

# LSP 121

## Quantitative Reasoning and Technological Literacy II

### Winter 2018 Online

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Office hours: Thursday 3:30 PM – 5:00 PM & **online**

#### **Course Description**

This course provides more advanced mathematical and computational methods in the analysis and interpretation of quantitative information. Topics include databases, descriptive statistics, measures of association and their interpretation, elementary probability theory, and an introduction to algorithms and computer programming. The course is taught online where students are introduced to advanced computer tools for data analysis, including databases and a professional statistical software package

**Textbook:** none

**Prerequisites:** Passing grade in LSP 120 or successful completion of the LSP 120 Proficiency Exam

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://qrc.depaul.edu> website for more details.

**Last Date to Drop with no penalty:** January 18, 2019

**Last Date to Withdraw:** February 22, 2018

#### **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
- become acquainted with data analysis software as used to prepare and analyze basic descriptive statistics
- apply probability concepts appropriately
- manipulate data via the creation and use of relational databases
- understand the basic concepts of algorithm creation and computer programming

## **Course Navigation D2L**

### **The main course navigation is divided into the following sections:**

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

*Content including the Getting Started Section*– This is where you'll find the syllabus, readings, module videos, and other resources.

Discussions – (2 Parts)

-Team Space – This is the area you will use to collaborate with your team members before you submit the Team Assignment. There are a total of 5 Team Assignments.

-LSP 121 - 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 from 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 voices and points of view that might not get expressed in a traditional face-to-face discussion.

*Submissions Folders* – This is where you will submit your Individual Assignments and Team Assignments.

*Grades* – This area displays grades and feedback you've received on any Individual Assignment, Team Assignments, Discussion and Quiz.

*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.

### **Course Pacing**

This course is divided into ten weeks. 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

## **Required Software**

Students will need to be able to use the following software throughout the quarter:

- MS-Office, including
  - *MS-Access*
  - *MS-Word*
  - *MS-Excel*
- SPSS
- file-compression software(e.g. WinZip)
- pdf reader software (e.g. Adobe Reader)

The software products listed above are available at DePaul Computer Labs on both the Loop and Lincoln Park campuses.

For the locations and hours of those labs consult: <https://offices.depaul.edu/information-services/services/labs-classrooms/computer-labs/Pages/default.aspx>

For your personal computer:

We highly recommend that you activate your Office 365 Education Plus account. It is available, free of charge, to all DePaul students.

For information on activating your account consult:

<https://offices.depaul.edu/information-services/services/Software/Pages/Office-365-Education-Plus-for-Students.aspx>

Specific to your PC:

- PC users who activate an Office 365 Education Plus account, will be able to use MS-Word, MS-Excel, and MS-Access directly on their own PC.
- SPSS on your PC  
SPSS is available for use on a DePaul student's PC, free of charge, via the DePaul Virtual Lab <http://vlab.depaul.edu>. Instructions for use of SPSS via the Virtual Lab are provided in the Getting Started Section of the Course.

Specific to your Mac:

- Mac users who activate an Office 365 Education Plus account, will be able to use MS-Word and MS-Excel directly on their own Mac.
- Mac users who activate an Office 365 Education Plus account, will be able to use MS-Access on their own Mac via the DePaul Virtual Lab <http://vlab.depaul.edu> and the activated Office 365 Education Plus account.
- SPSS on your Mac  
SPSS is available for use on a DePaul student's Mac, free of charge, via the DePaul Virtual Lab <http://vlab.depaul.edu>. Instructions for use of SPSS via the Virtual Lab are provided in the Getting Started Section of the Course

## Grading

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

### Students will be evaluated on the basis of:

1. Individual Assignments (5) - 100 Points total or 20 points each
2. Team Assignments (5) - 100 Points total or 20 points each
3. Discussions (5) – 100 Points total or 20 points each
4. Quizzes (3) – 200 Points total or 65/65/70 points each

Individual Assignments – During many weeks there will be an assignment to be completed by each student outside of class. There will also be videos available to demonstrate each Individual Assignment excluding number 2 and 5 which use Microsoft Word. The purpose of these assignments is to give individual outside-of-class practice on the skills we are learning and to explore some ideas more thoughtfully and deeply. These assignments also provide the opportunity to complete work similar to quiz problems. The assignments will be available on D2L in the Submissions section.

### Assignment due dates are stated on D2L as part of the information about the Submission Folders.

Individual assignments must be completed individually. Students who submit work not completed by themselves alone will be subject to plagiarism penalties. It is acceptable and even encouraged for students to discuss individual assignments with others, however the assignment submitted by each student must have been completed by that student alone. Any student who submits an Individual Assignment completed by another student or prepared jointly with another student will be subject to cheating/plagiarism penalties. **Assignments more than 1 week late will not be accepted. Please email if you need the dropbox extended rather than emailing me an Individual Assignment as an email attachment.**

Team Assignments - Each student in this class will be a member of a team. Each student will be assigned to a team on the first day of class.

Team assignments will be part of the work completed by all students. **These team assignments will be available on D2L in the Submissions section.**

**Each team assignment submission must include a list of the names of the team members who contributed to the assignment.**

All team members who contribute to the submitted team assignment, as reported on the contributor list submitted as part of the assignment, will receive the same number of points for that team assignment. Team members not included in the contributor list will receive 0 points for the assignment.

It is up to the team to agree upon how to complete team assignments...and it is each person's responsibility to complete work as agreed upon by the team.

It may be tempting to divide the work of the team assignment so that each team member completes only a portion of the assignment and the resulting portions are assembled for submission. That is not a good strategy. Each team member should complete the entire team assignment. They may also decide that each person will complete the entire assignment independently and collaborate/review each other's work to determine the answers that should be submitted for evaluation. **No late Team Assignments will be accepted. All Team Assignments should be uploaded to the respective Team Assignments final submission folder with each Team Member that contributed to the Assignment listed. Please do not email completed Team Assignments as an email attachment.**

Discussions - You are asked at a minimum to make two posts on or before the due date set in D2L. Students are expected to compose a thoughtful response to (1) of their classmates' posts by **Thursday** (of the same week) by 11:59pm (about 1 paragraph in length) to receive 17 points. The initial post should address the guided question provided in the module (This is done through referencing the text and providing insight). The 2<sup>nd</sup> post is due by **Sunday** of the due date week, 11:59pm to earn the full 20 points. The due dates for the Discussions are as follows:

- Statistics post 1 by 1/10 and post 2 by 1/13
- Probability post 1 by 1/24 and post 2 by 1/27
- Database #1 post 1 by 2/7 and post 2 by 2/10
- Database #2 post 1 by 2/14 and post 2 by 2/17
- Algorithm post 1 by 3/14 and post 2 by 3/17

Quizzes – Quiz 1 and Quiz 2 will be available in D2L.

Quiz 3 will be in MS Word. The Quizzes are not cumulative. Study Guides are provided for each Quiz.

Quiz 1: 2/2 - 2/6 - 65 points

Quiz 2: 2/23 - 2/27 - 65 points

Quiz 3: 3/16 – 3/20 - 70 points

### **Quizzes must be proctored**

**You will have two options for proctoring. You must choose one approach and use it for each Quiz.**

#### **Option 1 - Examiity**

This service will give you flexibility to schedule quizzes at your convenience and take them wherever you want as long as you adhere to the exam rules set for the test. You have to create a profile in Examiity during the first week of the term. To preview how the application works, view this link

<https://youtu.be/GPDUiC2ekLE>

Other notables

- You must take the exam on a desktop computer or laptop (not a tablet).
- Please note that large monitors are not allowed as they are not equipped to pan the room.
- You must have a working built-in or external webcam and microphone.
- Your Internet speed must be at least 3Mbps download and 3Mbps upload. Determiner your Internet speed by running a test at:<http://www.speedtest.net>

- The proctored quizzes cannot be taken in a public space such as a library
- Internet searches are not allowed during the quizzes
- Interacting with someone during the exam is not allowed.

## **Option 2 – Live Proctor**

### Local Students

Students located in Cook County are considered local and are expected to come to a DePaul campus to take any quizzes required by the course:

There is no proctoring fee for quizzes taken at the Loop location (243 S. Wabash, or the DePaul Center, Lower Level).

Loop:

Monday - Thursday: 10:00am, 2:00pm & 6:00pm

Friday & Saturday: 10am & 2:00pm

### Remote Students

You have to locate an acceptable proctor or someone who meets the requirement below: Acceptable Proctors

- A librarian at an academic or public library
- Testing centers at 2 or 4 year colleges and universities
- Faculty member at a local university or community college.
- Commercial learning/tutoring centers (i.e. Sylvan Learning Center). Students are responsible for proctor fees.
- A military learning center or officer of higher rank, if in the military

### **Unacceptable Proctors**

- Relatives
- Friends
- Neighbors
- Co-workers or supervisors
- Staff members or clergy at a place of worship

See Google Maps, [National College Testing Association](#) list of participating institutions and [Sylvan Learning Centers](#).

## **Grading Percentage**

### **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:*

- *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.*
  - *Copying of any source in whole or part with only minor changes in wording or syntax, even with acknowledgement.*
  - *Submitting as one's own work a report, examination paper, computer file, lab report or other Activity that has been prepared by someone else. This includes research papers purchased from any other person or agency.*
  - *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*

**Module 1 - Weeks 1-5: 1/7 - 2/3: Statistics, Correlation and Probability**

Individual Assignment #1 and Team Assignment 101 and 102 due 1/20

Individual Assignment #2 (no video) and Team Assignment 103 due 2/3

Quiz 1- 2/2 – 2/6

**Module 2 - Weeks 6-8: 2/4 - 2/24: Databases**

Individual Assignment #3 and Team Assignment 104 due 2/24

Quiz 2-2/23 – 2/27

**Module 3 - Week 9-10: 2/25 - 3/17: Algorithm and Computer Programming**

Individual Assignments #4 and #5 (no video) and Team Assignment 105 due 3/17

Quiz 3 - 3/16 – 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 central tendency and dispersion; measure and interpret the association between variables; recognize the difference between correlation and causation; solve applied problems involving the normal distribution.
2. 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.
3. 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.
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. 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.
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**

Topics will be presented via lectures and in-class demonstrations. Associated hands-on student activities will reinforce concepts and introduce techniques required to complete assignments. Team assignments serve as an introduction to concepts and techniques, as well as collaboration to achieve a group solution to assigned problems. Individual assignments continue the lessons of the team assignments with additional

reinforcement of concepts and techniques.

1. Statistics: Team Assignment 101 is devoted entirely to basic descriptive statistics; Team Assignment 102 covers descriptive statistics and analysis of single variables, normal distributions, and two-variable situations (cross-tabulation, correlation); Individual Assignment 1 covers descriptive statistics and analysis of single variables, two-variables, normal distributions, and deceptive statistics.
2. Professional statistical package: Team Assignment 102 is completed using the statistical package SPSS and requires the student to use it to solve multiple tasks; Individual Assignment 1 continues the use of SPSS
3. Probability: Team Assignment 103 covers an introduction to probability with a short section on risk. Individual Assignment 2 reinforces these concepts.
4. Database tools: Team Assignment 104 introduces Access databases with table/query/form and report creation. Individual Assignment 3 reinforces those lessons and includes database design with normalization.
5. Algorithms and reasoning: Team Assignment 105 requires that the team develop an algorithm to perform a task featuring repetition/loop logic. Individual Assignment 4 reinforces the concept of algorithm preparation.
6. Programming tools: Individual Assignment 4 introduces the concepts of sequential statements, if statements, loop statements, and function call statements and requires the students to use these to solve a variety of programming problems.

### **How These Writing Expectations Will Be Met**

All team and individual assignments require the students to answer questions using appropriate communication techniques, including short paragraph answers.

**Identifying the Transferable Skills you acquire** in your courses, jobs and internships, co-curricular involvement, and other experiences is important to your career development and success.

In this course, you will hone and build soft and technical skills that are important to employers, and it is your responsibility to highlight these skills in your resume, cover letters, interviews, and your digital presence - like your LinkedIn profile.

For assistance identifying and providing evidence of these skills, visit [careercenter.depaul.edu](http://careercenter.depaul.edu) to make an appointment to meet with a career advisor or access digital resources.

## **College Policies**

### **Academic Policies**

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the [University Academic Calendar](#). Information on enrollment, withdrawal, grading and incompletes can be found at [cdm.depaul.edu/enrollment](http://cdm.depaul.edu/enrollment)

### Academic Integrity and Plagiarism

This course will be subject to the university's Academic Integrity Policy. More information can be found at <http://academicintegrity.depaul.edu/>. If you have any questions be sure to consult your instructor.

### 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 contact the Center for Students with Disabilities (CSD) at [csd@depaul.edu](mailto:csd@depaul.edu)

### CSD Campus Locations:

Lincoln Park Campus  
Student Center, LPC, Suite #370  
Phone number: (773)325.1677  
Fax: (773)325.3720  
TTY: (773)325.7296

Loop Campus  
Lewis Center 1420, 25 East Jackson Blvd.  
Phone number: (312)362-8002  
Fax: (312)362-6544  
TTY: (773)325.7296