

Syllabus for IT-223

Jeff Grady, MS, MBA

Instructor Information

Instructor: Jeff Grady
Office: CDM 428
Spring 2017
Loop Campus
Office Hours: Mondays 12:00PM-12:45PM and Wednesdays 9:15AM-10:00AM

Getting Started

Navigate to the main class web page using Desire 2 Learn (D2L) at <https://d2l.depaul.edu>. This is your one-stop-shop for the entire course. Be sure to bookmark it on your browser. Once you have the course page bookmarked, you will have easy access to all of the lectures, lecture notes, quizzes, assignments, etc. that you will need for the course. While there may be a slight learning curve the first few times you navigate the site, it should not take long before you develop some comfort with it.

While D2L is not very difficult to use, there is a slight learning curve. Once you have finished reading this syllabus, you can look at a series of explanations and tutorials [can be found here](#). While you are not required to (and may not need to), you may wish watch the '[D2L Content and Dropbox Online Tutorial](#)' video and the videos on [quizzes](#) and [discussion](#) groups.

Summary of the course

The course covers the application of statistical concepts and techniques to a variety of problems in multiple areas and disciplines, using a statistical package for simple data analysis. Course topics include descriptive statistics, elementary probability rules, sampling, distributions, confidence intervals, correlation, regression and hypothesis testing.

Course Objectives

The aim of the course is to illustrate statistical methods and basic concepts of probability theory. The course topics include descriptive statistics, an introduction to statistical inference (confidence intervals and hypothesis testing) and linear regression models.

The students will learn to use the SPSS statistical package and the M/S Excel spreadsheet package to prepare data and compute statistical analyses of data sets.

The objectives of this course are:

- to develop an understanding of the basic concepts of probability and statistics,
- help students to be informed and critical readers of quantitative arguments,
- to provide sufficient skills to apply simple statistical techniques with the aid of a computer,

- to appreciate the role of statistics in empirical research and scientific study,
- to gain flexible problem-solving skills applicable to unfamiliar statistical settings.

Learning Domain Description

IT 223 Data Analysis is included in the Liberal Studies program as a course with credit in the Scientific Inquiry domain. Courses in the Scientific Inquiry domain are designed to provide students with an opportunity to learn the methods of modern science and its impact on the world around us. Courses are designed to help students develop a more complete perspective about science and the scientific process, including: an understanding of the major principles guiding modern scientific thought; a comprehension of the varying approaches and aspects of science; an appreciation of the connection among the sciences; the fundamental role of mathematics in practicing science; an awareness of the roles and limitations of theories and models in interpreting, understanding, and predicting natural phenomena; and a realization of how these theories and models change or are supplanted as our knowledge increases.

Learning Domain Outcomes

1. Students will understand the major principles guiding modern scientific thought. Students will demonstrate a mastery of the science content knowledge of their SID courses.
2. Students will know that science, technology, and math serve as mechanisms for inquiry into the nature of the universe. Students will:
 - a. identify questions that can be answered through scientific investigations;
 - b. design and conduct a scientific investigation to test a scientific hypothesis;
 - c. use appropriate tools and techniques together, analyze, and interpret data to support or refute a scientific hypothesis;
 - d. develop descriptions, explanations, predictions, and models using evidence;
 - e. describe relationships between evidence and explanations using critical and logical thinking;
 - f. recognize and analyze alternative explanations and predictions;
 - g. communicate scientific procedures and explanations;
 - h. use mathematics in all aspects of scientific inquiry.
3. Students will understand and appreciate the interrelationships among science, technology and math. Students will:
 - a. use technology and mathematics to identify a problem or design a solution to a problem;
 - b. give examples of how science and technology inform and influence each other.
4. Students will understand and appreciate the role of science in society and in their lives. Students will:
 - a. Provide examples of how science and technology impact our lives, and how social needs and concerns impact our development of technology and scientific investigation;
 - b. develop positive attitudes towards science, technology, and mathematics;
 - c. establish an ongoing experiential/service-learning interest in science, technology, and mathematics.

5. Students will understand the nature of science, technology, and mathematics. Students will:
 - a. provide examples of the abuse of science, including the representation of unfalsifiable claims as science and other forms of pseudoscience;
 - b. explain the strengths and limits of scientific inquiry;
 - c. explain the difference between evidence and inference, and the provisional nature of scientific explanations by providing examples of how our understanding of the workings of the world has changed in the past;
 - d. explain the difference between probability and certainty, and describe what is meant by uncertainty in the context of science, technology, and mathematics.

Writing Expectations

Writing is integral for communicating ideas and progress in science, mathematics and technology. The form of writing in these disciplines is different from most other fields and includes, for example, mathematical equations, computer code, figures and graphs, lab reports and journals. Courses in the SI domain must include a writing component where that component takes on the form appropriate for that course (eg, *lab reports*, *technical reports*, etc.)

Textbooks and printed resources

You have several choices here. The officially required text is: **Moore, McCabe, and Craig, *Introduction to the Practice of Statistics, Seventh Edition*, W. H. Freeman and Company.** Please note that most any edition is fine! Statistics really doesn't change much from year to year.

But do be sure to get a book! It simply isn't possible to take in all you need to know by coming to class and reviewing Powerpoint slides.

RECOMMENDED additional texts (and inexpensive):

How to Lie With Statistics, by Darrell Huff. (via Amazon.com) This is a light-hearted, humorous look at statistics. The title belies the purpose, which is to educate you on improper or malicious use of statistics. It gives great examples which I may make reference to during class.

Humongous Book of Statistics Problems ([\\$14 at Amazon.com](#)). Despite its title, the book is not huge or daunting. It is a book of straight-forward exercises with explanations. Doing lots of problems is the key to getting through the course, so this book will be as useful.

Prerequisites

MAT 130 or another college algebra course

COURSE RESOURCES

Desire 2 Learn (D2L):

<http://d2l.depaul.edu>

- Checklists for each lesson/module so you know what your “ToDo’s” are
- Links to various documents, videos, quizzes, and assignments (see Checklists)
- Place to submit your assignments
- Note: Course “Modules” typically correspond to one week (2 sessions) of class. However overall course pace may be adapted as needs arise (I.E. volume of material in a module).

Lecture notes: Notes and files for each lecture will be posted at least one day before lecture (for in-class sections). However, please note that I reserve the right to make updates at any time. I would recommend that you print out the lecture slides (if you choose to) no earlier than the day before lecture. They will typically be in either PDF or Powerpoint format. If you don’t have PowerPoint, you can [download a free viewer here](#).

Office Hours:

- I am happy to speak with students by phone. If you wish to schedule an appointment, please email me at least 2-3 times that are good for you, and I will email you back with an appointment.
- You are always more than welcome to come to my open office hours as well. You do not need to make an appointment. You can find my in-class office hours online.

Tutoring

Free – make use of it when needed! See link to the tutoring page under the General Course Resources link on D2L.

Class Discussion Group

Certain questions have a way of coming up again and again. For this reason, I strongly encourage you to post all questions to the discussion group. This way, questions that I answer (or any of you answer) can be seen by all of your colleagues.

A few key guidelines when posting to a discussion group:

- **Please make the subject posing CLEAR!**
 - Poor subject: “Question”
 - Better: “Question on problem #2”
 - Ideal: “Question on the phrasing of problem #2”

- **Please post in the appropriate group.** If you have a question about registering for an exam, please post to the 'General Questions' forum as opposed to, say, the Module #1 forum.
- **Do not post answers to homework assignment or quiz questions!** Only TWO days after a quiz or assignment is due can answers be discussed.
- Before posting, please be sure and check to see if someone has already posted the same question.
- Before asking a question relating to a homework problem, please make a genuine attempt to solve it on your own first.

Required software and other resources

You will need to make use of several of the resources listed under General Course Resources. We will discuss specifics such as MS Excel and SPSS as we progress through the course.

Contacting me

E-Mail: jgrady4@depaul.edu Phone: 847-894-4837

I try to check emails regularly throughout the day. Sometimes I can reply to emails within an hour or two, sometimes it takes several hours before I get to them. However, I do make every attempt to *answer all emails within 24 hours*. In the event that this does not happen, please do feel free to resend the email. I do not ignore emails, so if you do not receive a response from me, you may assume that the email got lost in the pile somewhere or ended up in my spam folder.

When e-mailing me, it is very important that you *include your name and section number* (not just course number) in the subject. For example:

Subject: Guillen, 502, question about inline styles

Assignments

Each assignment has a Start Date, Due Date, and End Date.

- All assignments are submitted via the **D2L dropbox**. **Emailed assignments are not accepted.**
- Assignments will be available for submission to the drop box beginning with the **D2L START DATE**
- Assignments submitted by the **DUE DATE and TIME** are eligible for 100% of the assignment value
- Late Assignments will be accepted through the **END DATE and TIME**, subject to a **10% penalty PER DAY**.
- **Assignments submitted after the END DATE and TIME WILL NOT be accepted, and will be assigned a grade of zero (0). Sorry, NO exceptions**
- **Assignments submitted after the solution is provided cannot be accepted, and will be assigned a grade of zero (0). No exceptions.**

- **IT IS YOUR RESPONSIBILITY TO VERIFY THAT WHAT YOU HAVE SUBMITTED TO THE DROPBOX IS THE CORRECT ASSIGNMENT FOR THE CORRECT CLASS AND THAT IT INCLUDES YOUR ANSWERS/SOLUTIONS**

Assignments will be posted almost every week. Note that the D2L dropbox and quizbox will NOT accept assignments once the end date has passed. For this reason, please be sure that you do not wait until the last 1-2 minutes to submit things. If you run into a technical glitch, or if the clock on your computer is set a little bit behind the D2L clock, you will be locked out.

I have to be fair to everyone, and for this reason, I do not accept late assignments/quizzes.

Grading

- Assignments - lowest grade is dropped - 45%
- Quizzes – lowest TWO percentage grades are dropped - 20%
- Midterm Exam: 15%
- Final Exam: 20%

Exams

- As this is a classroom oriented class, midterm and final exams will be administered in the classroom, so you must be present. The final exam will be held as per DePaul University and CDM schedule. **THERE ARE NO EXAM MAKEUP PERIODS!**

Class Policies

- Attendance - As this is a classroom oriented class, attending each and every class will ensure you meet course requirements and maximize your comprehension of the subject material.
- Cell Phone Use: Cell phone use (calls, messaging, texting) during class is not acceptable. Cell phone should be silenced during class.
- Social Media Use: Emailing, using FaceBook, etc. is to be done outside of class.

Online Instructor Evaluation

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is

completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over two weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online at <https://mycti.cti.depaul.edu/mycti> (log in using your Campus Connect credentials).

Email

Email is the primary means of communication between faculty and students enrolled in this course outside of class time. **Students should be sure their email listed under "demographic information" at <http://campusconnect.depaul.edu> is correct.**

Academic Integrity Policy

This course will be subject to the academic integrity policy passed by faculty. More information can be found at <http://academicintegrity.depaul.edu/>

Plagiarism

The university and school policy on plagiarism can be summarized as follows: Students in this course should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work any assignment which has been prepared by someone else. If you have any questions or doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor. While it is acceptable to work together and assist each other on assignments, two students can not submit extremely similar work if it only contains cosmetic changes.

Homework questions should always be worked on individually. It's okay to work with someone so that you can discuss concepts when you are stuck on something. The key is to seek assistance in understanding the concept or figuring out where you may have missed something. If all you've done is gotten help coming up with the answer without being sure that you understand the underlying concept, this means that there is still a gap in your knowledge.

Incomplete

An incomplete grade is given only for an exceptional reason such as a death in the family, a serious illness, etc. Any such reason must be documented. Any incomplete request must be made at least two weeks before the final, and approved by the Dean of the College of Computing and Digital Media. Any consequences resulting from a poor grade for the course will not be considered as valid reasons for such a request. Incompletes are only granted when the large **majority of the course work (typically at least 75%) has already been completed.**

Resources for Students with Disabilities

The Productive Learning Strategies (PLuS) Program at DePaul University is a year-round comprehensive program designed to meet the needs of DePaul University students with specific learning disabilities and/or attention deficit disorders, as well as, associated disorders such as Asperger's Syndrome, Bipolarism, Obsessive-Compulsive Disorders, etc. The PLuS Program serves some 400+ students enrolled in colleges and schools university-wide, undergraduate and graduate, both full-time and part-time. Services include exam proctoring, additional time on exams, meeting with PluS staff, etc. Web page: <http://studentaffairs.depaul.edu/plus/>