Course Description Form

1. Course Name:
Sentiment Analysis: Theory and Applications
2. Course Code:
Ph.D.
3. Semester / Year:
Second / PhD
4. Description Preparation Date:
6/2/2026
5. Available Attendance Forms:
In the class
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours / 2 units
7. Course administrator's name (mention all, if more than one name)
Name: Prof. Dr. Ban N. Dhannoon Email: ban.n.dhannoon@nahrainuniv.edu.iq
8. Course Objectives

Course Objectives	• **Sentiment analysis is the computational study of people's opinions, sentiments, emotions, moods, and attitudes. This fascinating problem offers numerous research challenges, but promises insights useful to anyone interested in opinion analysis and social media analysis.** • **The course covers core areas of sentiment analysis as well as related topics such as debate analysis, intention mining, and fake-opinion detection.**

9. Teaching and Learning Strategies

Strategy	**Provide lectures in PowerPoint slide show** **Execute selected methods for more understanding**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	• Sentiment Analysis Applications • Sentiment Analysis Research • Sentiment Analysis As Mini-NLP		Powerpoint	
2	2	• Definition of Opinion • Definition of Opinion Summary			
3	2	• Affect, Emotion, and Mood • Different Types of Opinions			

4	2	• Supervised Sentiment Classification. • Classification Using Traditional Machine Learning Algorithms • Classification Using a Custom Score Function • Classification Using Deep Learning • Classification Based on Lifelong Learning			
5	2	• Unsupervised Sentiment Classification • Sentiment Rating Prediction • Cross-Domain Sentiment Classification • Cross-Language Sentiment Classification • Emotion Classification of Documents			
6	2	Mid 1			
7	2	• Subjectivity • Sentence Subjectivity Classification • Sentence Sentiment Classification • Dealing with Conditional Sentences • Dealing with Sarcastic Sentences • Cross-Language Subjectivity and Sentiment Classification • Using Discourse Information for Sentiment Classification • Emotion Classification of Sentences • Multimodal Sentiment and Emotion Classification			
8	2	• Aspect Sentiment Classification • Aspect Sentiment Classification • Rules of Sentiment Composition • Negation and Sentiment • Modality and Sentiment • Coordinating Conjunction *But* • Sentiment Words in Non-Opinion Contexts • Rule Representation • Word Sense Disambiguation and Coreference Resolution			

9	222	• Aspect and Entity Extraction • Frequency-Based Aspect Extraction • Using Supervised Learning • Mapping Implicit Aspects • Grouping Aspects into Categories • Exploiting Topic Models • Entity Extraction and Resolution • Opinion Holder and Time Extraction			
10	2	Mid 2			
11	2	• Sentiment Lexicon Generation • Dictionary-Based Approach • Corpus-Based Approach • Sentiment Word Embedding • Desirable and Undesirable Facts			
12	2	• Analysis of Comparative Opinions • Identifying Comparative Sentences • Identifying the Preferred Entity Set • Special Types of Comparisons • Entity and Aspect Extraction			
13	2	• Opinion Summarization and Search • Aspect-Based Opinion Summarization • Enhancements to Aspect-Based Summaries • Contrastive View Summarization • Traditional Summarization • Summarization of Comparative Opinions • Opinion Search • Existing Opinion Retrieval Techniques			
14	2	• Analysis of Debates and Comments • Recognizing Stances in Debates • Modeling Debates/Discussions • Modeling Comments			

15	2	• Detecting Fake or Deceptive Opinions • Different Types of Spam • Supervised Fake Review Detection • Supervised Yelp Data Experiment • Automated Discovery of Abnormal Patterns • Model-Based Behavioral Analysis			

11. Course Evaluation

Final Exam 70
Mid1 Exam 10
Mid2 Exam 10
Two monthly projects 10

12. Learning and Teaching Resources

Required textbooks (curricular books, if any	• Sentiment Analysis Unveiled Techniques Applications
Main references (sources)	• Sentiment analysis : mining opinions, sentiments, and emotions, 2020
Recommended books and references (scientific journals, reports…)	•
Electronic References, Websites	• Youtube