LSP 121 - Quantitative Reasoning and Technological Literacy II
Spring 2019 – 2020

All times listed are Central Daylight Time (CDT)

Class meeting time: Mo We 11:20 am – 12:50 pm CDT (via Zoom Meeting)

Section 302

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Office Hours: No appointments are required for office hours.

All office hours will be conducted in a Zoom Meeting during the times listed below.
     Enrolled students will be provided the link to the Zoom Meeting Room.

Monday	*2:45 – 4:00 pm CDT*
Wednesday	*2:45 – 4:00 pm CDT*
Friday	*3:00 – 5:00 pm CDT*

     Office hours can also be arranged by contacting your instructor via email

Important Dates:

Consult the DePaul Academic Calendar to find:

- Last date to "swap" sections of this class
- Last date to drop this class (or any class) with tuition refund
- Last date to withdraw from this class (or any class)

https://academics.depaul.edu/calendar/Pages/default.aspx

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 will be taught remotely, off campus. Students will be 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 exam you can take to exempt yourself from this class. 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 Quantitative Reasoning Center website http://qrc.depaul.edu for more details.

Course Organization

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

Tentative Class Topic Schedule - Subject to Change

Module #1	Basics and Statistics/Probability	March 30 – April 27
Exam #1	**Statistics/Probability**	**Wednesday, April 29**
Module #2	Databases	May 1 – May 19
Exam #2	**Databases**	**Wednesday, May 20**

Module #3	Algorithms/Computer Programming	May 22 – June 7
Exam #3	**Algorithms/Computer Programming**	**Monday, June 8, 11:30 – 1:45 pm**

Remote Class Meeting Sessions

Class sessions will be conducted via Zoom during the time assigned for the class. Students are encouraged to attend the class meetings remotely, via Zoom. Class sessions will be recorded, and the recordings will be posted to D2L. 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.

Course Materials Available for Self-Study on D2L

Course materials will be available for review and study on D2L. These materials will include lecture slides and handouts for each topic, as well as examples that students will be able to follow to practice skills. Videos that demonstrate techniques will be available for many topics. Students will be able to use these resources in a "lower bandwidth" environment, outside videoconferencing sessions.

Office Hours via Zoom

Office hours will be conducted via Zoom videoconference. Students will be provided with the link to each Zoom session. Students do not need to make an appointment to join the Zoom meeting for office hours.

Textbook

There is no required textbook for this class.

Required Technology Resources

Students will need the following electronic resources:

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

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

- Access to the software we will be using for this class

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

- SPSS on your personal computer

    o SPSS is available for use on a DePaul student's personal computer (PC or Mac), free of charge during Spring Quarter 2020. IBM is offering a **Free Trial Subscription to SPSS that is to extend until mid-June 2020**.
    o Students will need to register with IBM using an email address (create an IBM ID). You will need to download and install the SPSS software on your personal computer.
    o https://www.ibm.com/account/reg/us-en/signup?formid=urx-19774

- MS-Office on your personal computer

    o 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.

    o **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.

    o **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 are on D2L and will be demonstrated in class.

- Recommended Web browsers

    o You will need to use the Chrome or Mozilla Firefox browser.
    o Safari and IE/Edge browsers have known issues with the educational support software we will be using (e.g. D2L, Panopto)

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)

- **35% Exams**
- **35% Individual Homework Assignments**
- **15% Team Assignments and evaluation of participation by team members**
- **15% Discussion Postings**

An expanded description of each Source of Points:

Exams
There will be three exams.

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

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

Students must complete all three exams in order to pass this class.

Individual Assignments
There will be individual assignment to be completed by each student. The purpose of these assignments is to give individual 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. Any student who submits an assignment after the due date will be assessed a penalty.

Late submissions of individual assignments will lose 20% of the points for that assignment per day (or any portion of a day).

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. At the end of the quarter, team members will be asked to evaluate the contributions of their teammates as a part of the grading process.

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 during class "team time". 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 Forum Postings

You are asked at a minimum to make two posts on or before the due date set in D2L.
The initial post should address the guided question provided in the module (This is done through referencing the class topics and providing insight). Students are expected to compose a thoughtful response to one or more of their classmates' posts (about one paragraph in length).

See Discussion Topics, Due Dates and Rubric below for specifics

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 More | Quizzes components of D2L.

At the beginning of the quarter, a D2L Welcome News Note will provide a summary of the course and the way D2L will be used for this class.

Submitting your Work for Evaluation

You will be submitting your work to D2L for evaluation.

You will submit your work to D2L in one of three different ways, depending on the work to be completed.

Those three ways are:
- Submission Folder -- for assignment products that include Word documents, database files, Excel files
- Discussion Forum – for discussion postings and responses
- Quiz – for exams

The submission method for each work product will be specified by your instructor, as a part of the instructions.

Work must be submitted in the file format(s) specified in the instructions. In general, .Pages files and pdf files will not be accepted.

In some cases, the work product will be a zipped or compressed folder containing files that will be evaluated. Instructions for preparing, as well as extracting files from, a zipped or compressed folder are available in the D2L | Content |Software Environment section.

Quantitative Reasoning Center – QRC Tutors

The Quantitative Reasoning Center (QRC) will provide support to LSP 121 students remotely via Zoom during Spring Quarter. Each LSP 121 section will have an assigned tutor team. That tutor team will be available to students enrolled in that specific section during the same hours each week. The specific hours and zoom meeting link will be posted on D2L.

Technical Support Resources

 The DePaul Help Desk is up and running for all student, faculty, and staff issues during the Spring quarter. They can be reach by email at helpdesk@depaul.edu, by phone at 312-362-8765, and online at helpdesk.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 - Y) 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.

To maximize your chances of doing well……

Make sure that you are ready and able to take responsibility for successfully completing this course.

Remote courses require that students take a greater, more active role in managing the assigned tasks of course work without the organizing framework of face-to-face class meetings. You must prepare to devote time and effort to this class.

You will need to:

- attend class meetings remotely
- review and study lectures, demos, and videos on D2L
- complete assignments to demonstrate your skills and practice for the exams
  - As a member of a Team
  - Individually
- contribute to discussions on D2L
- prepare for and complete the three exams, one covering each module.

It is likely that you will find that this class will require at least 6-8 hours of effort per week.

Courtesy in a remote learning environment……

For Zoom meetings:
Please
- raise your hand (Zoom feature)
- use chat (Zoom feature)
- mute your audio to avoid sharing background noise

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 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:** Individual Assignment 3a introduces Access databases with table/query/form and report creation. Individual Assignment 3b reinforces those lessons and includes database design with normalization.

5. **Algorithms and reasoning:** Team Assignment 104 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.

Writing Expectations (these assignments overlap with those given in LSP 120)

Five computer activities each of which has a final product in the form of a Word document with five to ten short paragraph responses.

Five class assignments with approximately 10 short paragraph responses.

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

Changes to Syllabus

This syllabus **is subject to change** as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

Online 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. Please see https://resources.depaul.edu/teaching-commons/teaching/Pages/online- teaching-evaluations.aspx for additional information.

Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at https://resources.depaul.edu/teaching-commons/teaching/academic-integrity/Pages/default.aspx.

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:
http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx

Incomplete Grades

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions

cases will receive such approval. Information about the Incomplete Grades policy can be found at
http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx

Students with Disabilities

Students seeking disability-related accommodations are required to register with DePaul's Center for Students with Disabilities (CSD) enabling them to access accommodations and support services to assist with their success.
There are two CSD offices:

- Loop Campus (312) 362-8002
- Lincoln Park Campus (773) 325-1677
- Email: csd@depaul.edu

Students who register with the Center for Students with Disabilities are also invited to contact Dr. Gregory Moorhead, Director of the Center, privately to discuss how he may assist in facilitating the accommodations to be used in a course. This is best done early in the term. The conversation will remain confidential to the extent possible.

Please see https://offices.depaul.edu/student-affairs/about/departments/Pages/csd.aspx for Services and Contact Information.

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 2019-2020

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

Basics
Team 100   Apr 6 (MO) Team Organization
Individual 0   Apr 6 (MO) Student Survey
Quiz 0   Apr 6 (MO)   Start-up

Statistics and Probability
Team 101   Apr 13 (MO) Statistics – Single Variable
Team 102   Apr 13 (MO)   Statistics – Two Variable
Individual 1   Apr 20 (MO) Statistics - Summary

Team 103   Apr 26 (SU) Probability

Individual 2   Apr 27 (MO)   Probability

Exam #1   Apr 29 (WE)   Statistics and Probability

Databases
Individual 3a   May 11 (MO)   Intro Databases
Individual 3b   May 18 (MO)   Relational Databases

Exam #2   May 20 (WE)   Databases

Algorithms and Computer Programming
Team 104   Jun 1 (MO)   Algorithms
Individual 4   Jun 3 (WE)   Algorithms and Computer Programming

Exam #3   Jun 8 (MO)   Algorithms and Computer Programming
          Monday, June 8, 11:30 – 1:45 pm

Wrap-up
Individual 5   Jun 7 (SU)   Reflection Essay and Advice
Individual 6   Jun 7 (SU)   Team Member Evaluation

Discussion Topics , Due Dates and Rubric for Spring 2020

All posts are due before 11:59 PM CDT of the Due Date.

The Introduce Yourself Discussion and Due Date is listed below. This post will give you experience in working with the D2L Discussion Forums. The Introduce Yourself posts will be worth 20 points.

Introduce Yourself   post 1 due Apr 3 (15 pt) and post 2 due Apr 7 (5 pt)

The Topics and Dues Dates for the Topic Discussions are listed below. All posts are due before 11:59 PM CDT of the Due Date.

Discussion 1 (Statistics)   post 1 due Apr 10   and post 2 due Apr 14
Discussion 2 (Statistics)   post 1 due Apr 17   and post 2 due Apr 21
Discussion 3 (Probability) post 1 due Apr 24   and post 2 due Apr 28
Discussion 4 (Databases)   post 1 due May 15   and post 2 due May 19
Discussion 5 (Algorithms) post 1 due May 29   and post 2 due June 2

Discussion Rubric for Course Topic Discussion Posts

Points	Frequency	Quality / Content/ Notes
0/30	0 posts prior to due date/time;	
up to 15/30	1 post	1. Basic comment relevant to the discussion topic
up to 20/30	2 posts / 2 separate days	Basic comment relevant to the discussion topic and Expand on fellow students by stating you agree, with minimal additional comment.
up to 25/30	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.
up to 30/30	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 class topics, citing relevance to the discussion with page number Or – A URL or article link, with summary and relevance to the topic