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Office Hours:
Tuesday & Thursday 1:00-3:00
or by appointment

INFS 360-101, DATA VISUALIZATION AND BUSINESS INTELLIGENCE

Fall 2024

Tuesday/Thursday 11:30 AM - 12:45 PM

Schreiber Center - Room 421

Catalog Description

The amount of data that our world generates is growing at a torrid pace. Sifting through and making sense of these gargantuan mountains of data is crucial to ensuring business growth and success and to making scientific discoveries and advancements. Data visualization plays an increasingly important role in this process. The course covers the fundamental principles of good visualization and surveys the latest techniques, trends, topics, and tools including database reporting, OLAP/BI packages, SQL analytical functions, mapping, and information dashboards.

Course Overview

This course includes lectures, homework assignments, quizzes/midterm, and group projects.

Course Objectives and Learning Outcomes

Students will be able to process and visualize large amounts of data in order to enable efficient and effective analysis using industry-standard software.

Recommended Textbooks/Materials (not required)

- “Show Me the Numbers: Designing Tables and Graphs to Enlighten” – June 1, 2012
by Stephen Few
ISBN-13: 978-0970601971 ISBN-10: 0970601972 Edition: 2nd
- “The Visual Display of Quantitative Information” Hardcover – May, 2001
by Edward R. Tufte
ISBN-13: 858-0001045689 ISBN-10: 0961392142 Edition: 2nd

Class Format: In person and in class; we will meet Tue and Thu during regularly scheduled time

Technology Information:

Sakai - You will use Sakai to access instructional materials, submit assignments, and participate in weekly discussions. For step-by-step instructions on using Sakai visit the Sakai Student Guide. You can access the Sakai Student Guide by selecting Help from the tool menu in any Sakai site. For additional Sakai assistance, contact the Help Desk at helpdesk@luc.edu or 773-508-4487.

Zoom - Zoom is a web-conferencing solution. We will use Zoom for office hours. To join office hours, you will need to download and install Zoom on the computer you plan to use for online meetings. View [How do I download Zoom?](#) for additional instructions. A camera and microphone are recommended to fully participate in the online meetings. Many laptops will already have a microphone and camera built in. If you would like to purchase a microphone or camera, view [Purchasing Equipment](#) for recommendations. If you would like to test Zoom, view [How do I test prior to joining a meeting?](#) View [How do I join a Zoom meeting from Sakai?](#) for more information. For additional Zoom assistance, you can contact 24/7 Zoom support: [How do I contact Zoom support?](#) You can also contact the Loyola Help Desk at helpdesk@luc.edu or 773-508-4487.

Tableau – You will use Tableau in the second portion of this class. Instructions will be provided on how to access/download Tableau (Free) by your instructor.

Course Requirements and Grading Criteria

Homework Assignments	- 120 points (35%)
Quizzes/Activities	- 75 points (22%)
Midterm Exam	- 65 points (19%)
<u>Group Project</u>	- 85 points (25%)
Total	- 345 points (100%)

Course Grading Scale

A	317 and above	C+	266 - 275
A-	311 - 316	C	242 - 265
B+	300 - 310	C-	224 - 241
B	283 - 299	D+	207 - 223
B-	276 - 282	D	190 - 206
		F	below 189

HW Assignments:

There are eight (8) homework assignments. HW assignments are due before midnight on the due date. All HW assignments must be submitted via Sakai.

Quizzes and activities

There will be two quizzes and multiple ‘Tableau lab format’ activities

Midterm:

The midterm exam will be in the take-home format

Group Projects:

The semester-long group project is an integral part of this course. Each group should have 4-5 students. Form your group as soon as possible. If you need help with finding a group, please, contact the instructor. Every project assignment should be submitted by one student per group via Sakai.

Final Exam: Final Group Project Presentations by **TBD**

YOU CANNOT SHARE ANY PART OF YOUR HW FILES WITH ANY OTHER STUDENT. EVERY STUDENT MUST WORK INDIVIDUALLY ON THEIR OWN FILES. ANY

INSTANCE OF SHARING OF HW FILES (OR ANY PARTS OF HW FILES) WILL BE GROUNDS FOR SERIOUS DISCIPLINARY ACTION AGAINST ALL PARTIES INVOLVED.

Late submission policy: An assignment can be submitted up to 48 hours after the due date but will receive 20%-point deduction.

Additional notes:

- Check your grades often in the gradebook on Sakai.
- If you are experiencing any problems do not hesitate to schedule an appointment. Also, feel free to reach out to get advice on follow up classes, discuss career choices, or simply introduce yourself.

Quinlan School of Business Policies:

Attendance

Class attendance and participation are fundamental components of learning, so punctual attendance at all classes, for the full class meeting period, is expected of Quinlan students.

Class Recording – Syllabus Statement

In this class software will be used to record live class discussions. As a student in this class, your participation in live class discussions will be recorded. These recordings will be made available only to students enrolled in the class, to assist those who cannot attend the live session or to serve as a resource for those who would like to review content that was presented. All recordings will become unavailable to students in the class when the Sakai course is unpublished (i.e. shortly after the course ends, per the Sakai administrative schedule). Students who prefer to participate via audio only will be allowed to disable their video camera so only audio will be captured. Please discuss this option with your instructor.

University Privacy Statement

Assuring privacy among faculty and students engaged in online and face-to-face instructional activities helps promote open and robust conversations and mitigates concerns that comments made within the context of the class will be shared beyond the classroom. As such, recordings of instructional activities occurring in online or face-to-face classes may be used solely for internal class purposes by the faculty member and students registered for the course, and only during the period in which the course is offered. Students will be informed of such recordings by a statement in the syllabus for the course in which they will be recorded. Instructors who wish to make subsequent use of recordings that include student activity may do so only with informed written consent of the students involved or if all student activity is removed from the recording. Recordings including student activity that have been initiated by the instructor may be retained by the instructor only for individual use.

Make-Up Examinations

Loyola University academic policy provides that tests or examinations may be given during the semester or summer sessions as often as deemed advisable by the instructor. Because Quinlan faculty believe examinations represent a critical component of student learning, required examinations should be taken during the regularly scheduled class period. **Make-up examinations are discouraged.** Exceptions may be granted only by the faculty member or department chair, and

only for unavoidable circumstances (illness verified by a signed physician's note, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, or religious observance). A make-up final examination may be scheduled only with the permission of the appropriate Quinlan Assistant or Associate Dean.

For a student with a documented special testing need, please consult University policy concerning use of the testing center in Sullivan Center at Lake Shore Campus.

Academic Integrity

All members of the Quinlan School shall refrain from academic dishonesty and misconduct in all forms, including plagiarism, cheating, misrepresentation, fabrication, and falsehood. Plagiarism or cheating on the part of the student in individual or group academic work or in examination behavior will result minimally in the instructor assigning the grade of "F" for the assignment or examination. In addition, all instances of academic dishonesty must be reported to the chairperson of the department involved.

For further information about expectations for academic integrity and sanctions for violations, consult the complete Quinlan School of Business Honor Code and Statement of Academic Integrity on the Quinlan website:

<http://luc.edu/media/lucedu/quinlan-graduate/pdfs/Honor-Code-Quinlan-July2012.pdf>

Notes:

This class may occasionally deviate from the stated course outline below.

The instructor reserves the right to make changes as needed to the course syllabus.

Any issue that is not described in this syllabus will be resolved at the sole discretion of the instructor.

WEEK NO	DATE	EXAMS	TOPICS	GROUP PROJECT	HW DUE
WEEK 1	Week of Aug 26		Course Overview, Introductions		
WEEK 2	Week of Sep 2		Graphical Practice/Principles, Lie Factor		HW 1, due Friday
WEEK 3	Week of Sep 9		Data Type & Relationships, Basic Chart Types, Gestalt Principles		
WEEK 4	Week of Sep 16		Chart Analysis, Data Warehousing		HW 2, due Friday
WEEK 5	Week of Sep 23	Quiz 1	Data Warehousing Dimensional Modeling,		HW 3, due Friday
WEEK 6	Week of Sep 30		SQL Analytics Aggregation	Draft Project Proposal due Friday	
WEEK 7	Week of Oct 7		No class on Oct 8 Introduction to Tableau,		
WEEK 8	Week of Oct 14		Calculated Fields		
WEEK 9	Week of Oct 21		Interactive Top-K Charts,		HW 4, due Friday
WEEK 10	Week of Oct 28	Quiz 2	Metadata organization, Groups		HW 5, due Friday
WEEK 11	Week of Nov 4		Joins, Unions, Joins, Data Blending, Histograms		HW 6, due Friday
WEEK 12	Week of Nov 11	Midterm (Take Home)	Table Calculations		
WEEK 13	Week of Nov 18		Information Dashboards Tableau Stories Library of Graphs	Revised Project Proposal due Friday	
WEEK 14	Week of Nov 25		No class on 11/28 TG Break 11/27-11/30 Library of Graphs		HW 7, due Tuesday
WEEK 15	Week of Dec 02		Library of Graphs, Class Evaluations		HW 8, due Friday

Final Project Presentations - Tuesday, Dec 10th, 9 -11 am