

LSP 121

Quantitative Reasoning and Technological Literacy II Spring 2019

Instructor: Miles Jackson Loop office: 14 E. Jackson - M7
phone: (312) 362- 5286
Email: mjackson@cdm.depaul.edu
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 this class (or any Spring 2018-2019 class) with tuition refund:
April 12, 2019

Last date to withdraw from this class (or any Spring 2018-2019 class):
May 17, 2019

Changes to Syllabus

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

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Objectives of this 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 Organization

The course material will be presented in three segments – Statistics/Probability, Databases, and Algorithms/Computer Programming.

Tentative Class Topic Schedule - Subject to Change

Weeks 1 - 4	4/1 – 4/27	Basics and Statistics/Probability
Week 5	5/1 – 5/5	Statistics/Probability Exam
Weeks 6 - 7	5/6 – 5/18	Databases
Weeks 7	5/15 – 5/20	Databases Exam
Weeks 8 - 10	5/20 – 6/10	Algorithms/Computer Programming
Week 11	6/10 – 6/14	Algorithms/Computer Programming Exam

Required Materials

Students will need the following electronic resources:

- A place to store your work (Flash drive, “cloud” account).
- Access to the software we will be using online.
 - 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.
- SPSS on your personal computer
 - SPSS is available for use on a DePaul student's personal computer (PC or Mac), free of charge, via the DePaul Virtual Lab <http://vlab.depaul.edu>. Instructions for use of SPSS via the Virtual Lab will be provided.
- MS-Office on your personal computer
 - Students are urged to activate their Office 365 Education Plus account, which is available for use on a DePaul student's personal computer, free of charge.
 - PC users
 - 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.
 - Mac users
 - 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. Instructions for use of MS-Access via the Virtual Lab will be provided.

Grading Policy

Grades will be based on the numbers of points you earn during the quarter. Approximately 1000 points will be available from a variety of sources. You must take all three exams in order to pass this class.

Grading Scale - Based on 1000 Possible Points

Grades Mapped to Points Earned:

- A 930 and above
- A- 929-900
-
- B+ 899-870
- B 869-830
- B- 829-800
-
- C+ 799-770
- C 769-730
- C- 729-700
-
- D+ 699-670
- D 669-600
-
- F 599 and below

Sources of Points (approximate)

- 55% Exams
- 20% Individual Homework Assignments
- 15% Team Assignments
- 10% Discussions

Proctored Exam Options – Exams will be setup in Examity and D2L by April 8, 2019

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

Option 1 - Examity

This service will give you flexibility to schedule Exams 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 Examity 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 exams cannot be taken in a public space such as a library
- Internet searches are not allowed during the exams
- 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 Exams required by the course:

There is no proctoring fee for Exams taken at the Loop location (DePaul Center, Lower Level, C102).

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](#).

Individual Assignments

The purpose of these assignments is to give 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 exam 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.

Late individual assignments can be submitted up to one week after the due date

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.

I will use the *TurnItIn* software available via DePaul University, to review written work as part of the evaluation process. This software detects evidence of plagiarism of submitted work.

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.

All class members will be expected to contribute to team assignments.

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. There are several options for working together on team assignments. Team members may wish to work jointly on a single submission. 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.

Discussion and Due Dates

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 2nd post is due by Saturday of the due date week, 11:59pm to earn the full 20 points. The due dates for the Discussions are as follows:

Discussion 1 post 1 due Apr 4 and post 2 due Apr 6
 Discussion 2 post 1 due Apr 18 and post 2 due Apr 20
 Discussion 3 post 1 due May 2 and post 2 due May 4
 Discussion 4 post 1 due May 16 and post 2 due May 18
 Discussion 5 post 1 due May 30 and post 2 due June 1

Discussion Rubric

Points	Frequency	Quality / Content/ Notes
0/20	1 or 2 posts after Thursday of each week, 11:59 PM	
17/20	1 post	1. Basic comment relevant to the discussion topic
18/20	2 posts / 2 separate days	Basic comment relevant to the discussion topic and Expand on fellow students by stating you agree.
19/20	2 posts / 2 separate days	Basic comment relevant to the discussion topic and 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.

20/20	2 posts / 2 separate days	Basic comment relevant to the discussion topic and 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 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
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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.

We will be using the Home, Content, Discussions, Submissions, Grades, Classlist, and Group.

Quantitative Reasoning Center

The Quantitative Reasoning Center (QRC) provides invaluable support to LSP 121 students. Check for location and hours of QRC LSP 121 tutors at the QRC website <http://qrc.depaul.edu>

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 the email address listed under "demographic information" at <http://campusconnect.depaul.edu> is correct and is one they check frequently.

Email to your Instructor

When sending e-mail to me, please include your name, the topic/question, and the class ID (LSP 121 - B) 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.

Preferred Name & Gender Pronouns

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the quarter so that I may make appropriate changes to my records. Please also note that students may choose to identify within the University community with a preferred first name that differs from their legal name and may also update their gender. The preferred first name will

appear in University related systems and documents except where the use of the legal name is necessitated or required by University business or legal need. For more information and instructions on how to do so, please see the Student Preferred Name and Gender Policy at <http://policies.depaul.edu/policy/policy.aspx?pid=332>

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 and z-scores.
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 improbably 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 readings and recordings of most individual assignments. 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.
7. Writing: The biweekly discussion posts will require students to answer questions using appropriate communication techniques. The purpose of the biweekly discussion posts are to state interpretations and opinions and make suggestions either using the weekly readings or external URLs. The discussion posts will help the reader understand the weekly topics and reinforce the weekly learning objectives. All discussion posts are evaluated against a discussion grading rubric

How These Writing Expectations Will Be Met

All biweekly discussions will 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 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

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.

Incomplete Grades

Grades of Incomplete are given only in cases of medical emergency or other highly unusual emergency situations. Any such reason must be documented. Any incomplete request must be approved by the Dean of the College of Computing and Digital Media. 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.

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

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

Course and Instructor Evaluation

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online on [CampusConnect](#).

Comments or Questions about LSP 121?

LSP 121 is managed and staffed by the College of Computing and Digital Media of DePaul University.

If you have general comments or questions about LSP 121, please email us at LSP121@depaul.edu.

Assignment Due Dates for Spring 2018-2019

Materials for all assignments are found on D2L in the Submissions section

Statistics and Probability

Team 101	Apr 6 (SA)	Statistics - Excel
Discussion 1	Apr 6 (SA)	Statistics
Team 102	Apr 13 (SA)	Statistics - SPSS
Team 103	Apr 20 (SA)	Probability
Discussion 2	Apr 20 (SA)	Probability
Individual 1	Apr 27 (SA)	Statistics - SPSS
Individual 2	May 4 (SA)	Probability
Discussion 3	Apr 20 (SA)	Probability
Exam #1	May 1-May 5	Statistics and Probability

Databases

Team 104	May 11 (SA)	Databases
Individual 3	May 18 (SA)	Databases
Discussion 4	May 18 (SA)	Databases
Exam #2	May 15-May 20	Databases

Algorithms and Computer Programming

Team 105	May 25 (SA)	Algorithms
Individual 4	Jun 1 (SA)	Algorithms and Computer Programming
Discussion 5	Jun 1 (SA)	Algorithms
Exam #3	Jun 11-Jun 14	Algorithms and Computer Programming