

General Course Information

IT IS 5408 Social Analytics

Credit Weight: 0.5 credits

Course Description

The process, tools, and techniques necessary to acquire, clean, and analyze text that has been generated on social platforms. Social network analysis, sentiment analysis, topic extraction, and co-occurrence analysis.

Includes: Experiential Learning Activity

Course Rationale

The purpose of Social Analytics is to learn how to analyze unstructured text documents to extract information and create topics. Students will create Natural Language Processing (NLP) models and data mining techniques to analyze unstructured data. Students will also learn Social Network Analysis algorithms to create networks and study influential factors and communities.

Course Learning Objectives

After successfully completing this course, you will be able to:

CO1: Explain the importance of social platform data to organizational strategy and decision making

CO2: Perform Social Network Analysis (SNA).

CO3: Conduct text mining including sentiment analysis, information extraction, topic classification, and categorization using Natural Language Processing (NLP)].

CO4: Incorporate text and SNA models into the model ops process

Course Schedule

Please regularly check and log into Brightspace to review the new content. Configure your personal notifications to opt into course announcements so that they will be emailed to your Carleton email address.

Module	Topics	Materials	Deliverable
1	<p>MO1: Create and test a user account on the SAS Viya for Learners Platform (CO3).</p> <p>MO2: Navigate the SAS Viya for Learners (VFL) platform. (CO2&CO3).</p> <p>MO3: Students will be able to explain key concepts in text mining (CO1).</p> <p>MO4: Describe purpose of text mining (CO1).</p>	<p>SAS Viya Visual Text Analytics Course Notes</p> <p>SAS Viya Visual Text Analytics User Guide</p> <p>Access to SAS Viya for Learners platform</p> <p>Schwartz and Ungar article</p>	Quiz(Sunday 11:59 pm EST)
2	<p>MO1: Write SAS programs in SAS Studio to manipulate and merge data (CO2&CO3).</p> <p>MO2: Write CLASSIFIER Rules in SAS Visual Text Analytics to extract information from Adverse Drug Effect Data Set (CO3).</p> <p>MO3: Construct a VTA pipeline for data ingestion, concept creation, text parsing, sentiment mining, and topic extraction (CO3).</p>	<p>SAS VTA User Guide Chapt. 3 & 4 Introduction to SAS Studio (9:18) (MO1)</p> <p>Writing SAS programs using SAS Studio (6:14) (MO1)</p> <p>SAS Coding Primer MO1</p> <p>Writing Concept Rules in SAS (21:09) MO&3MO2</p> <p>SAS Visual Text Analytics Course Notes 4.1 – 4.3 (4-42) (MO2 & MO3)</p>	Quiz (Sunday 11:59 pm EST)
3	<p>MO1: Create Concept rules (CO3)</p> <p>MO2: Create Predicate Rules in SAS VTA to extract information from Adverse Drug Effect Data Set (CO3)</p>	<p>SAS VTA User Guide Chapt. 5 (Up to page 45) (MO2)</p> <p>Writing Concept rules in SAS Visual Text Analytics (21:20) (MO1)</p> <p>SAS Visual Text Analytics Course Notes 4.3 – 4.3 (4-42) (MO2)</p> <p>Assignment 2 Distribute (MO1 MO2)</p>	Quiz (Sunday 11:59 pm EST) Assignment 1 (Sunday 11:59 pm EST)
4	<p>MO1: Adjust score code to score new data (CO3)</p> <p>MO2: Create a VTA pipeline for data ingestion, concept creation, text parsing, sentiment mining, and topic extraction (CO3)</p>	<p>Review SAS VTA user guide Pages 45-70 (MO1&MO2)</p> <p>SAS Visual Text Analytics Course Notes 3.1 – 3.5 (MO1&MO2)</p>	Quiz (Sunday 11:59 pm EST)
Module	Topics	Materials	Deliverable
5	<p>MO1: Describe Network components (CO2)</p> <p>MO2: Visualize networks in SAS Visual Analytics (CO2)</p>	<p>Networks Analysis and Network Optimization Course Notes Chapter1 (MO1)</p> <p>Network Analysis in SAS Visual Analytics (MO2)</p> <p>SNA Measures in SAS Visual Analytics (MO2)</p> <p>Networks Analysis and Network Optimization Course Notes Chapter1 MO1</p>	Quiz (Sunday 11:59 pm EST)

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6	MO1: Create SAS Code to measure prestige and centrality (CO2 CO4)	Networks Analysis and Network Optimization Course Notes Chapter2 (MO1) Optional SNA White Paper (MO1) Networks Analysis and Network Optimization Course Notes Chapter2 (MO1)	Quiz (Sunday 11:59 pm EST)
7	MO1: Create SAS Code to reveal communities, cliques, and subgroups (CO2&CO4)	Network Analysis and Network Optimization Course Notes Chapter 3 (MO1) Optional SNA White Paper (MO1)	Quiz (Sunday 11:59 pm EST) Assignment 3 (Sunday 11:59 EST)

Learning Materials

Textbook

Articles, course notes, and manuals will be provided for the course

Other Resources

Students will be using the SAS Viya for Learners platform for analysis. A video containing instructions on how to create an account and access the platform are provided in Brightspace.

Grading Scheme

Activity	Scored Out of	Percent of Total Grade
Quiz 1	8	7%
Quiz 2	8	8%
Quiz 3	8	8%
Quiz 4	8	8%
Quiz 5	8	8%
Quiz 6	8	5%
Quiz 7	8	5%
Assignment 1	10	10%
Assignment 2	20	20%
Assignment 3	15	15%
Activity	Scored Out of	Percent of Total Grade
TOTAL	420	100%