Course Description
Creating value from business data by converting it into meaningful and useful information for business decision making by using current industry business intelligence (BI) and business analytics (BA) tools and technologies.

Class Time
This class is offered asynchronously online. While you control when you watch videos and work on assignments, be aware of course pacing and specific deadlines.

Instructor Information
Dr. Robert P. Schumaker
Professor, Computer Science Dept.
rschumaker@uttyler.edu

Office Hours
Virtual: Slack (preferred), Zoom, email
If your inquiry is grade-related, please make a Zoom or in-office appointment
In-office (COB 315.05): Mondays and Thursdays 10am - 3pm (appointments preferred)

Textbook Information
Data Mining and Business Analytics with R (Ledolter)
ISBN: 978-1-118-44714-7

Course Objective
This course is designed with the following goals:
- Identify the appropriate analytical tool based on the problem type and characteristics
- Properly conduct a collection and analysis of big-data
- Relate the tools learned to appropriate classes of problems
- Analyze a variety of business datasets for non-trivial patterns
- Predict future trends based on historical data
- Interpret results and appropriately explain them to business managers

Computer Account Access
Students will need a Patriot account and password for computer access. This information can be found at `https://www.uttyler.edu/ccs`

Course Documents and Slides
This class will use Canvas for course documents, slides, quizzes and other class-related materials. Students are encouraged to check the website frequently during the course of the semester to keep up to date about course activity.

Course Grading

Course evaluation will be based on the following:

Homeworks	70
Google Data Analytics certificate section	30
Total Points	100

Grading Scale

A 85.0 points or more
B 70.0 to 84.999 points
C 55.0 to 69.999 points
D 40.0 to 54.999 points
F 39.999 points or less

Tentative Course Schedule and Assignments

Date	Concept	Readings	Assignments
Aug 25-31	Introduction to R	Ch 1-2	
	Basic Statistics		GA-1
Sep 1-7	Linear Regression	Ch 3	
	Polynomial and Multiple Regression	Ch 4	GA-2
Sep 8-14	Measures of Correlation	Ch 16	
	Analysis of Variance (ANOVA)		Homework 1
Sep 15-21	Dimensionality Reduction (PCA and LASSO)	Ch 6,17	
	Logistic Regression and Binary Classification	Ch 7-8	Homework 2
Sep 22-28	Time-Series Analysis		
	Clean and Analyze Data	Ch 5	Homework 3
Sep 29-Oct 5	Data Wrangling		
	Exploratory Data Analysis		GA-3
Oct 6-11	Data Visualization		
	Optimization and Linear Programming		Homework 4