

DePaul University
College of Computing and Digital Media
Syllabus: IT 223 Data Analysis
(Winter 2014 Quarter)

Instructor: Bill Qualls. Email: bill_qualls@hotmail.com

Day/Time: Thursdays, 5:45pm-9:00pm, Loop, classroom tba.

Office Hours and Location: I will be in the classroom at 4:45pm on class days.

Description:

Application of statistical concepts and techniques to a variety of problems in IT areas and other 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.

Prerequisite:

MAT130 or placement.

Course Materials:

OPTIONAL: Introduction to the Practice of Statistics by Moore, McCabe, and Craig, 7th ed.

All other class materials can be found at <http://www.billqualls.com/it223/> Note: the URL is case-sensitive: use all lowercase. I only use D2L to post grades.

Please make sure your Campus Connect email address is current so I can communicate with you.

Homework assignments:

Homework assignments will be listed on the website. Website will be updated regularly. You should expect changes. Homework is not graded, but is the best way to prepare for the quizzes and exams.

SPSS assignments will be listed on the website. These assignments are graded, and must be submitted via D2L dropbox by the start of class the week after they are assigned.

Exam Schedule:

There will be up to eight quizzes. Only the top five quizzes will be counted. Quizzes will be given at the end of the class period. Regular and punctual attendance is an integral part of the learning process, therefore there will be no makeups allowed on missed quizzes.

Required Midterm exam: Thursday, February 13. No exceptions. You must contact me in advance if you will miss this exam.

Required Final exam: Thursday, March 20. No exceptions. You must contact me in advance if you will miss this exam.

Course Grade:

Course grade consists of quizzes (top five @ 8%), SPSS assignments (5 @ 3%), midterm (20%) and final exam (25%). Late assignments will not be accepted without prior arrangement. Students receiving at least 90% of possible points are guaranteed at least an A-, at least 80% at least a B-, at least 70% at least a C-, and at least 60% at least a D.

Academic Integrity and Plagiarism

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

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.

Withdrawal

Students who withdraw from the course do so by using the Campus Connection system (<http://campusconnect.depaul.edu>). Withdrawals processed via this system are effective the day on which they are made. Simply ceasing to attend, or notifying the instructor, or nonpayment of tuition, does not constitute an official withdrawal from class and will result in academic as well as financial penalty.

Retroactive Withdrawal

This policy exists to assist students for whom extenuating circumstances prevented them from meeting the withdrawal deadline. During their college career students may be allowed one medical/personal administrative withdrawal and one college office administrative withdrawal, each for one or more courses in a single term. Repeated requests will not be considered. Submitting an appeal for retroactive withdrawal does not guarantee approval.

College office appeals for CDM students must be submitted online via MyCDM. The deadlines for submitting appeals are as follows:

Autumn Quarter: Last day of the last final exam of the subsequent winter quarter
Winter Quarter: Last day of the last final exam of the subsequent spring quarter
Spring Quarter: Last day of the last final exam of the subsequent autumn quarter
Summer Terms: Last day of the last final exam of the subsequent autumn quarter

Excused Absence

In order to petition for an excused absence, students who miss class due to illness or significant personal circumstances should complete the Absence Notification process through the Dean of Students office. The form can be accessed at <http://studentaffairs.depaul.edu/dos/forms.html>. Students must submit supporting documentation alongside the form. The professor reserves the sole right whether to offer an excused absence and/or academic accommodations for an excused absence.

Incomplete

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. CDM policy requires the student to initiate the request for incomplete grade before the end of the term in which the course is taken. Prior to submitting the incomplete request, the student must discuss the circumstances with the instructor. Students may initiate the incomplete request process in [MyCDM](#).

- All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions cases will receive such approval.
- If approved, students are required to complete all remaining course requirement independently in consultation with the instructor by the deadline indicated on the incomplete request form.
- By default, an incomplete grade will automatically change to a grade of F after two quarters have elapsed (excluding summer) unless another grade is recorded by the instructor.
- An incomplete grade does NOT grant the student permission to attend the same course in a future quarter.

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: Student Center, LPC, Suite #370, Phone number: (773)325.1677, Fax: (773)325.3720, TTY: (773)325.7296

Learning Domain Description

IT223 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 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.*)