deviation are provided</li> <li>Compare and contrast Chebyshev's rule and Empirical Rule</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>Analysis of examples of brought up in class</li> <li>Group discussion</li> <li>Think-pair-share</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<b>Homework:</b> Read Chapter 4 pp.173-213
<b>DATE</b>	<b>WEEK 5</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>Comprehend the different methods used to condense bivariate data</li> <li>Examine the correlation coefficient and its most widely used form</li> <li>Identify the properties of <math>r</math></li> <li>Understand the population correlation coefficient</li> <li>Discuss how correlations measures the degree of association but association can not be implied as causation</li> <li>Define regression analysis and the two variables and their roles</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>Examine Figure 5.1 – Graduation Rates and Student-Related Expenditures</li> <li>Review Example 5.5 – Pomegranate Juice and Tumor Growth</li> <li>Discuss sample regression line and its correlation to least-squares line</li> <li>Recognize the effectiveness of a residual plot to evaluate the suitability of the regression line</li> <li>Examine the two popular approaches to fitting nonlinear relationships: polynomial regression and transformation</li> <li>Show how to relate logistic regression to data transformation</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>Discussion of Syllabus</li> <li>Analysis of examples brought up in class</li> <li>Visuals aids and/or video</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	Continue research and work on final project  <b>Homework:</b> Read Chapter 5 pp. 223-301 Exercise 5.63-5.66 p.299-301
<b>DATE</b>	<b>WEEK 6</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>EXAM I</li> <li>List the different types of probability</li> </ul>

	<ul style="list-style-type: none"> <li>• Define the different ways the sample space of a chance experiment can be demonstrated</li> <li>• Show the ways an event can be influenced to create new events</li> <li>• Define the three different approaches to determine probability</li> <li>• Examine the use of a Venn diagram to visualize relationships</li> <li>• Define the formula for a classical approach to probability</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Analyze Example 6.1 – Car Preferences</li> <li>• Devise Example 6.2 – Losing at Gold</li> <li>• Discuss the relative frequency approach to probability is related to the chance experiment</li> <li>• Define the fundamental properties of probabilities</li> <li>• Examine independence and how it is possible the knowledge gained in one event will not change the assessment of probability of occurrence of a second event</li> <li>• Define the law of total probability</li> <li>• Identify the process of estimating probabilities</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Analysis of examples brought up in class</li> <li>• Open discussion</li> <li>• Small group activity led by instructor</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<b>Homework:</b> Read Chapter 6 pp. 319-384 Exercises 6.87-6.91 p.391
<b>DATE</b>	<b>WEEK 7</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• QUIZ II</li> <li>• Analyze the three commonly encountered probability distributions: binomial, geometric and normal distributions</li> <li>• Examine random variables and define when they are discrete or continuous</li> <li>• Identify how the probability distribution relates to the long-run behavior of a random variable</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Discuss Examples 7.1, 7.2, 7.7</li> <li>• Define the three events involved in the probability calculations for continuous variables</li> <li>• Compare and contrast mean and standard deviation of a random variable</li> <li>• Define the mean, variance and standard deviation for linear combinations and linear functions</li> <li>• Identify the properties of a binomial experiment and binomial distribution</li> <li>• Discuss the two main reasons normal distributions are used</li> <li>• Define how to examine normality and review normalizing</li> </ul>

	transformations
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Engage in instructor led group activity</li> <li>• Textbook activity in small group</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<p>Continue research and work on final project</p> <p><b>Homework:</b> Homework: Read Chapter 7 pp.399-475 Exercises 7.94-7.104 p.476-477</p>
<b>DATE</b>	<b>WEEK 8</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• Recognize the relationship between sampling variability and statistics</li> <li>• Define the difference found between a population characteristic and a statistic</li> <li>• Understand the general rules of the distribution of the sample proportion</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Analyze Example 8.8 – Contracting Hepatitis from Blood Transfusions</li> <li>• Discuss the rule that is necessary to determine when <math>n</math> is adequately large to apply the Central Limit Theorem</li> <li>• Examine the General Properties of the Sampling Distribution of <math>p</math></li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Pair-share activity</li> <li>• Analysis of examples brought up in class</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<p>Continue research and work on final project</p> <p><b>Homework:</b> Read Chapter 8 pp.499-522 Exercises 8.23-8.31 p.519-520</p>
<b>DATE</b>	<b>WEEK 9</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• QUIZ III</li> <li>• Define the two estimation techniques: point estimation and interval estimation</li> <li>• Identify the steps in which a point estimate is obtained</li> <li>• Understand how the use of an unbiased statistic that has a small standard deviation guarantees that there will not be a systematic tendency to under or overestimate value</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Define what is the main goal of many statistical studies</li> <li>• Identify the confidence interval for a population characteristic</li> <li>• Analyze Example 9.4 – University Education Essential for Success?</li> <li>• Recognize the general form of a confidence interval</li> <li>• Analyze Example 9.6 Sniffing Out Cancer</li> <li>• Define the two common ways to assess plausibility of normality using sample data</li> <li>• Recognize the Important Properties of <math>t</math> Distributions</li> </ul>

<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Analysis of the examples raised in class.</li> <li>• Panel discussion</li> <li>• Discussion of chapter topics</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	Continue research and work on final project <b>Homework:</b> Read Chapter 9 pp. 529-572 Exercises 9.56-9.65 p. 572-573
<b>DATE</b>	<b>WEEK 10</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• Recognize the use of test of hypotheses that utilizes data to decide between two competing claims about a population characteristic</li> <li>• Examine the basic concepts of hypothesis testing</li> <li>• Compare and contrast the null hypothesis and alternative hypothesis</li> <li>• Examine errors that may arise in hypothesis testing</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Analyze Example 10.1 and 10.2</li> <li>• Discuss the different kinds of errors and examine how the selection of a test procedure impacts the probability of these errors</li> <li>• Contrast Type I error from Type II error</li> <li>• Analyze Example 10.5 - Slowing the Growth of Tumors</li> <li>• Discuss the primary idea with regard to hypothesis testing</li> <li>• Define the steps in a hypothesis test</li> <li>• Recognize the effect of three central factors on the power of a test</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Visual aids and/or video</li> <li>• Engage in a group activity led by instructor</li> <li>• Read article and do a small group analysis</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	Continue research and work on final project <b>Homework:</b> Read Chapter 10. pp. 577-627 Chapter Exercises 10.68-10.79 pp.628-629
<b>DATE</b>	<b>WEEK 11</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• Define the use of sample data to compare two population or treatment means</li> <li>• Recognize how to determine when two samples are independent or paired</li> <li>• Examine the formula designed to compare two population means</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Review Example 11.1 – Brain Size</li> <li>• Discuss how random assignment is related to the use of the two-sample <i>t</i> test</li> <li>• Define the two-sample <i>t</i> test for comparing two treatments</li> <li>• Examine how the Pooled <i>t</i> Tests combines data from both samples</li> <li>• Review Example 11.6 – Improve Memory by Playing Chess</li> <li>• Examine the different inferences concerning the difference between two population or treatment means</li> </ul>
<b>LEARNING</b>	<ul style="list-style-type: none"> <li>• Small group activity</li> </ul>

<b>ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Visual aids and/or video</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<p><b>Due: First Draft of Final Project</b>  <b>Homework:</b> Read Chapter 12 pp.699-736  Chapter Review Exercises 12.35-12.41 pp. 733-734</p>
<b>DATE</b>	<b>WEEK 12</b>
<b>SPECIFIC OBJECTIVES</b>	<p>MIDTERM EXAM II</p> <ul style="list-style-type: none"> <li>• Recognize the inferential methods necessary for the analysis of univariate categorical sets</li> <li>• Define the use of a one-way frequency table to condense univariate categorical data</li> <li>• Discuss the goodness-of-fit statistic</li> <li>• Identify the appropriate use of the chi-square distribution</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Review Example 12.1 Births and the Lunar Cycle</li> <li>• Understand the goodness-of-fit test procedure</li> <li>• Review Example 12.3 Hybrid Car Purchases</li> <li>• Define the use of a tabular format to provide a summary of data resulting from observations made on two different categorical variables</li> <li>• Comprehend the formal test procedure for <math>X^2</math> test for Homogeneity</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Analysis of examples brought up in class</li> <li>• Panel discussion</li> <li>• Discussion of chapter topics</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	<p><b>Homework:</b> Read Chapter 12 pp.699-736  Chapter Review Exercises 12.35-12.41 pp. 733-734</p>
<b>DATE</b>	<b>WEEK 13</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• Identify the four basic assumptions of the simple linear regression model</li> <li>• Define the use of the simple linear regression model</li> <li>• Examine the basic assumptions of the simple linear regression model</li> <li>• Recognize a major assumption of the simple linear regression model</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Analyze Example 13.1 Stand on Your Head to Lose Weight?</li> <li>• Define the Properties of the Sampling Distributions of <math>b</math></li> <li>• Review Example 13.4 Athletic Performance and Cardiovascular Fitness</li> <li>• Define the Model Utility Test for Simple Linear Regression</li> <li>• Recognize how standardized residuals assist with the identification of residuals with large magnitudes</li> <li>• Define the population correlation coefficient</li> <li>• Examine the major feature of the bivariate normal distribution</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Analysis of examples brought up in class</li> <li>• Panel discussion</li> </ul>

	<ul style="list-style-type: none"> <li>• Discussion of chapter topics</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	Editing & Revision of Final Project <b>Homework:</b> Read Chapter 13 pp.741-791 Chapter Exercises 13.56-13.63 p.792-793
<b>DATE</b>	<b>WEEK 14</b>
<b>SPECIFIC OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• Define the general additive multiple regression model</li> <li>• Discuss the polynomial regression</li> <li>• Examine the complete second-order model</li> <li>• Understand how qualitative variables can be integrated into a multiple regression model</li> <li>• Identify how the utility of an estimated model can be assessed</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Review Example 14.4 Predictors of Writing Competence</li> <li>• Define the appropriate approach to modeling a categorical variable with three categories</li> <li>• Compare and contrast a deterministic and probabilistic model</li> <li>• Review Example 14.9 Small Universitys One Last Time</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Think-pair-share activity</li> <li>• Group discussion</li> <li>• Analysis of examples brought up in class</li> </ul>
<b>HOMEWORK &amp; ASSIGNED READINGS</b>	Editing & Revision of Final Project <b>Homework:</b> Read Chapter 14 pp. 801-832 Exercises 14.16-14.22 p.826-827
<b>DATE</b>	<b>WEEK 15</b>
<b>SPECIFIC OBJECTIVES</b>	Final Project Final Presentation Final Exam <ul style="list-style-type: none"> <li>• Examine how the factor under investigation is what differentiates the populations or treatments from one another</li> <li>• Define single-factor analysis of variance and the objective it tests</li> <li>• Discuss assumptions for ANOVA</li> </ul>
<b>TOPIC (S)</b>	<ul style="list-style-type: none"> <li>• Review Example 15.1 – An Indicator of Heart Attack Risk</li> <li>• Analyze Example 15.4 – Hormones and Body Fat</li> <li>• Discuss how ANOVA calculations relate to use of tabular format called ANOVA table</li> <li>• Discuss the Tukey-Kramer multiple comparisons procedure and how it relates to confidence intervals</li> </ul>
<b>LEARNING ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• Group discussion</li> <li>• Engage in a group activity led by instructor</li> <li>• Visual aids and/or video</li> </ul>
<b>HOMEWORK &amp; ASSIGNED</b>	<b>Homework:</b> Read Chapter

## READINGS

### *Instructional Methods*

The methods of instruction will be influenced by institutional constraints, class size, class meeting length, course length, and individual instructor style. Usually, student interest and learning is enhanced by the use of multiple instructional methods. Aside from the traditional assignment of textbook readings and presentation of lectures based on these readings, methods of instruction might include the following:

1. A review of the questions at the end of each chapter.
2. Check of the reading.
3. Analysis of assigned readings.
4. Group discussions.
5. Individual and group discussions.
6. Preparation of reports.
7. Preparation of a didactic plan.
8. Carrying out a micro-class.

### *Additional Instructional Materials and References*

- Applied Statistics by Mario F. Triola (10<sup>th</sup> 08)
- Applied Statistics in Business and Economics by David P. Doane (4<sup>th</sup> 13)
- Art and Practice of Statistics by Lisa F. Smith (09)

### *Assessment Criteria and Methods of Evaluating Students*

96 – 100%	→ A
90 – 95%	→ A-
87 – 89%	→ B+
83 – 86%	→ B
80 – 82%	→ B-
77 – 79%	→ C+
73 – 76%	→ C
70 – 72%	→ C-
67 – 69%	→ D+
63 – 66%	→ D
60 – 62 %	→ D-
< 59%	→ F

**Do not count on a curve!**



Generally, the grades “A” through “C-” are considered passing grades. Grades "W" and "I" indicate that no grades were earned for the course. A "W" grade indicates that the student withdrew from the course. An "I" grade indicates that the student was passing the course, but failed to complete all the required course work. The instructor, in his/her discretion may grant an "I" grade instead of an "F", pending completion of the course work by the student within a specified time arranged by the instructor and told to the student. It is the student's responsibility to follow-up with the instructor to complete the course work. If the course work is not completed by the arranged time, the “I” grade becomes an “F”.

### *Distribution of Grade Elements*

Homework:	25%
Exams I, II, III:	30% (10% each)
Quizzes I,II, III:	15% (5% each)
Final Presentation:	30%
Total:	100 %

Date Syllabus Was Last Reviewed: Date: 07-01-2012