



# CED 610 02W

## Introduction to Graduate Statistics

### COURSE SYLLABUS: FALL 2015

**Instructor:** Marcelo F. Pinto, Ph.D.

**Office Location:** Online

**Office Hours:** N/A

**Office Phone:** (214) 736-4122

**Email Address:** [marcelo.pinto@tamuc.edu](mailto:marcelo.pinto@tamuc.edu) (*preferred, faster*)

## COURSE INFORMATION

### Required Materials

**Attention:** Read this section carefully. Choose **only one** of the options below.

**OPTION 1.** Purchase the textbook and statistical software **separately**.

1. **Textbook:** *Discovering Statistics Using IBM SPSS Statistics* by Andy Field. Sage Publications (2013). Fourth Edition. ISBN-10: **1446249182** | ISBN-13: **978-1446249185**
2. **Software:** SPSS Statistical software (version 17.0 or higher are recommended).
  - You can purchase SPSS for download from <http://www.onthehub.com/spss/>
  - You can also get a copy from <http://studentdiscounts.com> that can be installed on two computers; you may want to share the cost with a fellow student. Be sure to select the **Statistics Standard Grad Pack**. You can get a 6- or 12-month license.

**OPTION 2.** Purchase the **bundled version** of the textbook and software.

1. **Bundle:** *Discovering Statistics Using IBM SPSS Statistics 4e + SPSS Version 22.0* by Andy Field (2014). Fourth Edition: ISBN-10: **1483375846** | ISBN-13: **978-1483375847**.

The bundled version of the program is sufficient for this course; however, it differs from the standalone student version: (a) is for a 12-month period, beginning on the date of customer installation; (b) is limited to **two installations**; (c) allows no add-on modules; (d) is limited to 1500 cases and 50 variables; (e) does not allow for SPSS Command Syntax; and (f) allows no file merging or aggregating. (**Note.** For this course, you will not need the unavailable features.)

## **SPSS on Campus**

The SPSS statistical software is installed on computers in the student lab at the Mesquite Metroplex Center and in various labs on the Commerce campus. Make sure labs are available at convenient times so you are able to complete assignments on time.

## **OTHER MATERIALS AND RESOURCES**

The textbook's student resources and accompanying web site are not required, yet you may want to explore them in case they suit your needs and learning style. (*Please see "Technology Requirements" for other requirements.*)

## **COURSE DESCRIPTION**

This course is intended to provide graduate students with an introduction to statistics and is approved by the Graduate School as a Level III research tool. The emphasis in this course will be upon understanding statistical concepts and applying and interpreting tests of statistical inference. Content will include but not be limited to: the application of selected inferential statistical procedures, including advanced correlational methods, multiple regression, t-tests, ANOVA, two-way factorial ANOVA, reliability and other advanced procedures. Computer software (SPSS) will be employed to assist in the analysis of data for this course. Students should have access to a computer, SPSS software, and the Internet. This access is available at the Mesquite Metroplex Center and on the Commerce campus in certain computer labs.

## **STUDENT LEARNING OUTCOMES**

This course is designed so students develop and demonstrate an understanding of

- Using statistics as a tool of the scientific process; how data are collected and quantified
- Representing and storing observations in a data file; structuring a database
- The uses and limitations of statistical software
- Data scaling, coding, manipulation, and analysis
- Frequency distributions and representing data visually
- Methods of describing the central tendencies of various distributions
- Understanding and quantifying variability
- Inferential statistics: the Central Limit Theorem and hypothesis testing; the reasoning and assumptions underlying inferential statistics; probability in inferential statistics
- The appropriate application and interpretation of inferential statistical procedures, including correlations, simple linear regression, *t*-tests, analysis of variance, with *post hoc* tests, and chi-square tests
- Basic reporting of the methodology and results for statistical tests

## **COURSE REQUIREMENTS**

### **Activities and Due Dates**

The semester is divided into "Weeks," each of which typically opens at 12:00 a.m. on a Monday and closes at 11:59 p.m. on the following Sunday. All work must be completed by the due date

on Sunday. The university works on Central Time (UTC -6:00); if outside of the Central Time zone, please adjust accordingly.

Weekly tasks include a combination of learning content in the textbook and other materials, watching instructional videos, completing exercises and assessments, and submitting written work. Failure to complete work by the due date will result in a score of zero. Barring reasonable extenuating circumstances, no late work will be accepted, nor will assessments be reopened.

Contact the instructor about individual needs or special requests as soon as concerns or extenuating circumstances come up. Special requests will be resolved case-by-case.

## GRADING

The following of criteria (and weights) determine the final course grade:

**Assignments (17.5%):** Typically, an “Assignment” consists of creating a product by analyzing data and creating a report that the instructor grades manually. Completing assignments is crucial as they provide practice and application. Mistakes are expected and typically do not result in a substantial penalty as long as there is evidence of a well thought-out attempt. Thus, do not equate high scores on assignments with high course performance. Deductions will be made for poorly organized, poorly attempted, mislabeled, careless, or incomplete work.

**Self-Grading Assignments (SGA) (17.5%):** As you complete SGAs online, they are graded automatically. You are allowed multiple attempts (usually 3), so it provides both practice and a form of self-assessment. A low score indicates you should review related materials before attempting the SGA again for a better score.

**Quizzes (25%):** Most weeks, a timed quiz tests all materials assigned that week. Although Quizzes are not cumulative, your knowledge of statistics is, so quizzes may require you to draw on previously learned materials. For some quizzes, you will answer questions based on a data analysis you must perform in SPSS in advance, so access to SPSS is needed.

**Comprehensive Midterm and Final Examinations (20% each):** The midterm and final examinations are timed, cumulative, and include theoretical and practical components. Exams may not coincide with the institution’s “exam week.” The exam will open on eCollege on the Wednesday of the scheduled exam and close at 11:59 p.m. on the following Sunday.

### Final Course Grade

Based on the weighted average of your course work, the final course grade is converted using the following grading scale: A = 90-100; B = 80-89; C = 70-79; F = 0-69.

## TECHNOLOGY REQUIREMENTS

### Browser Check

It is strongly recommended that you perform a “Browser Test” prior to the start of your course. To launch a browser test, login in to eCollege, click on the “myCourses” tab, and select the “Browser Test” link under Support Services”

## Other

This is a “printer-heavy,” online course. You must have access to the Internet and a printer.

To be able to view Adobe presentations, you must have the latest version of Adobe Reader installed on your computer. (Log in to the course for more information.) In rare instances, you may be unable to view the presentations unless other supporting software (e.g., Java) are installed and updated properly.

All written assignments must be formatted in APA style and submitted as Microsoft Word or Rich Text Format (.rtf) documents. If you use a word processor other than MS Word, use the program’s “Save As” feature to save the document in one of the aforementioned formats.

## ACCESS AND NAVIGATION

### eCollege Technical Concerns

- **Chat Support:** Click “Live Support” on the tool bar within your course to chat with an eCollege Representative.
- **Phone:** For the HelpDesk, call (toll-free) 1-866-656-5511 to speak with an eCollege Representative.
- **Email:** To initiate an eCollege support request, the Help Desk is available 24/7 at [helpdesk@online.tamuc.org](mailto:helpdesk@online.tamuc.org)
- **Help:** Click the “Help” button on the toolbar for information about working with eCollege (e.g., how to submit to Dropbox, how to post to discussions, etc.).

### Other Questions or Concerns

Contact the appropriate TAMU-C department for questions or concerns. If you are unable to reach the appropriate department with questions about course enrollment, billing, advising, or financial aid, call 903-886-5511 Monday-Friday between 8:00 a.m. and 5:00 p.m.

### Dropping/Withdrawing from the Course

Students are responsible for following University procedures to drop a class. If you stop attending the class for any reason, you must initiate the process of dropping; otherwise you will receive a grade, including zeros for work you did not complete. **Check withdrawal dates with the Office of the Registrar and plan to initiate the process several days in advance to allow time for all the required procedures.**

### School Days and Holidays

I will be available on school days (i.e., regularly scheduled working days in the institution’s calendar). The course calendar already takes holidays into account. If a short holiday falls during a scheduled week, you must still complete the work for that week.

## Engagement in the Course

Online courses offer flexibility to work when convenient; however, **this is not a self-paced course**. You must keep up with weekly tasks by their due dates. Plan to dedicate to the course a minimum of 6-8 hours a week consistently. After 2-3 weeks, you will be able to gauge your individual needs and adjust your study time accordingly.

It works best to plan study time for the course throughout the week rather a single, long study session. Working consistently and at a steady pace will give you time to absorb and practice the information. In addition, if you send me a message, you may not receive a reply until one or two days later, which may leave you little or no time until assignments are due on Sunday.

Maintain a working email address on eCollege and check for course announcements and email messages **daily**.

## ADDITIONAL NOTES

- Circumstances may require changes to the syllabus or scheduled activities at the instructor's discretion.
- It is the student's responsibility to stay informed about course-related information or changes. If you miss a class in a classroom-based course, be sure to check with a fellow student about information shared in your absence. If taking the course online, check your e-mail and the course for messages daily for any updates.
- Back up all your work and graded assignments during the semester in case you are asked to resubmit or redo an assignment. Keep track of your grades and save all records. In case of discrepancies, you may be asked to provide copies of your work.
- Never fax or mail anything to me without first making arrangements. If we make alternative arrangements, always keep a copy of the assignment in case it is not received.
- University closings do not affect online courses. For classroom-based courses, check the university's web site closings or cancellations due to weather. Also, check KETR radio on 88.9 FM and television channels 4, 5, and 8 (channel 7 for Tyler & Longview Area).

## COMMUNICATION AND SUPPORT

### Interaction with the Instructor

- It is best to communicate with me by email. You can also call and leave a message, or we can schedule a time for a call. When leaving a voice message, include your full name, course, and a call-back number.
- **IMPORTANT:** When sending an email, **start the subject line with the course (CED 610)**; otherwise, your message may be overlooked or accidentally deleted.
- If you receive no reply within *two school days*, re-send the message.
- Limit all email communication to course-related topics (e.g., no chain letters or jokes).
- For individual questions or concerns, your messages will always be confidential. From time to time, the answer to a general, course-related question may benefit all students, so I may send a blanket response to the whole class.

# COURSE AND UNIVERSITY PROCEDURES/POLICIES

## ADA Statement—Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

### Office of Student Disability Resources and Services

Texas A&M University-Commerce  
Gee Library- Room 132  
Phone (903) 886-5150 or (903) 886-5835  
Fax (903) 468-8148

ADA Office URL: <http://www.tamuc.edu/CampusLife/CampusServices/studentDisabilityResourcesAndServices/default.aspx>

ADA Office Email: [StudentDisabilityServices@tamuc.edu](mailto:StudentDisabilityServices@tamuc.edu)

## Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (*Refer to the institution's "Code of Student Conduct" from "Student Guide Handbook."*) Follow all guidelines of academic honesty. If you plagiarize, cheat or collude, you will receive a failing course grade and be subjected to further disciplinary action at the discretion of the institution.

If in doubt whether any action violates guidelines for student conduct, consult the instructor. Materials on plagiarism are available at [plagiarism.org](http://plagiarism.org) and other sources on the Internet.

## Non-Discrimination Statement

Texas A&M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

## COURSE OUTLINE / CALENDAR

The calendar on the next page is tentative. Under certain conditions, it may change depending on the progress the class makes during the semester. Changes are communicated to students through course announcements on eCollege.

Unless otherwise noted, due dates are at 11:59 p.m. Central Standard Time (GMT -6:00). If you live or travel outside this time zone, adjust accordingly.

Each exam opens on a **Wednesday** and closes on the following **Sunday**.

Plan **two 2-hour windows** to take Part 1 (theory) and Part 2 (practice) of the final examination.

## Tentative Course Calendar

Week	Week opens on	Work is due on	Content	
			Textbook chapter/other materials	SPSS
1	8/31/2015	9/6/2015	<ul style="list-style-type: none"> <li>Chapter 1 – basic concepts</li> <li>Overview of Chapter 3</li> <li>Levels of measurement</li> </ul>	<ul style="list-style-type: none"> <li>Data entry</li> <li>Frequencies procedure</li> <li>Descriptives procedure</li> </ul>
2	9/7/2015	9/13/2015	<ul style="list-style-type: none"> <li>Chapter 1-2 (basic concepts)</li> <li>z-Scores</li> </ul>	<ul style="list-style-type: none"> <li>Descriptives</li> <li>Frequencies</li> </ul>
3	9/14/2015	9/20/2015	<ul style="list-style-type: none"> <li>Chapter 2</li> <li>Population and sample means</li> <li>Confidence intervals</li> </ul>	<ul style="list-style-type: none"> <li>Select Cases procedure</li> <li>Exporting SPSS output to PDF</li> </ul>
4	9/21/2015	9/27/2015	<ul style="list-style-type: none"> <li>Chapter 2</li> <li>Hypothesis testing</li> </ul>	<ul style="list-style-type: none"> <li>Split File procedure</li> </ul>
5	9/28/2015	10/4/2015	<ul style="list-style-type: none"> <li>Review of Chapters 1 and 2</li> </ul>	<ul style="list-style-type: none"> <li>Graphing results (in Microsoft Word)</li> </ul>
6	10/5/2015	10/11/2015	<ul style="list-style-type: none"> <li>Chapter 7 - Correlations</li> </ul>	<ul style="list-style-type: none"> <li>Running Correlations</li> </ul>
7	10/12/2015	10/18/2015	<ul style="list-style-type: none"> <li>Chapter 8 - Simple regression</li> </ul>	<ul style="list-style-type: none"> <li>Running simple regressions</li> </ul>
8 (Exam)	10/19/2015*	10/25/2015	<p>*The comprehensive midterm examination  <b>opens on Wednesday, 10/21/2015, and closes Sunday, 10/25/2015.</b></p>	
9	10/26/2015	11/1/2015	<ul style="list-style-type: none"> <li>Chapter 9 - Dependent <i>t</i>-test</li> </ul>	<ul style="list-style-type: none"> <li>Running one-sample <i>t</i>-tests</li> </ul>
10	11/2/2015	11/8/2015	<ul style="list-style-type: none"> <li>Chapter 9 - Independent <i>t</i>-test</li> </ul>	<ul style="list-style-type: none"> <li>Running paired-samples <i>t</i>-tests</li> </ul>
11	11/9/2015	11/15/2015	<ul style="list-style-type: none"> <li>Chapter 11 - ANOVA</li> </ul>	<ul style="list-style-type: none"> <li>Running one-way ANOVAs</li> </ul>
12	11/16/2015	11/22/2015	<ul style="list-style-type: none"> <li>Chapter 11 - ANOVA</li> </ul>	<ul style="list-style-type: none"> <li>Running one-way ANOVAs and <i>post hoc</i> tests</li> </ul>
13	11/23/2015	11/29/2015	<ul style="list-style-type: none"> <li>Chapter 13 - Chi-square</li> </ul>	<ul style="list-style-type: none"> <li>Running chi-square tests</li> </ul>
14	11/30/2015	12/6/2015	<ul style="list-style-type: none"> <li>Choosing the right statistic</li> <li>Review Week</li> </ul>	—
15 (Exam)	12/7/2015**	12/14/2015	<p>**Part 1 (theory) and Part 2 (practical applications) of the comprehensive final examination <b>open Wednesday (12/9/2015) and close on Sunday (12/14/2015)</b></p>	

Any substantial changes to the syllabus or course calendar will be communicated to the class through course announcements or by email.