## Basic Course Information

| | | | |
|---|---|---|---|
| Semester | Winter 2015 | Instructor Name | Mark A. Duva, Ph.D. |
| Course Title/ Catalog #/units | Statistical Methods in Behavioral Sciences PSY 214/4 units | Instructor Email | mark.duva@imperial.edu mark.a.duva@live.com |
| CRN # | 15114 | Office | 1700 - 1714 |
| Room | 2600-2610 | Office Hours | By Appointment |
| Class Dates | January 6, - February 6th 2015 | Office Phone # | (760) 355-6335 |
| Class Days/Times | MTWRF 12:30PM -2:40 PM<br>MTWRF 3:00 PM -4:20 PM | | |
| Alternate office contact for test or exam day absence or other emergencies<br>Elvia M. Camillo, Staff Secretary II<br>Behavioral & Social Science Department (760) 355-6144 | | | |

## Course Description

Quantitative methods in behavioral sciences are considered including: measures of central tendency and variability; graphic methods and percentages; linear correlation and regression; application of normal probability curves; and introducing statistical inferential measures including "t" tests, one and two-way analysis of variance, and chi-square. The data analysis will also involve statistical and graphical analysis and interpretation of behavioral science data using computer technology such as SPSS. (CSU, UC)

## Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Understand, analyze, and apply data using correlations.
2. Understand, analyze, and apply data using "t" tests.
3. Understand, analyze, and apply data using analysis of variance.
4. Understand, analyze, and apply data using chi-square.

## Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Determine the appropriateness and values of different measures of central tendency and variance, including standard scores and percentiles; and graphical representations of each.
2. Compute the coefficients of Spearman's and of Pearson's correlations and levels of significance; regression equations; and graphical representations of each.
3. Use probability theory to discuss aspects of the normal distribution including its use in statistical reasoning.
4. Compute and interpret "t" scores and their significance using data from a minimum of two samples.
5. Compute and interpret "F" ratios and significance levels from one-way and two-way analysis of variance.
6. Compute and interpret results from non-parametric tests including chi-square and Mann-Whitney.
7. Successfully load, interpret, and print output data sheets and graphs from statistical software such as SPSS and Excel.

## Textbooks & Other Resources or Links

Gravetter, Frederick and Wallnau, Larry B (2013). Statistics for the Behavioral Sciences (9th/e). Wadsworth Publishing. ISBN: 978-1111830991

## Course Requirements and Instructional Methods

The syllabus serves as a guide to the class. We may or may not cover all of the material shown and the Dates are approximations. There will be several quizzes, lab assignments, one (1) midterm exam, and one (1) final exam. Quizzes will be announced in advance and will be given at the beginning of class. They may include multiple choice, true-false, and/or short answer questions. Exam and quiz questions will come from material covered in class and in the textbook. If you are late to class, you will not be allowed to take the quizzes or exams. Some chapters may not be covered in class, but you will still be responsible for the material, unless otherwise specified. No makeups for exams, quizzes, or lab assignments will be given without prior notification and/or documentation of an emergency. No work will be accepted over email. If you find that you are having difficulty with the course, you can seek additional assistance at the various campus support centers. In addition, if you need special accommodations while taking exams or quizzes let me know in advance. An approximate grade/point breakdown is shown below, and final course grades will be based on a subjective curve.

The lab portion of the course provides some flexibility. At times, it may be used to continue with lecture material. However, the primary focus of the lab is to provide a time for you to develop and work on the problems and equations associated with each of the chapters. Further, in the lab portion, students will apply knowledge from the chapters to learn how to use the computer programs SPSS and Microsoft Excel.

## Course Grading Based on Course Objectives

An approximate grade/point breakdown for the various methods of evaluation in the course is shown below.

| Graded Coursework | | Grade Breakdown |
|---|---|---|
| Quizzes | 75 Points | A = 90% |
| Lab work | 75 Points | B = 80% |
| Midterm | 50 Points | C = 70% |
| Final Exam | 100 Points | D = 60% |
| Total | 300 Points | F = 59% or less |

(Example: 300 x 90% = 270 points for the "A")
(Example: 300 x 80% = 240 points for the "B" and so on)

## Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status would be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

## Classroom Etiquette

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor. Consider: specifics for your class/program
- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed.

- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

## Academic Honesty

- Plagiarism is taking and presenting, as one's own, the writings or ideas of others without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to 'cite a source' correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

  Anyone caught cheating or will receive a zero (**0**) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

## Additional Help (if applicable)

- Blackboard support center: http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543
- Learning Labs: There are several 'labs' on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Study Skills Center (library). Please speak to the instructor about labs unique to your specific program.
- Library Services: There is more to our library than just books. You have access to tutors in the Study Skills Center, study rooms for small groups, and online access to a wealth of resources.

## Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313, if you feel you need to be evaluated for educational accommodations.

## Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee. We now also have a fulltime mental health counselor. For information see http://www.imperial.edu/students/student-health-center/. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

## Student Rights and Responsibilities

Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities, please refer to the IVC General Catalog

available online at
http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

## Information Literacy

Required Language: Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/

## Anticipated Class Schedule / Calendar

| | | TOPICS | READINGS |
|---|---|---|---|
| **1/06** | **Week 1** | Introduction to statistics | Ch. 1 |
| | | Introduction to statistics | Ch. 1 |
| | | Frequency distributions | Ch. 2 |
| | | Frequency distributions | Ch. 2 |
| **1/12** | **Week 2** | Measures of central tendency | Ch. 3 |
| | | Measures of central tendency | Ch. 3 |
| | | Measures of variability | Ch. 4 |
| | | Measures of variability | Ch. 4 |
| | | Measures of variability | Ch. 4 |
| **1/19** | **Week 3** | MLK Holiday (No Class) | |
| | | **MIDTERM EXAM** | |
| | | z-Scores: Location of scores and the standard distribution | Ch. 5 |
| | | z-Scores: Location of scores and the standard distribution | Ch. 5 |
| | | Probability | Ch. 6 |
| **1/26** | **Week 4** | Introduction to hypothesis testing | Ch. 8 |
| | | Introduction to hypothesis testing | Ch. 8 |
| | | Introduction to the *t* statistic | Ch. 9 |
| | | The *t* test for two independent samples | Ch. 10 |
| | | The *t* test for two independent samples | Ch. 10 |
| **2/02** | **Week 5** | The *t* test for two related samples | Ch. 11 |
| | | Introduction to analysis of variance | Ch. 12 |
| | | Introduction to analysis of variance | Ch. 12 |
| | | Repeated Measures and Two factor analysis of variance | Ch. 13 |
| **2/06** | **Last Day** | **FINAL EXAM** | Comprehensive |