LSP 121
Quantitative Reasoning and Technological Literacy II
Winter 2015 (Online)

Instructor: Miles Jackson
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Office hours: 243 S. Wabash - Thursday 3:30 PM – 5:00 PM & **online using D2L Online Rooms**

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, Excel, Word, and Visual Studio.

Textbook: none

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 qrc.depaul.edu website for more details.

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 Navigation

The main course navigation is divided into the following sections:

Course Home – This area includes the News section where key announcements will be posted throughout the quarter.

Content – This is where you'll find the syllabus, readings, module videos, and other resources.

Discussions – This is where most of our online interactions will occur during the course. This course is designed to encourage active participation and learning. You are expected to demonstrate your understanding of class materials by using developmental concepts, theories and research to explain or justify your comments and relate to your own experience. You are also encouraged to ask questions and to answer other students' comments in a respectful, responsible, and constructive manner. The online collaborative discussions are especially valuable because they allow everyone to benefit from voices and points of view that might not get expressed in a traditional face-to-face discussion.

Quizzes – Weekly practice quizzes will be located here.

Dropbox – This is where you will submit your assignments each week.

Grades – This area displays grades and feedback you've received on any assignments, homework and tests.

Classlist – Here you'll find a list of all of the participants in the course. You can click a *participant's* name to send him or her an email.

Online Rooms -- This is the D2L tool we will use for Virtual Office Hours.

Course Pacing

This course is divided into ten weeks, corresponding to one week of the quarter. While the coursework will not require you to be online at a particular time, you will need to meet deadlines to keep pace with your classmates as the quarter progresses. All work in a week must be completed by the due date.

Notes: Students with disabilities or students who need accommodations for online learning should contact the Center for Student with Disabilities. The CSD office has two full-service office locations:

Lincoln Park Campus, Student Center 370, 773/325-1677 Loop Campus, Lewis Center 1420, 312/362-8002

Macinstosh users please read: Students in the course are strongly encouraged to use a PC rather than a Macintosh as assignments will be demonstrated using MS-Office 2013 software on a PC running Windows 7. Students who try to complete these assignments on a Macintosh will find the work they must do does not match what was demonstrated in class. While MS-Office is available for the Mac, that version does not contain MS-Access, the database program taught in this course. Substitute database programs (NeoOffice, LibreOffice, OpenOffice) look and feel very different from Access; and do not interchange files cleanly--though the purport to do so.

This issue is also present when statistics and probability are taught using MS-Excel, however the Mac view in Excel 2008 and Excel 2011 is much closer.

Required Software:
Microsoft Access. You can download a 30 day free copy here **http://office.microsoft.com/en-us/access/** This software is also available in all DePaul CDM Labs **http://www.cdm.depaul.edu/current%20students/pages/labs.aspx**

Microsoft Excel 2013. You can download a 30 day free copy here **http://office.microsoft.com/en-us/excel/** This software is also available in all DePaul CDM Labs **http://www.cdm.depaul.edu/current%20students/pages/labs.aspx**

Microsoft Visual Studio. You can download a free copy for windows here http://www.microsoft.com/en-us/download/details.aspx?id=34673 This software is also available in all DePaul CDM Labs **http://www.cdm.depaul.edu/current%20students/pages/labs.aspx**

Please note that the LSP 121 tutors can't help with the Visual Basic projects.

Grading

Students will be evaluated on the basis of:

1. Assignments and Homework – Each week there will be an assignment and homework to be done. Their purpose is to give you individual practice on the skills we are learning and to explore some ideas more thoughtfully and deeply. The videos will demonstrate the assignments. The assignments should be done individually. The homework is separate from the assignments. The assignments are due by the date posted in D2L. Most assignments are due on Sunday, 11:59 pm. The first assignment and homework will be due 1/11, 11:59 pm and the last assignment will be due 3/15, 11:59 pm. **Assignment and Homework more than 1 week late will not be accepted**. 200 Points

2. Discussions - weekly participation on (10) discussion board exercises will count for 100 points. The first post is due by Thursday, 11:59pm to earn 7 points **except the week 1 post**. **In Week 1, both posts are due by 1/11**. After week 1, a second post of comments on a peer's response if due by Sunday, 11:59 pm for 3 points. The first discussion exercise will start week 1 and continue weekly throughout the term. Late discussions will not be accepted. **See the rubric at the end of this document for discussion point distribution**.

3. Midterm Exam – An online midterm examination will be given. The midterm exam is worth 100 points. 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. You will be able to take the online midterm through D2L between the dates of **2/17-2/23**

4. Final Exam – A proctored final exam must be taken in order to receive a grade in the course. The final exam is worth 100 points. If you cannot take the exam due to illness or family emergency, you must inform me in advance by phone or email. 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. You will be able to take the proctored final exams between the dates of **3/13 – 3/20**

The combined average of the midterm and final exams must be a passing grade in order to pass this course (this is to ensure that you are capable of doing some work on your own).

Point Scale:			
460 – 500	A	360 - 389	C
450 – 459	A-	350 – 359	C-
440 - 449	B+	340 - 349	D+
410 - 439	B	300 - 339	D
400 - 409	B-	295 - 299	D-
390- 399	C+	0 - 294	F

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 *This schedule can change without notice*

Week 1: Introduction to Databases
Assignment and Homework due 1/11
Discussion posts due 1/11

Week 2: Database Queries
Assignment and Homework due 1/18
Discussion post 1 due 1/15 and post 2 1/18

Week 3: Database Forms and Reports
Assignment and Homework due 1/25
Discussion post 1 due 1/22 and post 2 1/25

Week 4: Database Switchboard
Assignment and Homework due 2/1
Discussion post 1 due 1/29 and post 2 2/1

Week 5: Introduction to Statistics
Assignment and Homework due 2/8
Discussion post 1 due 2/5 and post 2 2/8

Week 6: Correlation/Midterm
Assignment and Homework due 2/15
Discussion post 1 due 2/12 and post 2 2/15
Midterm 2/17-2/23

Week 7: Probability
Assignment and Homework due 2/22
Discussion post1 due 2/22 and post 2 2/22

Week 8 Computers, Algorithms and Flowcharts
Assignment and Homework due 3/1

Discussion post 1 due 2/26 and post 2 3/1

Week 9: Programming
Assignment and Homework due 3/8
Discussion post 1 due 3/5 and post 2 3/8

Week 10: Programming
Assignment and Homework due 3/15
Discussion post 1 due and post 3/15

Week 11: Final Exam
3/13-3/20

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: Students will be able to recognize that seemingly improbably 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 Assignment Statements 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 and create a switchboard.

5. Professional Statistical Package: Students will be using tools in Microsoft Excel to make specialized statistics plots, calculate descriptive summary statistics.

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 acquire the ability to trace simple program listings using flowcharts.

How These Learning Outcomes Will Be Met:

1. Statistics: Activity 5 is devoted entirely to basic descriptive statistics; Activity 6 discusses correlation. Homework assignments 5 and 6 reinforces these concepts.

2. Probability: Activity 7 covers an introduction to probability. Homework 7 reinforces these concepts.

3. Algorithms and reasoning: Activity 8 introduces the concepts of sequential statements and flow charts. Homework assignment 8 reinforces this concepts.

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

5. Professional statistical package: Activity 6 introduces Microsoft Excel and shows how features in Excel can be used as a statistical package. Homework assignment 6 reinforce these concepts

6. Programming tools: Activities 9 and 10 introduce the concepts of sequential statements, assignment statements and variable declaration. Homework assignments 9 and 10 reinforce these concepts.

Discussion Grading Rubric

A successful student in the online learning format is one who takes an active role in the complete learning process. Each discussion will offer you the opportunity to explore questions and comments related to your reading and understanding of **Math and Technology Literacy II concepts**. You are encouraged to actively participate in each discussion to enhance your learning experience throughout each week. All discussions are worth 10 points and there are 10 scheduled in the term.

1. Frequency - Our post week begins on Monday and ends on the following Sunday**.** At a minimum, students are expected to log into the course and contribute "countable" posts to the discussion topic on a minimum of two separate days per week, beginning no later than **Thursday except week 1, week 7 and week 10.**
2. Quality – Quality assessment goes to the content of your contributions. If any given posts do not meet the quality standard it will not count. Examples of quality content posts include
    - Providing additional information to the discussion;
    - Elaborating on previous comments from others;
    - Presenting explanations of concepts or methods to help fellow students;
    - Presenting reasons for or against a topic in a persuasive fashion

Points	**Frequency**	**Quality / Content/ Notes**
0/10	1 or 2 posts after Thursday of each week, 11:59 PM	This does not apply for week 1, week 7 and week 10.
7/10	1 post	1. Basic comment relevant to the discussion topic
8/10	2 posts / 2 separate days	1.Basic comment relevant to the discussion topic and 2. Expand on fellow students by stating you agree.
9/9	2 posts / 2 separate days	1.Basic comment relevant to the discussion topic and 2.Expand on fellow student's post with additional, supporting information, not just agreeing with for example one point listing you dislike/agree with, and why.
10/10	2 posts / 2 separate days	1.Basic comment relevant to the discussion topic and 2.Expand on fellow student's post with additional, supporting information, not just agreeing with for example one point listing you dislike/agree with, and why and 3.Direct and specific link to weekly reading, citing relevance to the discussion with page number Or – A URL or article link, with summary and relevance to the topic

Points will not be deducted for poor spelling and grammar until it becomes an impediment to comprehension. A student will be given one private email warning on this matter before deductions begin.