

## **LSP 121: Quantitative Reasoning and Technological Literacy**

Spring 2013

Version Date: April 3, 2013

### **OFFICIAL COURSE DESCRIPTION**

In this course students 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 will emphasize more the role of computer technology. Extensive use will be made of computer tools such as Web 2.0 technologies, database, spreadsheet and programming languages.

### **MY COMMENTS ON THE OFFICIAL COURSE DESCRIPTION**

My focus for the course is on using computer tools to analyze and interpret data in several contexts. We will study three kinds computing: Scientific computing (statistical manipulation), Business computing (data management), and Visual computing (programming animations) to see how computers can be used in these very different contexts to accomplish meaningful and useful tasks.

OK, that sounds vague as well. What we really are going to do is: [1] some data analysis and statistics using Excel (this is scientific computing); [2] some database design and manipulation in MS-Access (this is business computing); and [3] some design of videos (animation like South Park) and maybe simple game design (visual programming). The first two parts are useful skills to add to your resume; the last part is fun (well fun for almost everyone) and will open up many possibilities for you to pursue computer animation further, if you so choose.

### **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

- 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 and programming

### **PREREQUISITES: LSP 120**

LSP 121 is a Liberal Studies requirement for freshman and transfer students that entered DePaul University on or after the autumn quarter 2006. When taking LSP 121, you may “reduce by one the number of courses they must take to meet your Learning Domain Area requirements. This course

reduction can come from any one of the six Learning Domains, as long as the student still takes at least one course from each Domain and as long as the student still completes the laboratory and quantitative requirements in the Scientific Inquiry area.”

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](http://qrc.depaul.edu) website (click on Links in the left navigation bar, click on LSP 121 Placement Exam Study Guide in the list) for additional details.

### REQUIRED RESOURCES AND MATERIALS

[Access to: D2L at DePaul; MS-Access 2010; and MS-Excel 2010 \(both part of MS-Office 2010\)<sup>1</sup>.](#)

We will use Desire2Learn (D2L) as our Course Management System. All assignments and course materials will be provided through D2L; Assignments will be submitted on D2L; and Quizzes will be taken online in D2L.

All three of these requirements are met by using DePaul University labs. If you are unable to use a DePaul lab, and if you do not have a copy of Access and Excel 2010 available to you, please contact me to discuss alternate software--after reading the next paragraph.

I do not permit students to submit materials in my section generated in open source spreadsheets or databases. Students may submit using MS Office 2007 (for Windows), or MS Office 2008 or 2011 (for the Mac). However, if you are using any of these three versions note that [1] my examples will all be shown in MS Office 2010; and [2] I will not be very good at helping you troubleshoot differences between your version and my version--I am not a Mac person and am sometimes clueless as to why your Mac won't do what we think it should be doing.

**Do not overlook this issue.** Last Fall I tried to support students using version of Open Office on their Macs. This was a disaster due to differences between MS-Office and Open Office. **If you must do your work on a Macintosh, or you have no way to access (no pun intended) MS-Access, we need to discuss this up front.**

### TEXTBOOK: NONE

We will provide you with access to necessary reading materials.

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<sup>1</sup> Note that MS-Access is not included in all versions of MS-Office. Check to see if your version includes MS-Access..

## INSTRUCTOR

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  - **Skype:** dmittleman
  - **SMS/Text:** 312.285.0311
  - **Phone:** 312.362.6103
- [Note: email/SkypeChat/SMS (in that order) are better ways to reach me than phone]*
- **Virtual Office Hours:** Since we are working virtually, simply text or Skype me if you want to meet and we will arrange a mutually convenient time as quickly as possible. See my contact information (above or on the right side of the D2L course page). I am also happy to meet any student face to face. Let me know by email if you want to meet physically and we will schedule a mutually convenient time.
  - **Personal:** Picture below shows what my principal distractions are these days. The boys—Alex, David, Jacob—were born September 6, 2012, the first day of classes Fall Quarter. They (actually the sleep deprivation) are why I am sometimes more flakey that you probably want your Professor to be.



**GRADING BREAKDOWN:****Quizzes -- 25%**

There will be a Getting Started quiz and a quiz for **most** of the Course Modules. Your quiz score will be divided evenly among all quizzes for 20% of your grade.

**You must take and score 100% on the Getting Started quiz before you are permitted to see any other course material.** This first quiz ensures you have read and have basic understanding of the course syllabus and rules. I apologize to those of you who would be reading this syllabus and related material carefully anyway. I've found that more than half of the students in LSP 121 skim this material and never come to understand what is expected of them. So I am requiring 100% on this first quiz in order to help them better explore the course rules. After this first quiz (which must be retaken until you score 100%), all other quizzes will be timed and may be taken only once. Your 100% on the first quiz does count toward your course grade--so everyone starts out this week with an A in the course.

**Assignments -- 45%**

There will be one assignment for each course Module, though assignments may have multiple parts to them. Assignments will normally be worth 50 points and will be weighted evenly over the course.

The purpose of the assignments is to give you practice on the skills we are learning, to explore some ideas more thoughtfully and deeply, and to prepare for the quizzes/exam. The assignments are posted on D2L/Content and will be made available at the beginning of each Module. Homework assignments must be done individually and are due by the due date posted on D2L. **Assignments will not be accepted after the solutions are made available on-line, and I will strive to make solutions available shortly after each due date.**

The Assignment for Module 6 is a Comprehensive Project up to that point in the course. **This assignment counts twice as much as the other assignments.**

**Exam – 30%**

The course has a proctored final exam and can be taken between Saturday June 8 and Wednesday June 12. The final exam must be taken and **you must receive a grade of 50 or higher (after the curve) on the exam to pass the course.**<sup>2</sup> My exams tend to be difficult, but I curve them if necessary (and it usually is necessary.)

The exam will be offered two ways:

1. We will set up specific exam times that you can sign up for. These exams will be offered in the CDM building in the Chicago loop. We will have four computers set up for the exam, so a maximum of four students can sign up for each time slot. (This has not proven to be a problem in the past.) We will make the signup sheet available roughly two weeks before the exam.
2. If you cannot make it to the Chicago loop during these time slots to take the exam, you may arrange for your own proctor following the guidelines established by CDM for external proctors. This will be the solution for any student who is taking the course from outside of Chicago, and may be the preferred solution for someone from the deep suburbs. Note that you are responsible for any costs incurred hiring the proctor. DePaul CDM's proctoring policy is here: <http://goo.gl/eljE7> and guidelines for finding a proctor are here: <http://goo.gl/vGPf6>. If you anticipate taking the exam with your own proctor I encourage you to contact me by email as soon as you know this so I can make sure we are providing appropriate support for the process.

Note again: if you can make it to the Loop campus for the exam, this does not apply to you.

**Any student requiring PLuS support for the exam should contact me with the appropriate paperwork early in the course.**

If you cannot take the exam due to illness or family emergency, **you should if at all possible inform me in advance to be assured your absence is accepted**<sup>3</sup>. 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 we it can be mutually arranged.

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<sup>2</sup> The reason for this rule is that none of the other work in the course is monitored. While none of you, I am sure, would have someone else do your work, I have no way of policing that. For the exam you will have to do your own work.

<sup>3</sup> An unverified no-show will not automatically be accepted.

**One last important comment about grading**

I reserve the right to increase a student's grade if s/he is active on the D2L Discussion Board supporting other students by engaging with them and, when possible, answering questions about course material (see expanded description below).

As this is an online class, it does not require we meet or interact at specific times. However, there is a discussion board for Q and A about assignments and related On-Line learning discussion. Note that you start with zero points for participation and work up from there. How can you earn participation karma?

- Contribute "found resources" such as websites and tutorial videos that may be helpful to other students trying to understand the course material.
- Provide useful and timely feedback and advice to other students as they ask questions about course materials and related topics.

**Anyone who asks me late if the course if extra credit is available will be told: you could have been earning extra credit all along by supporting other students on the Discussion Board.**

**GRADING SCALE:**

This grading scale is approximate. I reserve the right to round the edges up or down in order to make sure two students with almost exactly the same numerical grade do not receive different letter grades.

	93 - 100 A	90 - 92.9 A-
87 - 89.9 B+	83 - 86.9 B	80 - 82.9 B-
77 - 79.9 C+	73 - 76.9 C	70 - 72.9 C-
67 - 69.9 D+	60 - 66.9 D	
0 - 59.9 F		

**Note again: a student must receive a curved grade of 50 on the Final Exam in order to pass this course, independent of what the grades have been on other course submissions.**

## TUTORING

DePaul provides tutoring for LSP 121 in the Lincoln Park campus computer labs. I've asked about online or telephone tutoring as this is an online section and have not been provided with a satisfactory answer.

Tutoring Hours for Spring 2013			
Day	Time	Room	Tutor
Mondays	2:40 - 4:10 PM	O'Connell 300	Kathryn
	4:20 - 5:50 PM	SAC 224	Kathryn + Kayla S.
Tuesdays	4:20- 5:50 pm	SAC 224	Lizz + Kayla S.
Wednesdays	2:40 - 4:10 PM	SAC 224	Lizz + JP
	4:20 - 5:50 PM	O'Connell 300	Kayla S.
Thursdays	4:20- 5:50 pm	SAC 224	Lizz + Kayla S.
Fridays	12:00 - 3:00 pm	SAC 224	Lizz
Saturdays	1:00- 5:00 pm	SAC 224	JP
Sundays	1:00- 5:00 pm	SAC 224	Collette

Additional Tutoring information located at <http://qrc.depaul.edu/>

## PACING:

Students must complete work as assigned by the due dates specified. **This is not a self-paced course.** Late submission of assignments may result in a significant grading penalty or no grade at all if the answers have already been distributed.

## SUBMITTED MATERIALS:

**Students should keep a copy of all materials submitted to the D2L Dropbox until the end of the course.** Last Fall we experienced the disappearance of some materials (I think it was human error, but who knows.) If your material disappears, you need to be able to provide it again. **This issue is most critical if you are doing work on a lab or friend's computer.** Make sure to email or archive a copy of your work for yourself. Do not write over an old assignment when you create a new one; save each assignment under a different file name.

Students are responsible for making sure the appropriate grade has been assigned for work submitted. **You have one week after the grades are posted to question a grade.** Question a grade by sending email to the instructor that provides a detailed breakdown as to why the grade should be changed. Grades are locked in after one week.



**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 students must be earning a passing grade at the time one requests an incomplete grade. Students 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.

**DePaul CDM policy also is that all incompletes must be requested by the student using an online form.**

See CDM grading policies at <http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx>

**ACADEMIC INTEGRITY:**

University policies on academic integrity will be strictly adhered to. Violations of academic integrity, including (but not limited to): cheating; plagiarism; fabrication of data; and complicity, are not tolerated. It is expected and understood students are familiar with DePaul's Academic Integrity Policy. The Policy can be found at: <http://academicintegrity.depaul.edu/AcademicIntegrityPolicy.pdf>. It defines the violation terms used above and provides a complete statement about the rules.

Consult the Academic Integrity website for further guidance: <http://academicintegrity.depaul.edu/>

**CHANGES TO SYLLABUS**

This syllabus is subject to change as necessary during the quarter. If that occurs, reasons for the change and options available to students will be thoroughly addressed on the course D2L site. Changes are not made lightly as this syllabus is considered a contract between instructor and student.

**A NOTE ABOUT ONLINE LEARNING**

Online learning requires more self-discipline and more personal initiative than does a traditional classroom course. Further, an online student will work just as many hours--and very likely more hours--to learn the subject matter.

If you are taking this section under the impression you can add an additional course without the time commitment one must make to a classroom course, you are mistaken. And that mistake will result in either a poor grade, or in you dropping the course later and losing the financial and time investment you have made.

**It is strongly advised that you self-reflect as to whether an online course is the right fit for you given your personal work habits and other life commitments you have this spring.**



## TENTATIVE SCHEDULE

Week 1:	Module 0:	<b><u>Overview of the course</u></b> , self-assessment, student introductions, and LSP 120 concepts review. <b>Students MUST complete this module by scoring 100% on the Module 0 quiz before Module 1 material is made available. The Module 0 quiz may/must be taken repeatedly until a score of 100% is achieved (all other quizzes may only be taken once.)</b>
Week 2:	Module 1:	<b><u>Overview of Computer-based Data Analysis Simulation</u></b> , Measures of Central Tendency, and Normal Distribution.
Week 3:	Module 2:	<b>Descriptive Statistics</b> and <b>Correlation</b> for data analysis
Week 4:	Module 3:	<b>Probability</b> and <b>Risk Analysis</b>
Week 5:	Module 4:	<b><u>Overview of Data Management</u></b> . Data Analysis with <b>Relational Databases</b> using simple database queries
Week 6:	Module 5:	Working with <b>Multiple Database Tables</b> , and <b>Complex Queries</b>
Week 7:	Module 6:	<b>Database Forms</b> and <b>Reports</b> <b>[Note: Assignment this week is comprehensive and worth additional points]</b>
Week 8:	Module 7:	<b><u>Introduction to Visual Computing</u></b> and <b>Algorithms</b>
Week 9:	Module 8:	Programming <b>Properties</b> and <b>Behaviors</b>
Week 10:	Module 9:	Programming <b>User Interactions</b>
6/8-6/12	Exam Dates:	Proctored comprehensive final exam (Options to take on June 8, or June 10-12)

**Do note this is a lot of material in a short time. If you fall behind it is extremely difficult to catch up.**