BELLEVUE COLLEGE

Become Exceptional

BA 240 – STATISTICAL ANALYSIS

WINTER 2016 COURSE SYLLABUS

Instructor:	Winnie Li
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Office location:	C207-I (Letter "I")
Office Hours:	Tuesdays/Thursdays 10:30am – 12:00pm or by Appointment

COURSE INFORMATION

Surveys techniques used in decision-making and research. Topics include descriptive and inferential statistics, probability, central tendency, variablitiy, normal and t-distributions, hypothesis testing, and regression. Materal has applications in business, health care, etc.

COURSE OUTCOMES

After completing this class, students should be able to:

- Identify the relationship between data analytics and business decision-making process

- Analyze and evaluate research methodologies

- Identify the most common data analytics methods and discuss how each method best applies to specific analytics questions

- Identify the most common technological tools used in data analytics

- Evaluate business problems and determine suitable analytical methods

- Use technological tools such as Excel or R to manage data sets in various sizes and formats

- Interpret research study results and clearly state the conclusion in reports and presentations with close attention to details

PREREQUISITE:

- MATH 138 or MATH& 141 with a C or better
- Intermediate computer skills and prior experience with Word, Excel and PowerPoint are required.

BOOKS AND MATERIALS REQUIRED:

Textbook: **Statistics** Tenth Edition, by McClave and Sincich, Prentice Hall 2006

Sortware: Excel 2007 or newer

Others: Calculator (Minimum Requirement: TI-30) and USB Flash Drive

TOPICS COVERED:

Chapter 1:	Introduction
Chapter 2:	Descriptive Statistics
Chapter 3:	Probability
Chapter 4:	Discrete Distribution
Chapter 5:	Continuous Distribution
Chapter 6:	Sampling Distribution
Chapter 7:	Confidence Interval
Chapter 8/9:	Hypothesis Testing (One Sample / Two Samples)
Chapter 10:	Analysis of Variance (Depends on Time Availability)
Chapter 11/12:	Regressiong Analysis (Simple / Multiple)

COURSE REQUIREMENT

THIS IS A TIGHTLY-SCHEDULED AND FAST-PACED COURSE, THE LATER MATERIALS ARE BUILT ON TOP OF THE PREVIOUS MATERIALS AND GET HARDER AND HARDER. WE HAVE NO TIME TO TAKE A BREAK OR REVISIT MATERIAL – IT IS VERY HARD TO CATCH UP IF YOU SLACK OFF.

An online class does not reduce any course requirements. Instead, it only offers you the flexibility of creating your own learning schedule. Make sure you manage your time well!!

For the first 1/3 of the course, we will cover about TWO chapters per week, then slow down to ONE chapter a week as the materials get much more complicated after Chapter 7. For the last couple of weeks of the quarter, we will be very busy with the team project. See "Study Schedule" for details.

ALL due dates are posted under Canvas Calendar (some are subject to change). Students will not be given extension(s) unless they have extenuating circumstances as decided by the instructor, and students must contact the instructor 48 hours before the due date to make such arrangements.

There is a significant amount of work in this class. You can expect to spend a minimum of 15 hours per week to study and to complete the assigned work. Make sure that you can spend at least that much time this quarter. *If you are overloaded with other courses or work, this may NOT be the right time for you to take this class.* FOR YOUR BENEFIT, DO NOT OVERLOAD.

You are expected read the course documents, textbook, books 24x7, tutors and Web resources, and use the discussion and chat tool to seek assistance from classmates and the instructor. DO NOT post files that are assigned as homework to the discussion area unless specifically directed to do so.

Check Course Website Frequently! Course Documents (including Syllabus, Updated Schedule, Lecture Notes, Homework Solution and Project Information) will be posted regularly.

GRADING COMPONENTS:

Attendance:	50 hours minimum
Assignments:	100 points
Quizzes:	90 points
Discussions:	110 points
Project:	200 points
Exams:	300 points
Final:	200 points
Total	1000 points

ATTENDANCE (50 HOURS MINIMUM)

This class requires 50 hours minimum attendance on Canvas. This includes but is not limited to reading the course documents, spending on discussions, using email and chat.

FYI, the average amount of time spent on Canvas for those who _passed_ the course is 75 hours.

ASSIGNMENTS (100 POINTS)

There are 10 homework assignments; each assignment contains 5 textbook questions (except homework 2). Before you start working on the homework, make sure you read the lecture notes (to get a general outline), read the textbook (for details and more explanations), and watch the video lecture (for chapter review/main points). You may find the assigned reading assignments and homework problems at the LAST couple slides (before the "END" slide) of each chapter lecture notes, as well as from the course website → Assignment

Files sent to instructor need to be named appropriately, as I need to track thousands of submissions every year. Typical format: **BA240_AssignmentXX _XXXXX.xxxx where the first XX is the Assignment #, XXXXX is the First Five letters of your Last Name, and xxxx is the document format.** For example: BA240_Assignment08_Li.docx would be great for word document of Assginment #8 for course BA 240 from Winnie Li (as I have a short last name :)

Please note:

1: Since this textbook is an older edition, there are a number of small errors I have noticed in both the textbook and the solution manual. **I have tried my best to correct as many as I could in the lecture notes, therefore make sure you treat lecture notes as the "model" if there are any "conflicts" between the textbook and the lecture notes.** Also, please feel free to let me know if you notice any errors (in both the textbook or the lecture notes).

2: For lecture purpose, the slides in the video lecture are generally MORE than the PowerPoint slides posted under lecture notes folder. **Make sure you have the lecture notes ready when watching the video lectures, and be sure to take MORE NOTES!!**

3: **DO NOT expect to start reading the materials on the due date and still be able to finish the assignment on time.** Although the reading time for each chapter takes about an hour or two, it may take many hours to understand the materials fully. Some chapters take more than a week in a traditional on-ground setting class (over 6 lecture hours plus exercises and self-study time). Please see "Recommened Study Schedule" (posted under Getting Started folder) for details. Make sure you manage your time well.

You may either hand write or type your homework. If you choose to handwrite, scan your work or take picture(s) of your work when you complete it (please make sure the resolution is CLEAR). Then **insert all images into a SINGLE Word Document**, and you should submit only **ONE file** if there's no additional requirement. All assignments should be submitted through Course Tools → Assignments.

If an assignment requires the usage of Excel, **DO NO just copy and paste the Excel output to Word**, please **insert the Excel sheet as an object** (so that it can be clicked through). If an assignment asks you to include a **SKETCH** or a **DIAGRAM** as part of your answer, **PLEASE DO SO!!** Failure of including required diagrams will

result in an automatic **loss of 50% of the credit** for that problem. **Diagrams do not need to be elaborate—a program like paint (or hand drawing) produces perfectly "adequate" graphics for these assignments.**

Lateness: Any work received after the due date is considered late. Late work will be penalized at the rate of **TWO (2) points per calendar day late**, including weekends/holidays, for a maximum of **THREE (3) calendar days.** Students will not be given extensions unless they have extenuating circumstances as decided by the instructor (you must contact me **48 hours before** the due date to make such arrangements).

Since extreme circumstances do occur in everyone's life, each student will have a total of **3 FREE late days:**

1) A free late day allows you to submit an assignment up to 24 hours late without penalty. For example, you could submit an assignment due Tuesday 9pm on Wednesday by 9pm with no penalty by spending 1 free late day.
2) You may choose to use the late days in any way you desire. For example, you could use 2 late days on Assignment 2 and 1 late day on Assignment 5, or spending all 3 on Assignment 7.
3) Late days are counted by CALENDAR DAY, each late day may only apply to ONE assignment, and may ONLY be used on homework (NOT applicable on quizzes, discussions or project).
4) Once a student has used up all 3 free late days, normal late penalty applies.
   Note: If you would like to use your free late days, you must add a note along with the assignment submission. For example, put down "I would like to use one of my three free late days" under submission comment.
5) NO credit will be given after the homework solution has posted, regardless how many free late days you have left.

Resubmission: Students are solely responsible on the assignment submission. You may take back the assignment and resubmit it **BEFORE** the due date with no penalty. If you would like to resubmit an assignment **AFTER** the due date due to whatever reason (i.e., wrong file, updated work etc.), free late days will be taken off if you have any left, and normal late penalty applies if all free late days have been used up.

QUIZZES (90 POINTS)

must be taken at scheduled times — No make-up quizzes are allowed. There are eight quizzes total, and typical formats include multiple choices and fill in blanks/short answers. Each quiz is worth 10-15 points, and is limited to 30 minutes long. In addition, you will have a Quiz 0 (which is about syllabus and general course information) and Quiz Practice (which helps you to get familiar with the Canvas grading system. **You should complete Quiz 0 and Quiz Practice AFTER you finished reading all materals under Gettering Started module, but BEFORE you move to Chapter 1 module.**

Note 1: Before start any quiz (quiz 1 to quiz 8), you must download the quiz file (under Modules). Complete the quiz file by hand first, and then start the Canvas quiz to fill in your answers. Although there is no time limit when you complete quiz file by hand, **in order to better prepare the exams, you should time yourself (make sure you complete the quiz within 30 minutes)**. FYI: the same quizzes are given to the on ground stduents during class time and are limited to 15-20 minutes.

DISCUSSIONS (110 POITNS)

For each assignment, there will be a follow-up discussion: pick ONE question from the homework assignment (the one you are mostly interested in), write a short paragraph to explain 1) why you are interested in it 2) how did you approach this question, solve it, and overcome any difficulties you had 3) what have you learned from this question and any comments. Alternatively, you may also choose the other option: create your own problem based on what you have learned in that chapter! ☺ You are also required to interact with your classmates in discussion – reply to at least two others' posts. Don't hold until the last minute, post as early as you could! This is an effective way to check your understanding on the materials and reviewing the homework assingment. In addition, you have the very first discussion (Discussion 0) as an introduction.

Please note: No late discussion posts will be accepted.

PROJECT (200 POINTS)

Project includes THREE parts:

1) **Team Contract (10 Poitns):** Gather in groups (each group may include 2 to 4 team members). Select a data set that satisfies the requirements. Split up work evenly and complete the Team Project Contract. See **Sample Team Contract** (posted under *Modules* → *Project Part 1*) for more information.

2) **Individual Report (90 Points):** Each team member choose ONE variable (NO two team members may obtain the SAME variable). Complete a basic descriptive statistics analysis on your chosen variable using EXCEL, and complete an individual report. See **Excel Demos and Sample Individual Report** (posted under *Modules* → *Project Part2*) for more information. Late work will be penalized at the rate of 10 points per day late, including weekends, for a maximum of **THREE** calendar days. After the third late day, no late work will be accepted.

3) **Team Report (100 points):** Work in teams, complete a multiple regression analysis using EXCEL, and complete a group report. No late team report will be accepted.

Note: You DO NOT have to meet in person in order to complete this team project. You may use TELECOMMUNICATION resources as much as possible, such as online chat, phone, email, etc. Teamwork is very important in real life.

EXAMS (500 POITNS)

There are three PROCTORED EXAMS given at BC main campus, at approximately the 4th, the 7th, and the 11th week. The first two exams are midterms, and the last one is final. Exam 1 covers Ch 1 through Ch 4, Exam 2 covers Ch 5 through Ch 8, and Final exam is cumulative (but 80%+ covers the materials after Exam 2). Exams are closed book, closed notes, however, you can bring a couple pages of cheat sheet. Detailed exam information/instruction will be posted in Announcement approximately one week before the exam date.

For each proctored exam, three different time slots will be offered, on Friday evening, Saturday morning, and Saturday afternoon. Make sure you SIGN-UP with ONE slot at least 72 hours prior to the exam. Detailed informationand sign-up sheet links are available at Course Home Page → People → Groups.

No make-up exams are allowed, however, alternative exam may be scheduled <u>ahead of time with at least 72 hours prior to the actual exam schedule.</u>

<u>Note</u>: if you are located outside of the local area (>50 miles away from BC) or have extraordinary situations, you may fill out the "Off Campus Proctor Exam Request Form" (posted under ***Modules → Getting Started***), and email the completed form to me. **<u>Please note the last day to submit the form on Calendar.</u>** Once your request is approved, you may take all three exams at your local **eligible testing center.** DO NOT fill the form if you simply have time conflict issue, we can arrange alternate exam schedule (subject to time/room availability).

GRADING POLICY

Individual assignments are graded on a scale of 100% with the following concepts:

1) **Work / Effort**: 20% for proper submission of something on time
2) **Correctness:** 70% for
   - any resemblance of a correct solution
   - demonstrating true understanding the problem at hand
   - for accurate results as required by the problem and the directions
     Yes, 90% (out of 100%) means all done accurately
3) **Professionalism / Neatness:** 10% for well-organized work, good formatting, nice labels, etc...
   Note: this may be subjective

Final Grade is given based on:

925 -- 1000	A	4
900 – 924	A-	3.7
875 – 899	B+	3.3
825 – 874	B	3.0
800 – 824	B-	2.7

775 – 800	C+	2.3
725 – 774	C	2.0
700 – 724	C-	1.7
675 – 699	D+	1.3
600 – 674	D	1.0
Below 600	F	0

Note 1: A passing grade will not be given unless <u>ALL REQUIREMENTS</u> of the course are completed.

Note 2: In order to be fair to everyone, <u>NO GRADE NEGOTIATION!!!</u>

INSTRUCTOR'S EXPECTATION

My role as the instructor is to:

- Help students succeed in this course
- Share my knowledge an dexperiences to help expand on concepts discussed in the course
- Provide timely feedback to students
- Moderate discussions anad challenge students to further therir knowledge
- Evalouate and grade students

As a student in this course, I expect you to:

- Work hard to achieve the goals of the course
- Actively contribute to any dicussions
- Share your thoughts, knowledge and experiences
- Cooperate and collaborate with other students
- Provide feedback to me throughtout the course

OTHER INFORMATION

AFFIRMATION OF INCLUSION

Bellevue College is committed to maintaining an environment in which every member of the campus community feels welcome to participate in the life of the college, free from harassment and discrimination.

We value our different backgrounds at Bellevue College, and students, faculty, staff members, and administrators are to treat one another with dignity and respect. http://bellevuecollege.edu/about/goals/inclusion.asp

STUDENT CODE OF CONDUCT AND ACADEMIC INTEGRITY

Cheating, stealing, and plagiarizing (using the ideas or words of another as one's own without crediting the source) and inappropriate/disruptive classroom behavior are violations of the Student Code of Conduct at Bellevue College. Examples of unacceptable behavior include, but are not limited to, talking out of turn, arriving late or leaving early without a valid reason, allowing cell phones/pagers to ring, and inappropriate behavior toward the instructor or classmates. The instructor can refer any violation of the Student Code of Conduct to the Dean of Student Success for investigation. Specific student rights, responsibilities, and appeal procedures are listed in the Student Code of Conduct at: http://www.bellevuecollege.edu/policies/id-2050/

BELLEVUE COLLEGE E-MAIL AND ACCESS TO MYBC

All students registered for classes at Bellevue College are entitled to a network and e-mail account. Your student network account can be used to access your student e-mail, log in to computers in labs and classrooms, connect to the BC wireless network and log in to *My*BC. To create your account, go to: https://www.bellevuecollege.edu/netid/.

BC offers a wide variety of computer and learning labs to enhance learning and student success. Find current campus locations for all student labs by visiting the http://depts.bellevuecollege.edu/helpdesk/students/

DISABILITY RESOURCE CENTER (DRC)

The Disability Resource Center serves students with a wide array of learning challenges and disabilities. If you are a student who has a disability or learning challenge for which you have documentation or have seen someone for treatment and if you feel you may need accommodations in order to be successful in college, please contact us as soon as possible.

If you are a person who requires assistance in case of an emergency situation, such as a fire, earthquake, etc, please meet with your individual instructors to develop a safety plan within the first week of the quarter.

If you are a student with a documented autism spectrum disorder, there is an additional access program available to you. Contact asn@bellevuecollege.edu or 425.564.2764. ASN is located in the Library Media Center in D125. www.bellevuecollege.edu/autismspectrumnavigators/

The DRC office is located in B132 or you can call our reception desk at 425.564.2498. Deaf students can reach us by video phone at 425-440-2025 or by TTY at 425-564-4110. Please visit our website for application information into our program and other helpful links at www.bellevuecollege.edu/drc

PUBLIC SAFETY AND EMERGENCIES

Public Safety is located in the K building and can be reached at **425-564-2400** (easy to remember because it's the only office on campus open 24 hours a day—2400). Among other things, Public Safety serves as our Parking Permits, Lost and Found, and Emergency Notification center. Please ensure you are signed up to receive alerts through our campus alerting system by registering at http://www.bellevuecollege.edu/alerts/?ref=footer

If you work late and are uneasy about going to your car, Public Safety will escort you to your vehicle. To coordinate this, please phone ahead and let Public Safety know when and where you will need an escort.

Please familiarize yourself with the emergency postings by the door of every classroom and know where to go in the event of an evacuation. Your instructor will be asked if anyone might still be in the building, so check in before you do anything else. Emergency responders will search for anyone unaccounted for.

If a major emergency occurs, please follow these two rules:

1) Take directions from those in charge of the response -We all need to be working together.

2) Do not get in your car and leave campus (unless directed to) - Doing so will clog streets and prevent emergency vehicles from entering the scene. Instead, follow directions from those in charge.

Please do not hesitate to call Public Safety if you feel safety questions or concerns at any time.

ACADEMIC CALENDAR

Please see Recommended Study Schedule and Canvas Calendar for details.