



# BA 240 – STATISTICAL ANALYSIS

## SUMMER 2017 COURSE SYLLABUS

Instructor: Winnie Li  
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### COURSE INFORMATION

Surveys techniques used in decision-making and research. Topics include descriptive and inferential statistics, probability, central tendency, variability, normal and t-distributions, hypothesis testing, and regression. Material 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** 12<sup>th</sup> Edition, by McClave and Sincich, Prentice Hall 2013

Software: Excel 2007 or newer

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

## TOPICS COVERED:

Chapter 1:	Statistics, Data, and Statistical Thinking
Chapter 2:	Methods for Describing Sets of Data
Chapter 3:	Probability
Chapter 4:	Discrete Random Variables
Chapter 5:	Continuous Random Variables
Chapter 6:	Sampling Distributions
Chapter 7:	Inferences Based on a Single Sample: Estimation with Confidence Intervals
Chapter 8:	Inferences Based on a Single Sample: Tests of Hypothesis
Chapter 9:	Inferences Based on a Two Samples: Confidence Intervlas and Tests of Hypotheses
Chapter 10:	Analysis of Variance: Campring More than Two Means (Depends on Time Availability)
Chapter 11:	Simple Linear Regression
Chapter 12:	Multiple Regression and Model Building

## 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. In the last week of the quarter, we will be very busy with the team project. See “Study Schedule” for details.

ALL due dates are posted in 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 are expected 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.

## RESOURCES:

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

**Tutors** are available in the Business, Economics Study Center (BESC) @ D-204, schedules will be post in front of the study center door, usually in the 2<sup>nd</sup> week of the class.

This course requires that you demonstrate and develop your writing and research skills. We recommend that you consult the Reading/Writing lab <http://bellevuecollege.edu/writinglab/> with the drafts of your assignments and that you make use of the Library Media Center <http://bellevuecollege.edu/lmc/> in doing research.

If you intend to and have not already done so, declare your business major. Make sure you have consulted with an advisor and laid out your courses. We recommend that you subscribe to the Business listserv to get notices of events and application deadlines: send a message to: [lyris@list.bellevuecollege.edu](mailto:lyris@list.bellevuecollege.edu). In the body of your message write **SUBSCRIBE bccbusiness**.

Division Policies and Procedures: <http://bellevuecollege.edu/socsci/policies.asp>

## GRADING COMPONENTS:

Attendance and Participation	5%
Assignments	10%
Quizzes	10%
Project	20%

Exams	30%
Final	25%
Total	100%

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## ASSIGNMENTS (10%)

There are 10 homework assignments; each assignment contains 5 textbook questions (except homework 2). 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

Please note:

1. Since we have just switched to this newer edition of the textbook, we are still proof reading the textbook, the accompany test bank and the solution manual. **If I notice any errors, I will make corrections 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 in the course website. **Make sure you have the lecture notes ready when coming to the class and/or watching the video lectures, and be sure to take MORE NOTES!!**
3. **Assignments are focused on hands-on applications.** While they are related to the concepts in the textbook and lecture notes, you most likely won’t find the detailed step-by-step instructions on how to complete each problems. ***To succeed in this area, you need to hone your skills of searching and utilizing all resources available, including but not limited to class materials, discussion board, online Q&A sessions, tutoring sessions, and internet search.***
4. Of special concern for an online course is the fact that we do not exchange paper. **So it is particularly important to FOLLOW DIRECTIONS.** One of my biggest problems (and thus yours) is with students who already know exactly what to do, so they miss many subtle points of what I ask to be done in assignments. Again, please follow directions on each assignment and quiz, particularly **the format and the precision requirements.**
5. You may either hand write or type your assignment. **All assignments are due at the beginning of the class, and will be accepted only if you are present in class. Any assignment turned in 5 minutes past the starting of the class will be considered late.**

**Late Work Policy:** Any work received after the due date is considered late. 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 Assignments, **NOT applicable on project or extra credit assignments**.
- 4) Once a student has used up all 3 free late days, normal late penalty applies.
- 5) **NO credit** will be given after the homework solution has posted, regardless how many free late days you have left.

**Note:** All late assignments must be submitted through Canvas Assignment Tool (for date/time "stamp"), and a hard copy of the late assignment is also required for credit.

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## QUIZZES (10%)

There are eight quizzes total, some are in-class, and others will be take home. Each quiz is worth 20 points, and is limited to 15 minutes long. Quizzes that are given in class are closed book and closed notes, but you are allowed to bring two sheets of standard letter (8.5" x 11") sized cheat-cheats, which can be used on both sides.

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## PROJECT (20%)

Project includes THREE parts:

- 1) **Team Contract (10 Points):** Gather in groups (each group is limited to 2 to 4 team members). Select a data set that satisfies the requirements. Split up work evenly and complete the Team Project Contract. See **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 **Modules → Project Part2** for more information.
- 3) **Team Report (100 points):** Work in teams, complete a multiple regression analysis using EXCEL, and complete a group report. See **Modules → Project Part2** for more information.

**Note:** No late project will be accepted.

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## MIDTERM EXAMS (30%) AND FINAL (25%)

There are a total of three exams given in class, at approximately the 3<sup>rd</sup>, the 5<sup>th</sup>, and the 7<sup>th</sup> week. The first two exams are midterms, and the last one is the 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 given in class approximately one week before the exam date.

## 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:**

93 – 100%	A	4
90 – <93	A-	3.7
87 – <90	B+	3.3
83 – <87	B	3.0
80 – <83	B-	2.7
77 – <80	C+	2.3
73 – <77	C	2.0
70 – <73	C-	1.7
67 – <70	D+	1.3
60 – <67	D	1.0
Below 60	F	0

**Note 1: A passing grade will not be given unless ALL REQUIREMENTS of the course are completed.**

**Note 2: In order to be fair to everyone, NO GRADE NEGOTIATION!!!**

## INSTRUCTOR'S EXPECTATION

### My role as the instructor is to:

- Help students succeed in this course
- Share my knowledge and experiences to help expand on concepts discussed in the course
- Provide timely feedback to students
- Moderate discussions and challenge students to further their knowledge
- Evaluate 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 discussions
- Share your thoughts, knowledge and experiences
- Cooperate and collaborate with other students
- Provide feedback to me throughout the course

### How to succeed in this course:

- Attend **ALL** classes, and **silent** your cell phone during class.
- **Preview** and **print out** the lecture notes **before** class, make sure you leave enough spaces to write down MORE notes, and **Review** lecture notes **after** class.
- Make good use of the resources (solution manual, available documents and resources in course website), see tutors for special help.
- Homework assignments are really the **minimum** requirement for exercises and must be turned in **ON TIME (at the beginning of the class)**. You need to do more exercises (particularly the chapter review problems) on your own in order to be successful in this class.
- **Study in groups** and **start early** on projects.

## 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 MyBC. 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](mailto:asn@bellevuecollege.edu) or 425.564.2764. ASN is located in the Library Media Center in D125. [www.bellevuecollege.edu/autismspectrumnavigators/](http://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](http://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.

## BA 240 Summer 2017 Tentative Schedule

*(Subject to adjustment – changes will be announced at the beginning of class)*

DATE	READING ASSIGN.	HOMEWORK	QUIZZES	EXAMS	PROJECT
<b>Jun 26</b>	Vista Tutorial, Syllabus, Overview of the course. Chapter 1: 1.1 – 1.6 Chapter 2: 2.1 – 2.2 <b>Ch. 1 Video Lecture</b>				
<b>Jun 27</b>	Chapter 2: 2.3 – 2.8 <b>Ch. 2 Video Lecture</b>				
<b>Jun 28</b>	Review Chapters 1 and 2 Chapter 11: 11.1 – 11:3 Chapter 3: 3.1 <b>Ch. 3 Video Lecture</b>	HW 1 Due (Ch. 1)	Quiz 1 Due		
<b>Jun 29</b>	Chapter 3: 3.2 – 3.7 <b>Ch. 3 Video Lecture</b>	HW 2 Due (Ch. 2)	Quiz 2 Due		
<b>Jul 3</b>	<b>Self-Study Day</b> Review Chapter 3, Study Chapter 4 <b>Ch. 4 Video Lecture</b>				
<b>Jul 4</b>	<b>☺ No Class ☺</b>				
<b>Jul 5</b>	Chapter 4: 4.1 – 4.4 Review Chapters 3 and 4	HW 3 Due (Ch. 3)	Quiz 3 Due		
<b>Jul 6</b>	Chapter 5: 5.1 Chapter 6: 6.1 – 6.3 <b>Ch. 5 Video Lecture</b>	HW 4 Due (Ch. 4)	Quiz 4 Due		Part 1: Data & Contract Due
<b>Jul 10</b>	Chapter 5: 5.3 Chapter 6: 6.1 – 6.3 <b>Ch. 6 Video Lecture</b>				
<b>Jul 11</b>	Exercise Day Review Chapters 5 and 6 Review Exam 1	HW 5 Due (Ch. 5 and 6)			
<b>Jul 12</b>	Chapter 7: 7.1 – 7.3 <b>Ch. 7 Video Lecture</b>		Quiz 5 Due		

<b>Jul 13</b>				Exam 1 (Ch. 1-4)	
<b>Jul 17</b>	Chapter 7: 7.4 – 7.5 Chapter 8: 8.1 <b>Ch.8 Video Lecture</b>				
<b>Jul 18</b>	Chapter 8: 8.2 – 8.4 <b>Ch.8 Video Lecture</b>	HW 6 Due (Ch. 7)			
<b>Jul 19</b>	Chapter 8: 8.5 Review Chapter 8 <b>Ch.8 Video Lecture</b>		Quiz 6 Due		
<b>Jul 20</b>	Chapter 9: 9.1 – 9.2 <b>Excel Demo: Part 1 – Part 5</b>	HW 7 Due (Ch. 8)			
<b>Jul 24</b>	Chapter 9: 9.3 – 9.5 <b>Ch.9 Video Lecture</b>				Part 2: Individual Report Due
<b>Jul 25</b>	Chapter 9: 9.5, Review Chapter 9 Overview Team Project Review Exam 2	HW 8 Due (Ch. 8)			
<b>Jul 26</b>	Review Chapter 11: 11.3 – 11.9 Sections 10.2 and 12.11 <b>Ch.11 Video Lecture</b> <b>Excel Demo: Part 6 – Part 10</b>	HW 9 Due (Ch. 9)			
<b>Jul 27</b>				Exam 2 (Ch. 5-8)	
<b>Jul 31</b>	Team Project Demo	HW 10 Due (Ch.9)			
<b>Aug 1</b>	Team Project Q & A		Quiz 7 Due		
<b>Aug 2</b>	Team Project Q & A				
<b>Aug 3</b>	Review Final Exam		Quiz 8 Due		Part 3: Team Report Due
<b>Aug 7</b>	Final Exam				
<b>Aug 8</b>	Discussion Day				