DEPARTMENT OF ECONOMICS & FINANCE
College of Business, Tennessee State University, Nashville, TN, USA

Spring 2013 Syllabus for Information Systems and Statistics (BISI 5000)
This syllabus corresponds to the second part of the course. Second part of the course starts following the Spring Break and continues through the end of the Spring Semester.

Instructor: Dr. A. Ray; **Email:** *aray4@tnstate.edu*; **Phone:** $+1-615-963-7347$

OFFICE HOURS:

Monday, Wednesday: $11.00AM-4.00PM$ (*Avon Williams Campus* $\#J-401$, 4th Floor)

RECOMMENDED READING MATERIALS

1. "*Online Statistics Education: An Interactive Multimedia Course of Study*" Developed by Rice University, University of Houston - Clear Lake, and Tufts University (Specifically, look at the book version in PDF)
   Book Website with Free Book Download Link:
   http://www.onlinestatbook.com
2. *Statistics (Probability and Data Analysis) – a wikibook*
   Free Book Download Link:
   http://upload.wikimedia.org/wikipedia/commons/8/82/Statistics.pdf
3. "*Collaborative Statistics*" by Barbara Illowsky and Susan Dean
   Book Website with Free Book Download Link:
   http://cnx.org/content/col10522/latest/
4. "*Introduction to Real Analysis*" By William F. Trench.
   Book Website with Free Book Download Link:
   http://ramanujan.math.trinity.edu/wtrench/misc/index.shtml
5. "*Precalculas*" By Carl Stitz and Jeff Zeager.
   Book Website with Free Book Download Link:
   http://stitz-zeager.com/Precalculus/Stitz_Zeager_Open_Source_Precalculus.html

COVERAGE IN DETAIL

- What is Statistics
- Describing Data: Frequency Table, Frenquency Distributions, Graphical Presentations, Numerical Measures
- A Survey of Probability Concepts
- Discrete Probability Distributions and Continuous Probability Distributions (Binomial, Uniform, Hypergeometric, Poisson, Normal, Standard Normal, Student's t, and F)
- Sampling Methods, Central Limit Theorem, Estimation of Confidence Intervals
- One Sample and Two Sample Tests of Hypothesis
- ANOVA, Correlation and Regression (Single variable and multiple regressions)

- Introduction to Time Series data and Forecasting techniques.

SPECIAL SOFTWARE LEARNING:

Learning a software is an integral part of this course. You may use Microsoft Excel and Microsoft Word which are easily available in the computer labs. If you do not have license for Microsoft Office products for your personal computer then OpenOffice or LibreOffice both offer viable alternatives. Both of them are FREE and very powerful. To learn more, visit http://www.openoffice.org/ or http://www.libreoffice.org/.

However, I will teach this course by using R programming langugage pretty extensively. More information is available from The R Project for Statistical Computing's official website at http://www.r-project.org/.

I strongly encourage you to visit this website and get a headstart by reading some of the materials listed under the "Manuals" section.

I expecially recommend the introductory manual available at
http://cran.r-project.org/doc/manuals/r-release/R-intro.pdf.

Best of all, R software is FREELY available from the R Project's website. You may install it on your laptop, desktop, our USB (flash) drive FREE of charge.

There is no shortage of excellent R related books that are commecially available. If you are looking for a very inexpensive book then I highly recommend R Cookbook (O'Reilly Cookbooks) [Paperback] By Paul Teetor. Last time I checked, Amazon.com was selling the book for less than $30. Please note that I DO NOT REQUIRE you to buy this book for this class.

I will also highly recommend RStudio. It is an extremely powerful IDE that provides a very usable and productive interface for the R programming language. You may like to get more information about RStudio by visiting http://www.rstudio.com/.

INTENDED OUTCOME:

The purpose of this course is to provide students with the fundamental understanding of the core concepts of various statistical techniques to facilitate research & decision making in business, finance, accounting, and economics. A good understanding of the materials covered in this course will help students familiarize themselves with the foundations of essential statistical techniques that they are expected to face in contemporary business settings. Tools learnt in this course may be considered fundamental in understanding modern business practices and form a good starting point for higher studies in economics, finance, and management.

ATTENDANCE POLICY:

University attendance policies will be strictly enforced in the class.

You are REQUIRED to maintain regular attendance.

You must come to class on time.

Appropriate actions according to the rules and regulations of the university will be followed to deal with low attendance issues.

GRADING:

Grading in this class will be based on 2 tests and a comprehensive final. Here is the point distribution: Test 1: 300 Points; Test 2: 300 Points; Comprehensive Final: 400 Points; Grand Total: 1000 Points. Tests are progressively cumulative. Suppose your final earned points in the course is given by P. You will earn A if $1000 \geq P \geq 900$; You will earn B if $900 > P \geq 800$; You will earn C if $800 > P \geq 700$; You will earn D if $700 > P \geq 600$; You will earn F if $600 > P$

DISABILITY POLICY:

University policies regarding disability will be followed. Any student requiring any special accommodation should meet the instructor and/or the concerned department in the university. Requests for appropriate accommodations will be entertained and university guidelines will be followed in each case. It is a policy of the university not to discriminate any individual based on race, gender, ethnicity, disability status etc.

SPECIAL CLASSROOM POLICIES:

You are expected to be in class and on time.

Be courteous to the learning needs of your fellow classmates. Please do not introduce any unnecessary distraction in the class.

TRICKS TO PERFORM WELL IN THIS COURSE:

1. Maintain regular attendance and take thorough class notes
2. Study for at least two hours everyday from your notes and the relevant sections in the recommended reading materials.
3. Visit me during office hours if you have questions.