LSP 121 - Quantitative Reasoning and Technological Literacy II

Spring 2021

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Office hours: By appointment on Zoom Thursday 3:00 PM – 4:30 PM CST

Last date to drop this class (or any Spring class) with tuition refund:
April 9, 2021

Last date to withdraw from this class (or any Spring class):
May 14, 2021

Changes to Syllabus

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

New for Spring 2020-2021

Beginning Spring Quarter 2019-2020, all enrolled DePaul students were issued an email address (**username@depaul.edu**) that provided expanded access to software like Office 365 and Zoom.

Starting Spring Quarter 2020-2021, all DePaul-based communications will be sent to your @depaul.edu **email address.** @mail.depaul.edu is going away. These communications include any emails from a DePaul office or college, or messages sent from classroom technology such as D2L. Make sure to regularly log into and check your student email through any of the various Microsoft Outlook apps and/or urls listed below.

DePaul students can get the Outlook App for personal computers or mobile devices. Ways to check email (use your DePaul login credentials):

- **Outlook web app:** Go to office365.depaul.edu and select the Outlook icon
- **Outlook desktop app:** Go to office365.depaul.edu, log in with your DePaul BlueKey account credentials and download Office 365 including Outlook. Instructions for configuring Outlook can be found here
- **Outlook mobile app:** Download the Outlook mobile app on iPhone or Android Instructionsfor configuring Outlook can be found here

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.

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

Prerequisites

- Passing grade in LSP 120 or successful completion of the LSP 120 Proficiency Exam

If you feel that you already know the material presented in this course….

There is a placement Quiz you can take to exempt yourself from this class. You must take this Quiz within the first week of classes to waive the course this quarter. If you pass this Quiz, you will be waived from taking this course. Consult the Quantitative Reasoning Center website http://qrc.depaul.edu for more details.

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 0 - 4		Statistics/Probability
Week 5	April 30 – May 1	Statistics/Probability Quiz 1
Weeks 6 - 7		Databases
Week 8	May 21 – May 23	Databases Quiz 2
Weeks 9 - 10		Algorithms/Computer Programming
Week 11	June 9 – June 11	Algorithms/Computer Programming Quiz 3

Course Modality

Online Asynchronous - This is the type of courses that provide materials (such as recorded lectures and discussion boards) without requiring students' presence at a specific day and time.

Textbook

There is no required textbook for this class.

Required Technology Resources

Students will need the following technology resources:

- A personal computer
    - This can be a PC/Windows or Mac. (Not Chromebook, tablet, or phone)

1. A place to store your work (Flash drive, personal computer, "cloud" account).

2. Software we will be using for this class (see Obtaining Software for this Class, below)
    - SPSS (Statistical Package for the Social Sciences)
    - MS-Office, including
        - MS-Access
        - MS-Word
        - MS-Excel
    - file-compression software(e.g. WinZip)
    - pdf reader software (e.g. Adobe Reader)

3. Zoom video-conferencing software.

Obtaining Software Required for this Class

You will not need to purchase software for this class. You will need to 1) review the computer you will use for class and the software currently installed on the computer and 2) take action to make sure that you have the software that you will need (e.g. Office 365 offered by DePaul)

- All students will need to have Zoom video-conferencing software. DePaul students are eligible for a Zoom Pro account. If you have not already done so, sign-in and activate your Zoom account at depaul.zoom.us using your @depaul.edu email account. Zoom software can be used through a web browser, but a better experience is available by obtaining, installing, and using the desktop app for Zoom.

4. PC Users
    - SPSS (Statistical Package for the Social Sciences)
        - You will be able to use SPSS via DePaul Lab Virtual, a "virtual environment". You will find information on how use SPSS via DePaul Lab Virtual on the D2L website for this class, in Content |Software Environment.
    - MS-Office (MS-Access, MS-Word, MS-Excel)
    - SPSS (Statistical Package for the Social Sciences)
        - You will be able to use SPSS via DePaul Lab Virtual, a "virtual environment". You will find information on how use SPSS via DePaul Lab Virtual on the D2L website for this class, in Content |Software Environment.
    - MS-Office (MS-Access, MS-Word, MS-Excel)
        - Activate your Office 365 Account offered by DePaul University (at no cost to you). You will use your @depaul.edu email account to complete the activation and installation.
          This will give you the ability to use MS-Word and MS-Excel on your computer.
        - You will also need to have Office 365 offered by DePaul installed on your Macin order to use MS-Access on your Mac
        - You will be able to use MS-Access via DePaul Lab Virtual, a "virtual environment". You will find information on how use MS-Access via DePaul Lab Virtual on the D2L website for this class, in Content |Software Environment.

Web Browsers for this Class

5. Recommended Web Browsers
    - Chrome or Mozilla Firefox browser offer the best, consistent web experience when using D2L and other educational support products.

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 Quizzes in order to pass this class.

1 .Letter Grading Scale (percentage of total points)

93% - 100%: A
90% - 92%: A –
87% - 89%: B +
83% - 86%: B
80% - 82%: B -
77% - 79% C +
73% - 76% C
70% - 72% C –
67% - 69% D +
60% - 66% D

Sources of Points (approximate)

- 35% Quizzes
- 35% Individual Assignments
- 15% Team Assignments
- 15% Discussions

Grading Scale - Based on 1000 Possible Points
Grades Mapped to Points Earned:

- Pass 700 and above
- D 699-600
- F 599 and below

Quizzes

There will be three quizzes.

Each of the three quizzes will cover a different class module – Statistics/Probability, Databases, or Algorithms/Computer Programming. Quizzes are not cumulative.

If you cannot take a Quiz due to illness or family emergency, you must inform me before the Quiz by email.

Students must complete all three Quizzes in order to pass this class

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 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.

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.

Team Assignments

Each student in this class will be a member of a team. Each student will be assigned to a teams during the first week of the course.

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 second post is due by Sunday of the due date week, 11:59pm to earn the full 20 points. The dues dates for the other Discussions are as follows:

Discussion 1 post 1 due April 8 and post 2 April 11
Discussion 2 post 1 due April 15 and post 2 due April 18
Discussion 3 post 1 due April 22 and post 2 April 25

Discussion 4 post 1 due May 13 and post 2 due May 16
Discussion 5 post 1 March 11 and post 2 due June 4

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	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

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.

Quantitative Reasoning Center

The Quantitative Reasoning Center (QRC) provides invaluable support to LSP 121 students. Check for location and remote 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. As noted above, effective Spring Quarter 2020-2021, any email sent from D2L will be sent to your @depaul.edu email account. Make sure to regularly log into and check your student email through any of the various Microsoft Outlook apps and/or URLs listed above.

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 and normal probability plots; calculate descriptive summary statistics using a statistical package.

3. Probability: 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; create a relational database using two or more tables; construct a query for a relational database 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 MS Word, PDF files and Videos. The videos of the Individual Assignments 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.

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 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.

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 2021

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

Week	Week 1- March 29- Apr4	Week 2- Apr5- Aprl11	Week 3- Apr12- Apr18	Week 4- Apr19- Apr25	Week 5- Apr26- May2	Week 6- May3- May9	Week 7- May10- May16	Week 8- May17 May23	Week 9- May24- May30	Week 10- Jun1- June6	Week 11- Jun7- Jun11
Discussion		1 Post 1 due Apr8 and Post 2 due Apr11	2 Post 1 due Apr22 and Post 2 due Apr25	3 Post 1 due Apr22 and Post 2 due Apr25			4 Post 1 due May13 and Post 2 due May16			5 Post 1 due June4 and Post 2 due June4	
Individual Ass #	1 due Apr4		2 due Apr18	3 due Ap25			4 due May16			5 due June6	6 due June11
Team Ass #	100 due Apr4	101 and 102 due Apr11		103 due Apr25		104 due May9			105 due May30		
Quiz					1-Apr30- May1			2-May21- May23			3-June9- June11