ISDS 361A: Business Analytics I , Section 23 -12014

Tentative Course Syllabus, Fall 2016

Instructor: Dr. Panos Skordi; Office: SGMH 4195

CALIFORNIA STATE UNIVERSITY
FULLERTON

Mihaylo College of Business and Economics
Department of Information Systems & Decision Sciences

Lecture:	Monday/Wednesday 4.00 – 5:15 in SGMH 2101
Office hours:	Monday/Wednesday 12:45 – 1:30
Email:	pskordi@fullerton.edu
Office phone:	(657) 278 3719

The objective of the course is to present statistical data analysis tools that are commonly used in business applications. By the end of the course, students will be able to determine which statistical technique(s) is (are) appropriate for a given business context, and also be able to effectively communicate their findings.

Key Learning Goals of the course

- Perform quantitative analysis and data visualization
- Describe data based on shape, location and variability
- Understand a random variable and the concept of a probability distribution
- Apply the Normal distribution
- Model sample to sample variation using sampling distributions
- Understand confidence intervals and margin of error
- Understand testing hypotheses, p-value and significance level
- Perform inference on whether the means of two groups are different
- Understand correlation and causation
- Use regression analysis to measure relationships
- Understand how to use ANOVA to analyze designed experiments

Excel Training is Part of ISDS 361A

Students also participate in a mandatory online-only excel training. The excel training will be conducted in the *first 5 weeks* of the course. As part of training, students are required to submit weekly assignments, and complete one comprehensive exam. For more information about the Excel training and related issues, please refer to the *Excel Training Instructions* document which is available in the course's Titanium website.

Learning goal of the training: Gain a high level of proficiency of Microsoft Excel

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Required Text Book

Statistics for Business and Economics, Revised, 12e, by Anderson, Sweeney, Williams, Camm and Cochran, published by Cengage, ISBN: 9781305592285. The book is available at the university bookstore and at the off-campus bookstore called "Little Professor".

Software: Microsoft Excel 2013 for Windows. Please note that some Excel functions and Add-ins that we will use do not work on Mac computers. One of the Add-ins, "Data Analysis", works only on Mac Office 2016 (and not on any previous versions of Mac Office).

Pre-requisite and co-requisite

The pre-requisite for this course is MATH 135/150 or an equivalent course in Business Calculus and the co-requisite is BUAD 301.

Supplemental Instruction (SI)

Supplemental Instruction (SI) study sessions are offered for this course. SI sessions meet two times a week, throughout the semester. Supplemental Instruction is an academic assistance program which provides peer-led group study sessions to assist students in traditionally difficult courses. SI sessions are led by a SI leader who has already mastered the course material and has been trained to facilitate group sessions where students can meet to improve their understanding of course material, review and discuss important concepts, develop study strategies and prepare for exams. *SI is for everyone, and open to all students enrolled in this class; not just those students who are struggling*. Attendance at SI sessions is free and voluntary. Students, who attend SI sessions weekly, typically earn higher final course and exam grades than students who do not participate in SI. Please bring your lecture notes, books, and questions with you.

SI study sessions for ISDS 361A classes will meet at the following days/times during the semester:

SI Schedule	SI Leader
Friday, Saturday: 8:30 – 9:45am, LH-317	An Tran
Friday, Saturday: 10 – 11:15am, LH-317	Mychal Armenta
Friday, Saturday: 12:45 – 2pm, LH-317	Mychal Armenta
Friday, Saturday: 11:30am – 12:45pm, LH 317	Jacob Haire/ Sali Ghouchani
Friday, Saturday: 12:45 – 2pm, LH 319	Jacob Haire/ Sali Ghouchani
Friday, Saturday: 11:30am – 12:45pm, LH 319	Grace Tan
Friday, Saturday 8:30 – 9:45am, LH 319	Leo Cho
IRVC: TBD	Isaac Waters

For additional information on the SI Program at CSUF, please visit the website at:
http://www.fullerton.edu/si or contact the ISDS SI faculty liaison Dr. Sinjini Mitra at
smitra@fullerton.edu.

Homework Assignments

CengageNow is the text book's companion website. All homework assignments are assigned
and graded via CengageNow. To get access to CengageNow, you must purchase the text
book from CSUF bookstore. *See your section's Titanium page for registration and login
details.*

You will typically have 2-3 weeks to complete each assignment, and they must be submitted
by the deadline specified on the Titanium course website as well as on CengageNOW. It is
your responsibility to submit your homework in a timely fashion. In case of technical
difficulties, you are required to inform your instructor BEFORE the deadline but they cannot
be accepted as excuses for late/missed submissions AFTER the deadline has passed.

The homework assignments are automatically graded and you are able to check your work
before submission. You have unlimited attempts on each assignment, and the last one is
recorded in the gradebook. CengageNOW offers many study tools, including guided
examples and video demonstrations, so use this as a learning tool to master the topics and
prepare for your exams as well.

To successfully complete this course, you are strongly advised to complete all the
assignments.

Grading and Related Issues

	Evaluation Item	% points	Remark
1	3 Homework	6	*Conducted online through CengageNow*
2	1 Short Report Writing	2	**Due:** Dec 11 in Titanium
3	Excel Training – 5 Home Work Assignments	5	**Weekly for the first 5 weeks of the course**
4	Excel Training – Exam	5	**Wednesday September 28**

5	Exam 1 (65 mins)	20	**Monday September 19**
6	Exam 2 (75 mins, non-cumulative)	20	**Monday October 24**
7	Exam 3 (75 mins, non-cumulative)	20	**Monday November 28**
8	Exam 4 (80 mins, cumulative)	22	**Wednesday December 14 (5:00 pm – 6:50 pm)**
	TOTAL	**100**	
9	3 **Extra Credit** Review Quizzes	3	**Quizzes are conducted online through Titanium (Due by the Sunday evening before the mid-term).**

Makeup Exam: There will be NO MAKE-UP EXAM except under extreme circumstances such as illness that require doctor's visit. Student is required to submit **verifiable** documentation supporting the make-up request **within four business days** after the exam. Please be aware that a letter stating that a student **visited a doctor** on exam day **does not qualify** for a valid document.

Homework Assignments: Each homework covers several chapters:
- Homework 1: Chapters 3 and 6
- Homework 2: Chapters 7, 8 and 9
- Homework 3: Chapters 10 and 13

Homework due dates: Please note that different chapters included in any HW may have different due dates. So please review the information on CengageNOW and your course website to see which chapters are included in each homework and the respective due dates.

About the Short Report

o A real data is provided pertaining to a business case study. Students will analyze the data using Microsoft Excel, and summarize their findings in the form of a short report not exceeding 1.5 pages. Your final report (in a PDF format) **must be submitted [INSERT]. Details will be available for your particular course section on your Titanium website. No email submission**. If a student disregards this and uses email to submit, a zero is assigned for the report. The minimum a student receives for a case report is 0. Submitting a report is no guarantee for receiving any credit. A sample solution report will be posted for your review, **and case reports will not be returned back** to the student. Keep a copy of your report for future reference.

Poor report (will result in significant loss of points) is characterized by one or

more of the following:

1) Report is done in rush and hence is inconsistent. It also has several errors – grammatical, typo, etc.

2) Report shows very weak mastery of the concepts. In this case, it will contain lots of vague statements and generalizations with no support.

3) Report is not well organized and does not reflect seriousness.

- o **Recommended optional book for business writing:**

  The Business Writers' Handbook, by Alred, Brusaw and Oliu (10th edition), this book is available at the university bookstore for purchase.

Final Letter Grade

Your final grade will be based upon your total accumulated points in <u>the exams</u>, <u>short report</u>, <u>homework </u>assignments and <u>available extra credit</u> points. The following scale will be used.

Cumulative Points	Letter Grade
≥100	A+
93 – 99	A
90 – 92	A-
86 – 89	B
80 – 85	B-
70 – 79	C
60 – 69	D
< 60	F

- o Before letter grade is assigned, total cumulative score will be first rounded (if necessary) to the nearest whole number.

- o **NO CURVE** is used to determine grades. Grades are based on fixed scales above and will be strictly followed.

Extra Credit Review Quizzes

o There will be **3 review quizzes for extra credit.** *A student will get 2 attempts to complete a quiz.*

o Quizzes are intended to serve as **reviews** for exams and their degree of difficulty is **considerably less than exams**. The nature of the quizzes will also be totally different from exams. By completing all quizzes, a student can earn **up to a maximum of 3 extra credit points** that will count toward the final grade.

o **Completing the quizzes is optional**. But, students are strongly encouraged to complete the assigned quizzes. The available maximum extra credit is high enough to improve one's final grade to the next higher grade.

Internet Related

o It is your responsibility to check if you can access the course Web sites before any work is due and immediately report any problems. Undocumented connectivity problems will not be accepted as an excuse for not turning in the assigned work; you may submit your work by e-mail only if you experience problems with posting it to the course Web site.

o It is your responsibility to frequently check course Titanium as well as your email for updates, announcements and other course related resources.

o *Tracking and netiquette:* Your online activity on all course Web sites will be tracked and a copy of your online activity log will be kept. Appropriate online behavior is expected from all students using the course Web sites.

Academic dishonesty: As a student taking coursework in this College, you have an obligation to maintain the highest standards of ethical conduct. This involves avoiding acts of academic dishonesty. The reason for requiring the highest standards of ethical conduct is to ensure fairness, honesty and integrity in the evaluation of student performance. Evaluation of student performance should not be invalidated by students intending or attempting to misrepresent the skill, achievement or ability of either themselves or others. If detected, academic dishonesty may result in an F for the course plus additional university-level disciplinary actions. In addition, any incident of academic dishonesty may be reported to the department chair and Judicial Affairs.

Assessment Statement: The programs offered in Mihaylo College of Business and Economics (MCBE) at Cal State Fullerton are designed to provide every student with the knowledge and skills essential for a successful career in business. Since assessment plays a vital role in Mihaylo College's drive to offer the best, several assessment tools are implemented to constantly evaluate our program as well as our students' progress. Students,

faculty, and staff should expect to participate in MCBE assessment activities. In doing so, Mihaylo College is able to measure its strengths and weaknesses, and continue to cultivate a climate of excellence in its students and programs.

Disabled Student Services: For information about student's right to accommodations for documented special needs, contact Disabled Student Service Office, UH 101, (657) 278-3117 or visit www.fullerton.edu/disabledservices .

Emergency Policy: See link-
http://www.fullerton.edu/emergencypreparedness/ep_students.html

Course Outline: note that this schedule is tentative.

Week of	Topic/Activity	Key Concepts	Readings
AUG 22 **Week 1**	**1. Statistics and Data** **2. Exploring Data**	Data – information, Data-driven Decision making, Business Analytics, Data types and measurement scales, Descriptive/inferential statistics, Population/sample, Sampling biases/ Histogram- density, Symmetry, skewness, modality, mean, median, mode, range, variance, standard deviation, coefficient of variation, the empirical rule, Chebysheff's theorem, box-plots, quartiles/percentiles	- **Power Point Notes** - **Chapter 1** - **Power Point Notes** - **Chapter 3** **(Sections 1-4)**
AUG 29 **Week 2**	*Continued…* **Exploring Data**		

SEP 5 **Week 3**	**Normal Probability Model**	Random variable, discrete, continuous, normal density, bell-curve, calculating probabilities, dealing with inverse problems	- **Power Point Notes** - **Chapter 6** (Section 2)
SEP 12 **Week 4**	*Continued…* **Normal Probability Model** **Homework #1** **(Sunday, Sep 18)**	Chapters 1, 3, 6	- *CengageNow*
SEP 19 **Week 5**	**1. Exam #1** **(Monday, Sep 19)** **2. Sampling distributions**	Chapters 1, 3, 6 sampling distribution, central limit theorem, normal distribution, t-distribution, sample mean, sample proportions	- **Power Point Notes** **Chapter 7** (Sections 4 -6)
SEP 26 **Week 6**	*Continued…* **Sampling Distributions** **EXCEL – Comprehensive Exam** **(Wednesday, Sep 28)**		*Titanium*
OCT 3 **Week 7**	**Interval Estimation** **Extra Credit Quiz** **(Sunday, Oct 9)**	Interval estimator, point estimator, confidence level, precision, known/unknown population standard deviation, t-distribution, degrees of freedom, sample size	- **Power Point Notes** **Chapter 8** (Sections 1 - 4) **Titanium**

OCT 10 **Week 8**	**Hypothesis Tests**	Null and alternative hypothesis, claim, sample evidence, critical value, p-value, rejection region, Type 1 and 2 errors	- **Power Point Notes** - **Chapter 9** (Sections 1, 2, 3, 4, 5)
OCT 17 **Week 9**	*Continued…* **Hypothesis Tests** **Homework #2 (Sunday, Oct 23)** **Extra Credit Quiz (Sunday, Oct 23)**	Chapters 7, 8, 9	*CengageNow* *Titanium*
OCT 24 **Week 10**	1. **Exam #2** **(Monday, Oct 24)** 2. **Inference about means with two populations**	Chapters 7, 8, 9 Two populations, independent samples, matched samples, interval estimators, hypothesis tests	- **Power Point Notes** - **Chapter 10** (Sections 1 - 3)
OCT 31 **Week 11**	*Continued…* **Inference about means with two populations**		
NOV 7 **Week 12**	1. *Continued…* **Inference about means for two populations** 2. **Experimental design and analysis of variance (ANOVA)**	ANOVA as a generalization of two-sample tests, one-way ANOVA, two-way ANOVA, ANOVA with interactions, ANOVA without interactions, Completely randomized design	- **Power Point Notes** - **Chapter 13** (Sections 1, 2, 4 and 5)

NOV 14 **Week 13**	*Continued…* **Experimental design and analysis of variance (ANOVA)** **Homework #3** **(Sunday, Nov 20)**	Chapters 10, 13	CengageNow
NOV 21 **Week 14**	**FALL Recess and Thanksgiving break** **NO CLASSES**		
NOV 28 **Week 15**	**1. Exam #3** **(Monday, Nov 28)** **2. Regression Models**	Chapters 10, 13 Scatter plot, correlation, causation, linear regression models, p-value, t-tests, F-tests, ANOVA table, R-squared, prediction	- **Power Point Notes** - **Chapter 14** (Sections 1 - 7)
DEC 5 **Week 16**	*Continued…* **Regression Models** **Extra Credit Quiz** **(Sunday, Dec 11)**		
Wednesday **DEC 14** **Week 17** **Noon –** **1:50 p.m.**	**FINAL EXAM**	Cumulative (ALL chapters)	