DRTL 4370: Digital Retailing Analytical Tools and Insights

Time and Classroom: W 12:00PM - 2:50PM; Chil 387
Office Hour: W 3:00 - 4:00 pm

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Course website (Canvas): https://unt.instructure.com/courses/102317

COURSE DESCRIPTION

Study of data analytical tools that can analyze business trends, patterns, and performance in the retail industry to improve customer experience and to increase sales. Hands-on instruction on how to pivot, sort, filter, highlight and visualize real-world data for business intelligence. The analytical tools to be learned will include Excel PivotTable/PivotChart, Power BI and Tableau. Important analytical metrics and methods used in these tools will be introduced.

Objectives:

1. Understand concepts in descriptive, predictive and perspective analytics
2. Learn data preparation, management, and analysis techniques
3. Develop data visualization skills
4. Study data-modeling with Data Analysis Expressions (DAX).

This class and its assignment meet the following global learning outcome of the College:
Critical Thinking, Collaboration, Effective Communications

PRE-REQUISITE: junior and senior standing

READINGS:
Include papers, book chapters, trade publication articles and course notes. Detailed information on how to obtain the reading materials will be given in class and posted on Canvas.

ASSIGNMENTS:
20 homework assignments, one team project, three mid-term exams and one final exam.

GRADING POLICY

Assignments	Points
Class Attendance (6 points each)	6 x 15 = 90
Homework (15 points each)	15 x 20 = 300
Team Project: Interactive Tableau dashboard and worksheets	110
1st, 2nd and 3rd Exams	3 x 100 = 300
Final Exam (comprehensive)	200
Total	1000

* Homework (H1-H20) is due at the beginning of the class in the following week.

A: Total >= 90% (900);
B: 90% > Total >= 80% (800);
C: 80% > Total >= 70% (700);
D: 70% > Total >= 60% (600);
F: Total < 60%

- **No make-up exam** except for justifiable extraordinary circumstances such as personal illness, death in the family with a written note from a physician or a family member.

- Only assignments submitted on time can receive their full credits. A 25%, 50%, or 75% of the full credit will be deducted for an assignment that is submitted one day, two, or three days after the due day. No point will be given to an assignment late more than three days unless a proof of a justifiable circumstance (same as above) is presented.

ATTENDANCE

- Class attendance is **mandatory** and will be checked at the beginning of each class. Please be punctual and remain until class is dismissed.
- An excused absence will only be granted for personal illness, death in the family, or some other extraordinary circumstances, and must be verified in writing by a physician or appropriate authority.
- Students are responsible for any class announcement and getting class materials during their absence of class.

SOFTWARE NEEDED

1. **Microsoft Office:** Available on the CMHT check-out laptops or install it on your computer through https://it.unt.edu/hardware-software-info. Your Office 365 EagleConnect account entitles you to receive five copies of Microsoft Office for your desktop and mobile devices at no cost!
2. **Tableau:** Advanced data analytical and visualization tool. Student license is available on the CMHT check-out laptops and/or through the following link.
   - Download Tableau Desktop and Tableau Prep (instruction will be given later).
   - Activation code: TBD
   - Students can continue using Tableau after the class is over by individually requesting their own one-year license through https://community.tableau.com/community/students/
3. **Microsoft BI:** https://docs.microsoft.com/en-us/power-bi/ (documents)
   or Power BI Desktop—Interactive Reports | Microsoft Power BI

TENTATIVE AGENDA

Week	Date	Topic	Online Module	Due
1	1/17	Introduction to class; **Excel PivotTable:** Format and connect data	Mod1	
2	1/24	Design PivotTable; Format PivotTable	Mod2 Mod3	H1
3	1/31	PivotChart and business insights; In-class practice and review	Mod4	H2, H3
4	2/7	**Exam 1**		
5	2/14	**Tableau** Introduction; Connect Data and Export Workbook	Mod5 Mod6	H4
6	2/21	Data Types and Manage Worksheet Analyze Data	Mod7 Mod8	H5, H6
7	2/28	Sort and Filter Data; Groups, Sets and Hierarchy	Mod9 Mod10	H7, H8
8	3/6	In-class practice and review;		H9, H10

		Exam 2		
3/11-3/17: **Spring break**				
9	3/20	**Tableau** Charts	Mod11 Mod12	
10	3/27	Format table and charts; Data analytics	Mod13 Mod14	H11, H12
11	4/3	Map Geographic Data; Dashboard and Story	Mod15 Mod16	H13, H14
12	4/10	Review and In-class practices; **Exam 3**		H15, H16
13	4/17	**Power BI** Interface; Get and Relate Data Query Editor	Mod17 Mod18	Project Report
14	4/24	Visualization and Filter; Data Analytics Expressions (DAX)	Mod19 Mod20	H17, H18
15	5/1	Final Review; In-class Practices (pre-final day)		H19, H20
	5/8	**Final exam**: 10:30 A.M. - 12:30 P.M.		

This syllabus is subject to change when the instructor deems it necessary to achieve course objectives.

College of Merchandising, Hospitality & Tourism_Syllabus Statements_Spring, 2024 (posted on Canvas in a separate file).

Week	Lecture	Topic	Online Module	Due
1 1/17	1	Introduction to class		
	Excel Pivot Table			
	2	Data format and PivotTable	Mod1	
2 1/24	3	Manage PivotTable	Mod2	H1
	4	Format PivotTables	Mod3	H2
3 1/31	5	PivotChart and Macro	Mod4	H3
		Exam 1		
Tableau Essential				
4 2/7	6	Tableau Overview, Interface, Quick Viz	Mod5	H4
	7	Connect Data and Export Workbook	Mod6	H5
5 2/14	8	Data Types and Manage Worksheet	Mod7	H6
	9	Sort and Filter Data	Mod8	H7
6 2/21	10	Groups, Sets and Hierarchy	Mod9	H8
	11	Chart Types	Mod10	H9
7 2/28	12	Format Visualization	Mod11	H10
	13	Analytics (trend, reference, forecast, cluster)	Mod12	H11
8 3/6	14	Map Geographic Data; Dashboard	Mod13	H12
		Exam 2		
Spring break, March 11 - 17, 2024				
Power BI				
9 3/20		Interface; Get and Relate Data	Mod14	H13
		Query Editor	Mod15	H14
10 3/27		Visualization and Filter	Mod16	H15
		Data Analytics Expressions (DAX)-1	Mod17	H16
11 4/3		Data Analytics Expressions (DAX)-2	Mod18	H17
		Exam 3		
Google Analytics				
12 4/10		Web Traffic and Metrics	Mod19	H18
		Google Analytics Account Structure	Mod20	H19
13 4/17		Google Analytics Interface and Functions	Mod21	H20
		Understand Overview and Full Reports	Mod22	H21
14 4/24		Set up Goal and Campaign	Mod23	H22
		Dashboards	Mod24	H23
15 5/1		Comprehensive review for the final **Project Presentation**		H24, Project Report
5/8		**Final exam: Wednesday, May 8, 10:30 A.M. - 12:30 P.M.**		