

BA 240: STATISTICAL ANALYSIS
Summer 2015

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CLASS LOCATION: C208
CLASS HOURS: TTh 6:00-9:55 PM
ITEM: 5495
SECTION: B

COURSE OVERVIEW AND OBJECTIVES

The goal of this course is to provide a practical and applied view of the use of statistics. Understanding technical, contextual, and research applications are the aspects to be covered in this course. This course will also involve the use of Microsoft Excel software to solve statistical problems. This is a rigorous course, designed and applicable for transfer to 4-year universities.

BA 240 Statistics Outcomes

- Research and understand the nature of information and large data sets.
- Calculate solutions to statistical problem sets including measures of central tendency, measures of variability, probability, binomial distributions, normal distributions, confidence intervals, hypothesis testing, correlation, and regression.
- Use software to solve statistical problems.
- Communicate data effectively with written and visual display.
- Apply statistical analysis to real data including framing the problem, sorting data, selecting appropriate statistical formulae, and coming up with relevant conclusions.
- Work in teams to complete projects.

Topics covered will include:

mean, median, mode
standard deviation, standard error, variance
probability
binomial distribution
normal distribution, central limit theorem
student's t distribution
hypothesis testing
confidence intervals
simple linear regression
correlation
chi square tests
analysis of variance

Additionally, we will be using the Microsoft Excel software package

TEXTS

1)) McClave and Sincich, Statistics, 10th Ed

REQUIREMENTS AND ASSIGNMENTS

There will be 800 points available in this course:

| | |
|---|-----------|
| 3 exams at 150 points each | 450 |
| 4 EXCEL assignments at 40 points each | 160 |
| 1 group project | 110 |
| <u>8 Homework assignments at 10 points each</u> | <u>80</u> |
| Total | 800 |

There will be scheduled lab sessions on specified days in which students can work on their EXCEL assignments. If students wish to do assignments at other times, they can find open computers at N250. Note that you cannot do the assignment using Mac's; there are excel add-ins that won't work with Mac's.

There is a large amount of material to be covered. It is understood that a student may have to miss classes due to other commitments; although missing classes tend to be detrimental to the understanding of the material. Historically classroom attendance has been found to be very beneficial. Class notes are meant to supplement, not substitute for attendance. **Students are held responsible for knowing what was said during class.**

. Late homework and lab assignments will not be accepted, unless pre-approved by instructor

Laptop computers **cannot** be used during exams.

Group projects are to be done in groups, 2-4 students. Single student projects are on a case by case basis and must be approved by the instructor, penalty may be applied. Datasets need to be approved by instructor. Once a data set is approved for a group, that dataset is no longer available for any other group. Projects that had been turned in prior quarters **cannot** be used.

GRADING POLICY

In conjunction with the Bellevue Community College grading policy, the following grading system will be used in this course:

| GRADE | PERCENTAGE | NO. OF POINTS | |
|-------|------------|---------------|-----------|
| A | 4.0 | 92-100 | 736- 800 |
| A- | 3.7 | 90-91.9 | 720- 735 |
| B+ | 3.3 | 88-89.9 | 704 - 719 |
| B | 3.0 | 82-87.9 | 656 - 703 |
| B- | 2.7 | 80-81.9 | 640 - 655 |
| C+ | 2.3 | 78-79.9 | 624 - 639 |
| C | 2.0 | 72-77.9 | 576 - 623 |
| C- | 1.7 | 70-71.9 | 560 - 575 |
| D+ | 1.3 | 68-69.9 | 544 - 559 |
| D | 1.0 | 62-67.9 | 496 - 543 |
| F | 0.0 | BELOW 62 | BELOW 496 |

Incomplete

If a student fails to complete all the required work for a course, an instructor may assign the grade of Incomplete ("I"). The student must complete the coursework by the end of the next quarter, or receive the assigned letter grade (usually an "F").

F Grade

Students who fail a course will receive a letter grade of "F."

Final Examination Schedule

The Social Science Division will adhere to the final examination schedule as stated in the BC Schedule. Final examinations will be held at the end of each quarter at fixed times. Instructors are not required to allow examinations in advance of the regular schedule.

A student who is absent from any examination held at any time during the quarter may forfeit the right to make up the examination. If, for illness or some other circumstance beyond the student's control, the student is unable to be present at any scheduled examination and has contacted the instructor on a timely basis, the student may be permitted to take such examination at a time designated by the instructor. Make-up Exams are on a case by case basis at the instructor's discretion. Documentation supporting reason may be required. If allowed, typically done within a couple of days during business hours (M-Th 8A-4:30P) in the Social Science office, D110. Students are responsible for making necessary arrangements with employers.

Withdrawal From Class

College policy states that students must formally withdraw from a class by the end of the seventh week of the quarter (Registration Office, B125). If a student has not withdrawn by that date, an appropriate letter grade will be assigned for the course.

Hardship Withdrawal

Instructors may assign the grade of "HW" (hardship withdrawal) at their discretion in the event that a student cannot complete the coursework due to extreme and exceptional circumstances. Students may also contact the Enrollment Services office BEFORE grades are assigned in cases of hardship.

Distribution of Grades

Grades will not be posted in the Social Science Division or in faculty offices, and secretaries will not give out grades. Students should access their grades through the BC Web site.

Return of Papers and Tests

Paper and/or Scantron score sheet returns will be arranged in the following ways ONLY: by mail, if student supplies the instructor with stamped, self-addressed envelope (with appropriate postage); or by the instructor designating a time and place whereby the student may retrieve his/her papers. Unclaimed papers and/or Scantron score sheets must be kept by the instructor for a minimum of sixty (60) instructional days following the end of the quarter.

SPECIAL ACCOMMODATIONS

Students with disabilities who have accommodation needs are encouraged to meet with the Disability Resource Centre (DRC) office located in B132 (telephone 425.564.2498 or TTY 425.564.4110), to establish their eligibility for accommodation. The DRC office will provide each eligible student with an accommodation letter. Students who require accommodation in class should review the DRC accommodation letter with each instructor during the first week of the quarter.

Students with mobility challenges who may need assistance in case of an emergency situation or evacuation should register with Disability Resource Centre, and review those needs with the instructor as well.

POLICY REGARDING PLAGIARISM, STEALING, AND CHEATING

To be clear regarding plagiarism, stealing, and cheating, this course outline includes policy on these matters.

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 Services for possible probation or suspension from Bellevue College.

If you choose to cheat, steal, or plagiarize, the following actions will be taken:

1) First instance: you will receive a 0 score for the entire test/project regardless of the extent of the cheating. **Students who receive help and students who give help will be considered equally guilty.**

2) Second instance: you will receive a failing grade for the course and a report of the incident will be forwarded to the Dean of Students. He/she may file the report in your permanent record and/or take further disciplinary action.

If you are accused of cheating, stealing exams and/or plagiarism, there is a Bellevue College Student Discipline and Appeals Procedure (the right to due process) which you may pursue. Contact the office of Division Chair (D110), the Dean of Student Services (B231A) or the Associated Student Body (C212) for information regarding the appeals process.

CALENDAR

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WEEK 1: Reading – Jul 02: Chapter 2.1-2.8 Chapter 3.1-3.8

Jul 02: Course Requirements, Overview (Lecture 1); Describing Data (Lecture 2); Project Discussion; Probability (Lecture 3)

WEEK 2: Reading – Jul 07: Chapter 4.1-4.2, 4.4 Chapters 5.3, 5.5, 6.3
 Jul 09 : Chapters 7.2-7.5 Chapters 8.1-8.5

Jul 07: Binomial Distribution (Lecture 4); Normal distribution, Z-scores (Lecture 5); Central Limit Theorem (Lecture 6)

Jul 09: Confidence intervals for Single Population (Lecture 7); Hypothesis testing for Single Population (Lecture 8)

WEEK 3: Reading – Jul 14:
 Jul 16:

Jul 14: Examples (Practice 1, Review 1); Review for Exam 1 (Practice Problems for Exam 1); Lab 1(due next class)

Jul 16: Teams selection and data selection due; **EXAM 1**

WEEK 4: Reading – Jul 21: Chapters 9.2-9.3
 Jul 23: Chapters 9.4

Jul 21: Confidence Intervals for Difference in Two Means (Lecture 9); Hypothesis Tests for Differences in Two Means (Lecture 10); Lab 2 (due next class)

Jul 23: Confidence Intervals and Hypothesis Tests for Difference in Two Proportions (Lecture 11); Examples (Practice 2, Review 2)

WEEK 5: Reading – Jul 28:

Jul 30:

Jul 28: Review for Exam 2 (Practice Problems for Exam 2)

Jul 30: **EXAM 2**

WEEK 6: Reading – Aug 04: Chapters 11.1-11.9, 12.1-12.3, 12.11
Aug 06: Chapter 13.2-13.3 Chapter 10.1-10.2

Aug 04: Regression and Correlation (Lecture 13); Lab 3 (due next class)

Aug 06: Chi-square Tests (Lecture 12) ; Analysis of Variance (Lecture 14)

WEEK 7: Reading – Aug 11:

Aug 13: :

Aug 11: Review for Exam 3; Lab 4 (due next class); Excel portion of project due

Aug 13: **EXAM 3**; Projects due beginning of class