|  |  |
| --- | --- |
| RIT Saunders College of Business MBA | |
| Introduction Data Analytics and Business Intelligence  #RITDataBI | Instructor: Victor Perotti, Ph.D.phone: 475-7753email: [vjpbbu@rit.edu](mailto:vjpbbu@rit.edu) |

***Course Description:***

This course introduces concepts and tools for analyzing complex business decisions and for interpreting and analyzing data. Contemporary data analytics and business intelligence tools will be explored through realistic problem assignments. Topics to be covered include descriptive statistics, basic probability, probability distributions, sampling distributions, interval estimation and testing, linear and multiple regression. **Note**: It’s going to be technical. And fun.

***Course Materials***

* Introduction to Business Statistics Holmes et al

<https://openstax.org/details/books/introductory-business-statistics-2e>

* Minitab (<https://www.rit.edu/its/services/software-licensing/minitab>)
* Tableau (<http://www.tableau.com/academic/students>)
* R (<https://www.rstudio.com/products/rstudio/download/)>
* Excel, Wolfram Alpha

***Course Objectives:***

After our course meetings, students will be able to:

* Identify appropriate statistical techniques for specific analysis
* Have Fluency in basic statistical techniques
* Interpret and analyze statistical results
* Apply data transformation to large data sets
* Apply of statistical programming to conduct data analysis

***Course Grading:***

|  |  |  |  |
| --- | --- | --- | --- |
| Quizzes | | 150 points (top four quizzes) | |
| Midterm Exam | | 125 points (two hours) | |
| Regression Project | | 125 points (Group Regression Project) | |
| Data Discovery Project | | 100 points | |
| Text mining Project | | 100 points | |
| Final Analytics Project | | 150 points (Group Project) | |
| Participation | | 100 points (Online and Offline Participation) | |
| **Total** | | **850 points** | |
| “The best laid schemes o' mice an' men  Gang aft a-gley.” – Robert Burns | | | |
| **Class #**  **Date** | | **Week Topics** | | **Readings and Assignments** | |
| Week #1  Aug 26->Sep 1 | | * Intro to course * Descriptive Statistics, Graphing * Using Minitab & Stats Tools | | **Read:** Chapters 2 (sections 2.1->2.4,2.6,2.7)  **Do:** Homework Problems in Weekly Content Section  **Thursday->Sunday**: Complete Quiz 1- Deadline is midnight | |
| Week #2  Sep 2->8 | | * Sampling * Discrete Probability Distribution * Continuous Probability Distributions | | **Read:** Chapter 5 (5.1,5.2) Chapter 6 (6.16.2)  **Do:** Homework Problems in Weekly Content Section  **Thursday ->Sunday**: Complete Quiz 2 | |
| Week #3  Sep 9-> 15 | | * Point Estimation * Interval Estimation | | **Read** Chapter 8 (8.1,8.2,8.4)  **Do:** Homework Problems in Weekly Content Section  **Thursday ->Sunday**: Complete Quiz 3 | |
| Week #4  Sep 16 -> 22 | | * Intro to Hypothesis testing, * Hypothesis testing with two samples | | **Read:** Chapter 9 (all sections), Chapter 10.1  **Do:** Homework Problems in Weekly Content Section  **Thursday ->Sunday**: Complete Quiz 4 | |
| Week #5  Sep 23 -> Sep 29 | | Analysis of Variance and Linear Regression | | **Read:** Chapter 12, Chapter 13 (sections 13.1->13.4)  Multiple Regression  **Thursday ->Sunday**: Complete Quiz 5 in myCourses. | |
| Week #6  Sep 30 -> Oct 6 | | Multiple Regression | | Read Chapter 13 (13.5,13.6)  **Thursday ->Sunday:** Complete Quiz 6 | |
| Week #7  Oct 7 -> 13 | | Review  Midterm exam week | | Thursday->Sunday: Midterm Exam in myCourses  **SUNDAY: GROUP REGRESSION PROJECT DUE** | |
| Week #8  Oct 14 -> 20 | | Data Discovery/Tableau | | Read Chapter 4  **Tableau Fundamentals/**  **Data discovery project assigned.** | |
| Week #9  Oct 21 -> 27 | | Tableau interactives | | **Tableau advancement** | |
| Week #10  Oct 28 -> Nov 3 | | Getting Data from Twitter | | **Read Chapter 11**  **Monday: Twitter Mining Project Assigned**  **Sunday: Data Discovery project due** | |
| Week #11  Nov 4 -> 10 | | Twitter Data and Analysis | | Data cleaning and analysis | |
| Week #12  Nov 11-> 17 | | Text and sentiment analysis | | **Sunday: twitter mining project due** | |
| Week #13  Nov 18-> 24 | | Predictive Analytics | | **Monday: Final Group Project Assigned!**  **THANKSGIVING BREAK** | |
| Week #14  Nov 25 -> Dec 1 | | Predictive Analytics Week 2 | | Data prediction techniques | |
| Week #15  Dec 2->8 | | **Final Class** | | **Finals Week Dec 11->18: Final Project Submission** | |

**MAKEUP POLICY**

As a general rule, makeup exams will not be given.  If you feel you have a legitimate exception, bring it to the attention of the instructor prior to the exam. There will be no make up quizzes!

**HOMEWORK POLICY**

You are expected to complete homework on a timely basis and to discuss homework during class. This will enable you to obtain the maximum benefit from the course. Answers to homework problems will be provided. Do as many problems as you you need to master the material.

**CONTINUOUS FEEDBACK AND IMPROVEMENT**

Most weeks will include a short quiz. This is to assure that all students are up-to-date and understand the material covered. Periodically in-class problems and "review quizzes" will be assigned to your MBA team. Please bring your laptop and your textbook to class each week.

**Academic Integrity Policy**  
While you are encouraged to work with other class members outside of the course meetings on homework and for study purposes, you are expected to work alone on the quizzes and on individual projects. You may review the posted policy on the [RIT Student Rights and Responsibilities](http://www.rit.edu/studentaffairs/studentconduct/rr_academicdishonesty.php) web site. **Note:**  This link will open a new window which you can close and return to the course when you are done.  
  
This policy covers all courses at RIT unless otherwise noted by the instructor, the department, or the college in which the course is offered.