DEREE COLLEGE SYLLABUS FOR: CS 3155 EXPLORATORY DATA ANALYSIS FOR BUSINESS	
(Updated Fall 2024)	**US Credits: 3/0/3**
PREREQUISITES:	CS 1070 Introduction to Information Systems or ITC 1070 Information Technology Fundamentals
CATALOGUE DESCRIPTION:	Exploratory Data Analysis, Data Science methodology, models and processes in business. Analysis, extraction, transformation and data loading methods. Data Science business cases.
RATIONALE:	This course exposes students to topics involving data analysis, visualization and exploration of data in business. Students learn to use tools to extract trends from existing data to drive business decisions by summarizing and visualizing the important characteristics of a data set.
LEARNING OUTCOMES:	As a result of taking this course, the student should be able to: 1. Analyse data to support business decision-making. 2. Apply visualization and Exploratory Data Analysis (EDA) functions in a business context.
METHOD OF TEACHING AND LEARNING:	In congruence with the learning and teaching strategy of the College, the following tools/activities are used: • Lectures and class discussions. Laboratory practical sessions and problem solving. • Office hours held by the instructor to provide further assistance to students. • Use of the Blackboard Learning platform to further support communication, by posting lecture notes, assignment instruction, timely announcements, and online submission of assignments.

ASSESSMENT:

Summative:

Midterm Examination: combination of short answers to essay questions and case problems	**40%**
Research Project: critical evaluation of an EDA solution in business	**60%**

Formative:

Coursework: case problems	**0**

The formative assessments aim to shape teaching along the semester and prepare students for the summative assessments.
The midterm examination tests Learning Outcomes 1.
The research project tests Learning Outcomes 1 and 2.

	(Guidelines and assessment rubrics are distributed on the first day of classes along with the course outline.)
READING LIST:	**REQUIRED MATERIAL:** • John W. Tukey *"Exploratory Data Analysis"*, 1st Edition, ISBN-13: 978-0201076165, ISBN-10: 0201076160 **FURTHER READING:** • Foster Provost and Tom Fawcett. "Data Science for Business: What you need to know about data mining and data-analytic thinking". O'Reilly Media, latest edition, ISBN-13: 978-1449361327. • Hadley Wickham, Garrett Grolemund."R for Data Science: Import, Tidy, Transform, Visualize, and Model Data", Publisher: "O'Reilly Media, Inc.", 2016, ISBN 1491910364, 9781491910368 • Cathy O'Neil, Rachel Schutt. "Doing Data Science: Straight Talk from the Frontline", Publisher: "O'Reilly Media, Inc.", 2013, ISBN 144936389X, 9781449363895
COMMUNICATION REQUIREMENTS:	Daily access to the course's site on the College's Blackboard CMS. Effective presentation skills using proper written and oral English.
SOFTWARE REQUIREMENTS:	Latest version of MS-Office, R language, R-studio, SAP Analytics.
WWW RESOURCES:	SAP Data Science tools: • https://blogs.sap.com/2015/06/11/exploratory-analytics/ • https://blogs.sap.com/2015/07/03/exploratory-analytics-with-sap-predictive-analytics-22-take-strategic-decisions-based-on-your-data/ R – open source language for Exploratory Data Analysis • https://www.r-bloggers.com/exploratory-data-analysis-useful-r-functions-for-exploring-a-data-frame/ • https://www.r-bloggers.com/exploratory-data-analysis-using-r-part-i/ • https://bookdown.org/rdpeng/exdata/
INDICATIVE CONTENT:	1. An Overview of Data Science, Data Visualization, Analytics and Data Driven Decisions 2. Data Exploration for Business 3. Business Reporting and Visual Analytics 4. Data Science business use cases 5. Business Intelligence Trends and Future Directions