

Syllabus

LSP 121 – 305

Quantitative Reasoning and Technological Literacy II

Spring Quarter 2015

Instructor name: *Dr. Mofak Hassan*

Class Room: Levan Center Room 306

Lincoln Park Campus

Days of Week: *MW 4:20 – 5:50 PM*

Office Hours: *Monday 3:00 – 4:00 PM*

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Office room: 332 Student Center

Important Date:

April 10, 2015 Last day to drop classes with no penalty, Last day to select pass/fail option.

May 15, 2015 Last day to withdraw from SQ2015 classes.

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a major change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and communicated via email.

Course Description

In this course, students will continue the study of issues in the sciences, social sciences, and management in which quantitative data plays a significant role. This second course in QRTL, however, will emphasize more the role of computer technology. Extensive use will be made of computer tools such as Access, SPSS, programming environments, Word, and Excel.

Learning Outcomes for LSP 121 (QRTL)

1. Statistics: Students will be able to make and interpret frequency distributions; summarize data with measures of center and dispersion; measure and interpret the association between variables; recognize the difference between correlation and causation; solve applied problems involving the normal distribution and z-scores.

2. Probability and Chance: Students will be able to recognize that seemingly improbable coincidences are not uncommon; evaluate risk from available evidence; and calculate basic, common probabilities.

3. Algorithms and reasoning: Students will be able to use sequential, logical thinking; develop algorithms to solve problems; use Boolean conditionals and repetition structures to create simple computer programs.

4. Database tools: Students will be able to enter data into a pre-existing database; import data from a text file or spreadsheet file into a database; filter records based on a single parameter and on multiple parameters; sort records with multiple sort keys; formulate and conduct queries; generate a report from a database; recognize the difference between a flat file and a relational database; create a relational database using two or more tables; construct a query for a relational database using joins; design and implement forms for data entry.

5. Professional Statistical Package: Students will be able to import data from a spreadsheet or database into a statistics package; use graphical tools in a statistical package to make specialized statistics plots such as box plots and normal probability plots; calculate descriptive summary statistics using a statistical package.

6. Programming tools: Students will be able to construct the concept of algorithm through experimentation and reflection on everyday activities; articulate an accurate definition of an algorithm; recognize algorithms fitting the definition; construct the notion of a control structure and a repetition structure; acquire the ability to trace simple program listings using control and repetition structures; use control and repetition structures to write simple computer programs to effect a task.

How These Learning Outcomes Will Be Met

1. Statistics: Activity 8 is devoted entirely to basic descriptive statistics; Activity 10 discusses correlation; Activity 9 introduces normal distributions. Homework assignments 4-5 reinforce these concepts.

2. Probability: Activity 11 covers an introduction to probability with a short section on risk. Homework assignment 6 reinforces these concepts.

3. Algorithms and reasoning: Activities 13, 14 and 15 introduce the concepts of sequential statements, if statements, loop statements, and function call statements and require the students to use these to solve a variety of problems. Homework assignments 7-9 reinforce these concepts.

4. Database tools: Activities 1, 2, 3, 4, 5, 6 and 7 introduce Access databases, table/query/form/report creation, and normalization. Homework assignments 1-3 reinforce these concepts.

5. Professional statistical package: Activity 8 introduces the statistical package SPSS and requires the student to use it to solve multiple tasks; Activity 10 continues the use of SPSS

6. Programming tools: Activities 13, 14 and 15 introduce the concepts of sequential statements, if statements, loop statements, and functions call statements and require the students to use these

to solve a variety of problems. Activities 16 and 17 introduce three common application areas of computer algorithms: data compression, encryption/decryption (security), and data error detection and correction. Homework assignments 7-9 reinforce these concepts.

Writing Expectations: (these assignments overlap with those given in LSP 120)

Five computer activities each of which has a final product in the form of a Word document with five to ten short paragraph responses.

Five class assignments with approximately 10 short paragraph responses.

How These Writing Expectations Will Be Met

All nine homework assignments and all seventeen activities require the students to answer many questions using short paragraph answers.

Electronic Resources Students Must Have

Students will need the following electronic resources:

- A place to store your work (Flash drive, “cloud” account). If you bring a flash drive to class, please make sure that it is labeled with your name and email address.
- Access to the software (personal or from DePaul Lab) we will be using at the desk top
 - ✚ MS-Access (2013),
 - ✚ MS-Word (2013),
 - ✚ MS-Excel (2013),
 - ✚ SPSS (available at DePaul labs),
 - ✚ file-compression software(e.g. WinZip)
 - ✚ pdf reader software (e.g. Adobe Reader)

Textbook: There is no required textbook for this class.

Prerequisites: LSP 120

If you feel you already know the materials presented in this course, there is a placement exam you may take. You must take this exam within the first week of classes to waive the course this quarter. If you pass this exam, you will be waived from taking this course. Consult the <http://www.cdm.depaul.edu> website for more details.

Grading Scale:

The following is a grading scale.

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Range	92-100	90-91	88-89	82-87	80-81	78-79	72-77	70-71	68-69	60-67	00-59
Value	4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0.0

Objectives of Course

This Quantitative Reasoning and Technological Literacy course is designed to help you to become a more confident, critical, and capable user of quantitative information of all kinds. In particular, it will help you to

- continue to critique quantitative arguments, whether given numerically, graphically, or in written form
- manipulate data via the creation and use of relational databases
- become acquainted with basic descriptive statistics and probability
- understand the basic concepts of algorithm creation
- continue the manipulation of discrete data via compression, error detection, and encryption

Course Breakdown

In-class activities	20%
Homework assignments	20%
Midterm exam	25%
Class Attendance and Contribution	10%
Final exam	25%

An expanded description of each follows:

Final Exam: In-class final exam must be taken in order to receive a grade in the course. The final is on **Wednesday, June 10th, 2015, 2:45 PM – 5:00 PM**. If you cannot take the exam due to illness or family emergency, you must inform me in advance by phone (873-203-2578) or email mhassan9@cdm.DePaul.edu. In such situations, you will typically receive an incomplete grade in the course, and we will make arrangements for you take the final exam as soon as possible the next term.

Midterm Exam: An in-class midterm examination will be given during class. The Midterm exam is on **Wednesday, April 29th, 2015**. There are no makeup exams in this course. If you cannot take an exam due to illness or family emergency, you must inform me in advance by phone or email.

Homework Assignments - Many weeks there will be an assignment to be done outside of class. Their purpose is to give you individual out of class practice on the skills we are learning and to explore some ideas more thoughtfully and deeply. The assignments are posted on the course web page and will be handed out in class. Homework assignments must be done individually and are due by the due date posted on the assignment. **They will not be accepted after the instructor goes over the answers in class.**

In-class Activities - Class attendance and participation are important. Most of the class time will be spent working on exploratory activities that embody a "learn by doing" approach. If you don't complete an activity for a given day (and a new activity is scheduled to be

introduced next class period), you have until the end of the next class period from which the activity was handed out to submit the activity for credit. **No activities will be accepted two weeks after they are assigned.**

Incomplete and FX Grades

Grades of Incomplete are given only in cases of medical emergency or other highly unusual emergency situations. Please note that University guidelines require that you must be earning a passing grade at the time you request an incomplete grade. You should have completed most of the course, with at most one or two major forms of evaluation missing. Incompletes revert to an F if they are not resolved within one quarter. If such a situation should occur, please inform the instructor as soon as possible. A grade of FX is assigned if the student quits coming to class but never officially drops the course.

Academic Integrity

Violations of academic integrity, particularly plagiarism, are not tolerated. Plagiarism is defined by the university as:

“..a major form of academic dishonesty involving the presentation of the work of another as one's own. Plagiarism includes but is not limited to the following:

a. The direct copying of any source, such as written and verbal material, computer files, audio disks, video programs or musical scores, whether published or unpublished, in whole or part, without proper acknowledgement that it is someone else's.

b. Copying of any source in whole or part with only minor changes in wording or syntax, even with acknowledgement.

c. Submitting as one's own work a report, examination paper, computer file, lab report or other assignment that has been prepared by someone else. This includes research papers purchased from any other person or agency.

d. The paraphrasing of another's work or ideas without proper acknowledgement.

Plagiarism, like other forms of academic dishonesty, is always a serious matter. If an instructor finds that a student has plagiarized, the appropriate penalty is at the instructor's discretion. Actions taken by the instructor do not preclude the college or the university from taking further punitive action including dismissal from the university” (DePaul Student Handbook).

University policies on academic integrity will be strictly adhered to. Consult the DePaul University Student website for further details.

Tentative Weekly Schedule

Week 1: Intro to course; introduction to databases; importing a spreadsheet into a database

Week 2: Relational databases and normalization; database queries

Week 3: Database forms; database reports; navigation forms

Week 4: Introduction to descriptive statistics using SPSS; normal distributions

Week 5: Correlation; Introduction to probability and risk

Week 6: Midterm exam; continue probability and risk

Week 7: Number systems and logarithms

Week 8: Introduction to algorithms; Alice

Week 9: VBA coin toss; compression and security

Week 10: Error detection and correction

Week 11: Final exam **Wednesday, June 10th, 2015, 2:45 PM – 5:00 PM.**

Desire To Learn (D2L)

The Desire To Learn website <http://d2l.depaul.edu> is a secure site for course management. It contains all class materials. You must use your CampusConnect ID to login to D2L.

The DePaul technology support team recommends that you use the Mozilla Firefox browser to access D2L.

We will be using the Home, Content, Discussions, Dropbox, Grades, Classlist, and More | Checklist components of D2L. See the D2L Intro file (found in the D2L | Content | Start Up and Basics section) for more details on these components, including screenshots.

Dropbox

You will use D2L dropboxes to find assignment descriptions and source files, submit assignments, and receive feedback on them.

File Formats for Assignment Submission

It is each student's responsibility to make sure that work they have submitted to D2L can be accessed/ read by the instructor via the software version being used in class (MS Office 2013). This will be particularly important for students who use Mac, Open Office, or other non-MS Office software.

Document Files

Submitted document files must be compatible with MS-Word 2013.

Acceptable file name extensions for submitted document files include .doc .docx .rtf .odt

Do not submit files with any of these file name extensions .wks .wpd .pages .pdf

Other Files

Other file formats (Excel, Access, Zip) will be required for some assignment submissions. The required file format will be specified in the instructions for each assignment.

Your Email Address

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 and is one they check frequently.

Email to your Professor

When sending e-mail to Dr. Hassan, please include your name, the topic/question, and the class ID (LSP121 - 111) in the subject of the email.

My goal for e-mail response to student questions sent via e-mail is 24 hours. In many cases, a response will be sent much more quickly. If you send e-mail off-hours (6 pm ➡ 9 am M-F or Saturday or Sunday) you will receive a response during the next weekday.

Pay Attention in Class

During class, students must turn off all personal electronic devices not used for class work. This includes, but is not limited to:

- Cell phones
- iPods and other mp3 players

Students may use electronic devices such as personal computers and PDAs during class, if that use is for LSP 121 class purposes. For example, taking class notes or updating a schedule would be permitted.

Using Facebook or other social networking sites, playing games, texting, working on other classes, checking email, surfing the Web, etc. are not permitted.

Please limit your classroom entries and exits while a lecture is in progress.

Quantitative Reasoning Center

The Quantitative Reasoning Center (QRC) provides invaluable support to LSP121 students. Check for location and hours of QRC tutors at the QRC website <http://qrc.depaul.edu>.

Have a successful Quarter

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