

Syllabus: CAP 5771 Data Mining and Text Mining

Fall semester 2025

Course Information

- **Course Number and Title:** CAP 5771 Data Mining and Text Mining
- **Credit Hours:** 3 credits
- **Current Academic Term:** Fall 2025
- **Class Meeting:** Tuesdays and Thursdays 4:00 PM - 5:15 PM, ARC 1158

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Instructor Information

- **Instructor:** Abdulaziz Alhamadani, Ph.D.
- **Office:** ARC-1108
- **Office Hours:** Wednesday 12:00pm - 1:00pm, Thursday 11:00am – 12:30pm, Friday 11:00am -12:00pm
or by appointment
- **Office Phone:** 863-874-8656
- **E-mail:** aalhamadani@floridapoly.edu

Course Details

- **Delivery Mode:** The class will be delivered in a face-to-face format where students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as defined by the instructor.

- **Course Website:** <https://floridapolytechnic.instructure.com/courses/8311>

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- **Official Catalog Course Description:**
This course addresses the knowledge discovery process and the use of data mining concepts and tools as part of that process. In depth analysis of processes for extracting useful unknown information from data sources and using the information to make decisions is also covered.

- **Prerequisites:** None

- **Communication/Computation Skills Requirement (6A-10.030):** No

- **Recommended Texts:**
"Data Mining and Machine Learning: Fundamental Concepts and Algorithms" by Mohammed J. Zaki and Wagner Meira, Jr
<https://dataminingbook.info/>

"Data Mining: Examples and Case Studies" by Yanchang Zhao
<http://www2.rdatamining.com/uploads/5/7/1/3/57136767/rdatamining-book.pdf>

"Dive into Deep Learning" by Zhang, A., Lipton, Z. C., Li, M., & Smola, A. J.
<https://d2l.ai/d2l-en.pdf>

A classic by Hastie, Tibshiriani, and Friedman, "The Elements of Statistical Learning: Data Mining, Inference, and Prediction", available here: <https://hastie.su.domains/ElemStatLearn/>

- **Equipment and Materials:**
We will use Python, and Google Colab. All are free. The course covers fundamental and popular Python and Python packages for data mining and text mining, introduced as working examples. The format of the course will include lectures by the instructor, class discussions, directed readings, and students' presentations.

- **Course Objectives:**

This course covers principles, concepts, and methods in the fields of data mining and knowledge discovery. Algorithm development, current tools, and real-world applications are explored. Topics include: data visualization, exploration, clustering, classification, association rule mining, and anomaly detection, among others.

- **Course Learning Outcomes:**

Upon successfully completing this course, learners will be able to:

1. **Use state-of-the-art principles in the field of data mining and text mining. (Application)**
2. **Evaluate clustering methods, association rule mining, and dimensionality reduction to real-world problems. (Application)**
3. **Analyze unstructured text data to produce valuable insights. (Analyze)**
4. **Design data-driven solutions to pattern recognition and data mining applied problems.**

- **Alignment with Program Outcomes:**

Computer Science Student Outcomes	1	2	3	4
(1) Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	Applying	Applying		
(2) Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.	Applying	Applying	Applying	Applying
(3) Communicate effectively in a variety of professional contexts.	Synthesis			
(4) Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.	Synthesis			Synthesis
(5) Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.	Synthesis			
(6) Apply computer science theory and software development fundamentals to produce computing-based solutions.		Applying		Applying

Data Science Program Student Outcomes	1	2	3	4
(1) Demonstrate mastery in analyzing complex problems and applying knowledge of data science to formulate solutions.	Applying	Applying	Applying	Applying
(2) Communicate data science information clearly and effectively through presentations and technical writings to both expert and non-expert audiences.	Synthesis			
(3) Demonstrate critical evaluation of recent research literature.	Synthesis			
(4) Identify a novel relevant research problem in a chosen data science research field, perform the literature survey for the problem, create a plan to solve the problem, carry on the plan, and defend the research.	Synthesis			Synthesis
(5) Recognize appropriate practices in the field of data science and their ethical implications.		Synthesis		Synthesis

Academic Support Resources

- **Library:** Students can access the Florida Polytechnic University Library through the University website and Canvas, on and off campus. Students may direct questions to library@floridapoly.edu.
- **Tutoring and Learning Center:** The Tutoring and Learning Center (The TLC) provides tutoring to all Florida Poly students who may need additional academic support. The TLC is staffed by students who have excelled in the courses they tutor. They offer support by reviewing concepts and materials from class, clarifying points of confusion and providing assistance with learning strategies. While the focus of TLC is to provide support to students in freshman-level courses, upper-level courses are also tutored at the Center. The TLC is located in IST 1019 (on the first floor in the center hallway of the IST building).
 - **Knack Tutoring:** Students looking for additional assistance outside of the classroom are advised to consider working with a peer tutor through Knack. Florida Polytechnic University has partnered with Knack to provide students with access to verified peer tutors who have previously aced this course. To view available tutors, visit <http://floridapoly.joinknack.com> and sign in with your student account.
- **Writing Center:** Located on the second floor of the IST (2059/2061), the Writing Center helps students to develop their writing and presentation skills. Consultations are available in person and virtually. For more detail, visit <https://floridapoly.edu/writingcenter>.

Course Policies

Attendance

- Please see [University Policy](#), which reads “Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as defined by the instructor.” Attendance in this environment does not, of course, mean actual physical attendance in the classroom, although it may include that.
- If you know that you will miss a class for any reason discuss the situation with your instructor in a timely manner.

Late Work/Make-up work

- Each student must keep current on assignments. Late assignments are not graded, unless permission has been obtained from the instructor. In case of a medical emergency, please notify your instructor as soon as possible who will evaluate any exceptions on a case by case basis.

Grading Scale

- Grades will be determined according to the following scale:

A	93% – 100%	B	83% – 85%	C	73% – 75%	D	63% – 65%
A–	90% – 92%	B–	80% – 82%	C–	70% – 72%	D–	60% – 62%
B+	86% – 89%	C+	76% – 79%	D+	66% – 69%	F	0% – 59%

Grading Information Specifically for Graduate Students

- The grades of “A” through “C,” and “SR” are passing grades. The grades of “B-,” “C+,” and “C” are considered passing for graduate students but indicate weak performance for a graduate student and may not be accepted for some programs. The grades of “C-,” “D+,” “D,” “D-,” “F,” and “UR” are failing grades.

Assignment/Evaluation Methods

- Participation in all course activities is a very important element of this course and is a basic expectation. Course participation consists of active and respectful involvement in class discussions, presentations, peer feedback, postings, replies, projects, and other interactions.

<i>Assignment</i>	<i>Percentage</i>
Attendance and Participation	5%
Homework	10%
Quizzes	5%
Conference Paper Presentation	10%
Discussion (Possible)	10%
Final Project Presentation	10%
Final Project Report	10%
Exam 1	15%
Exam 2	15%
Final Exam	20%
Total	100%

Homework: Homework will be submitted through canvas. Please submit your homework as a single PDF document (including any Python code). I recommend scanning or taking a picture of your work (if handwritten) or typing. There will be 4 homework assignments.

Conference Paper Presentation: In this graduate-level course, students will engage in this activity to deepen their understanding of advanced topics in Data Mining and Text Mining. Each student will select a paper from one of the top conferences in these fields, published within the past three years. Then, the student will prepare a 20-minute presentation. These presentations will be followed by a 5-10 minute class discussion, facilitated by the presenting students. The goals from this activity are to (1) introduce students to advanced and recent topics related to data mining and text mining, (2) expose students to advanced research and enhance their research skills, (3) develop students' ability to analyze and synthesize complex research papers, (4) improve students' public speaking and presentation skills in a professional academic setting, and (5) encourage collaborative learning and active participation through peer-led discussions. During these sessions, the instructor's role is to supervise and guide the discussion to make sure the key concepts are thoroughly covered, and that discussion remains productive. The presentation schedule and topics will be assigned during the first week of class. Students are required to submit their presentation materials, including slides and notes, on Canvas at least 3 hours prior to their scheduled presentation. Participation in these discussions is mandatory and will be factored into the final grade under the "Attendance and Participation" category.

The selected conferences include:

Data Mining

- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)
- IEEE International Conference on Data Mining (ICDM)
- SIAM International Conference on Data Mining (SDM)
- Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)
- European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD)

Text Mining

- Conference on Empirical Methods in Natural Language Processing (EMNLP)
- Association for Computational Linguistics (ACL)
- International Conference on Computational Linguistics (COLING)
- North American Chapter of the Association for Computational Linguistics (NAACL)
- International World Wide Web (WWW)

Final Project: In the final project you will show your knowledge and skills in data mining and text mining, using any combination of the different tools and topics discussed throughout the semester applied to an area/field of your interest. The final project involves a design/implementation task to be carried out by 3-member teams, and will involve analyzing a dataset of your choice, preparing a report and presenting your findings to the class. Additional details will be provided. Before beginning the project, check with the instructor that your dataset is acceptable. The final project is Due **Friday December 5th at 11:59 PM**. Please submit as a single PDF through canvas. The project will progress through several phases:

1. Project Proposal (**due Monday 8th September**):
 - Form your team and create a project webpage
 - Submit a 3-page proposal in IEEE 2-column format, including sections on motivation, related work, proposed approaches, and planned experiments
 - Post the proposal on your team's web page and notify the instructor

2. Checkpoint I (**due Monday 6th October**):
 - Extend the proposal to 5 pages, including progress reports
 - Post the updated report on your team's web page
3. Checkpoint II (**due Monday 3th November**):
 - Further extend the report to 8 pages
 - Make a 12-minute oral presentation in class
4. Final Project Report (**due 5th December**):
 - Submit a final report (9-11 pages depending on team size) in IEEE two-column format
 - Include presentation slides
 - Upload all materials to the shared drive and submit peer evaluation individually

All submissions should follow IEEE formatting guidelines and use EndNote for references. Detailed instructions for each phase, including specific file naming conventions and submission methods, are provided in the project guidelines.

- **Final Project Report**

Your goal is to submit a cohesive project report that conveys that you have mastered the techniques discussed during the semester.

- **Final Project Presentation**

You will present your final project and summarize your findings. The final project presentation accounts for 10% of your final grade.

Your instructor will provide you with specific guidelines for the final project report and final project presentation shortly after the first few weeks of classes (format and length, call for proposals, reference materials, presentation guidelines and logistics, rubric, etc.)

Sample final project topics from previous years include:

- **Text mining for analysis of topics discussed in social media platforms**
- **Finding patterns in performance of recent winning sports teams**
- **Clustering and recommendation algorithms for video streaming services**
- **Analysis of purchasing patterns for retail customers**
- **Sentiment analysis of lyrics from top songs in recent years**
- **Characterization of street network spatial features**
- **Clustering of traffic crashes and their relationship with inclement weather**

University Policies

Reasonable Accommodations

The University is committed to ensuring equal access to all educational opportunities. The Office of Disability Services (ODS) facilitates reasonable accommodations for students with disabilities and documented eligibility. It is the student's responsibility to self-identify as a student with disabilities and register with ODS to request accommodations. If you have already registered with ODS, please ensure that you have requested an accommodation letter for this course through the ODS student portal, and communicate with your instructor about your approved accommodations as soon as possible. Arrangements for testing accommodations must be made in advance. Accommodations are not retroactive. If you are not registered with ODS but believe you have a temporary health condition or permanent disability requiring an accommodation, please contact ODS as soon as possible: DisabilityServices@floridapoly.edu; (863) 874-8770; www.floridapoly.edu/disability.

Accommodations for Religious Observances, Practices and Beliefs

The University will reasonably accommodate the religious observances, practices, and beliefs of individuals in regard to admissions, class attendance, and the scheduling of examinations and work assignments. (See [University Policy](#).)

Title IX

Florida Polytechnic University is committed to ensuring a safe, productive learning environment on our campus that prohibits sex discrimination and sexual misconduct, including sexual harassment, sexual assault, dating violence, domestic violence and stalking. Resources are available if you or someone you know needs assistance. Any faculty or staff member you speak to is required to report the incident to the Title IX Coordinator. Please know, however, that your information will be kept private to the greatest extent possible. You will not be required to share your experience. If you want to speak to someone who is permitted to keep your disclosure confidential, please seek assistance from the Florida Polytechnic University [Ombuds Office](#), BayCare's Student Assistance Program, 1-800-878-5470 and locally within the community at [Peace River Center](#), 863-413-2707 (24-hour hotline) or 863-413-2708 to schedule an appointment. The Title IX Coordinator is available for any questions to discuss resources and options available.

Academic Integrity

Violations of [academic integrity regulation](#) include actions such as cheating, plagiarism, use of unauthorized resources (including but not limited to use of Artificial Intelligence tools), illegal use of intellectual property, and inappropriately aiding other students. Such actions undermine the central mission of the university and negatively impact the value of your Florida Poly degree. Suspected violations will be fully investigated, possibly resulting in sanctions up to and including expulsion from the university.

Recording Lectures

Students may, without prior notice, record video or audio of a class lecture for a class in which the student is enrolled for their own personal educational use. Recordings may not be used as a substitute for class participation or class attendance. Recordings may not be published or shared in any way, either intentionally or accidentally, without the written consent of the faculty member. Failure to adhere to these requirements is a violation of state law (subject to civil penalty) and the student code of conduct (subject to disciplinary action).

Recording class activities including, but not limited to, lab sessions, student presentations (whether individually or part of a group), class discussion (except when incidental to and incorporated within a class lecture), and invited guest speakers is prohibited.

Course Schedule

- I reserve the right to modify this schedule as required by the progression of the class.
- Coursework is due at 11:59PM Eastern Standard Time (EST) on the date indicated.
- A tentative course calendar is included below.

Week	Lesson/Topic	Assignments (tentative)
1	Syllabus Overview Introduction to Course	
2	Overview of data mining and text mining * Introduction to data mining * Nature of data * Data cleaning * Data preprocessing * Google Colab and Python basic Student 1 Conference Paper Presentation	
3	Exploratory Data Analysis (EDA) and Visualization * Google Colab and Python basic * Tell a story with your data * <i>Data manipulation</i> * <i>Data visualization</i> * Examples and applications using Python packages Student 2 Conference Paper Presentation	HW 1
Project proposal Due Monday 8-Sep at 11:59 PM		
4	Dimensionality Reduction * Review of linear algebra, covariance matrix, eigenvalues, and eigenvectors * Principal Component Analysis. (PCA) * Linear Discriminant Analysis (LDA) * t- distributed stochastic neighbor embedding (t-SNE) * Examples and applications using Python packages Student 3 Conference Paper Presentation	HW 2

Week	Lesson/Topic	Assignments (tentative)
5	Frequent Pattern Mining & Association Rules * The Apriori algorithm * The Eclat algorithm * The FP-Growth algorithm * Rules generation & interpretation * Examples and applications using Python packages Student 4 Conference Paper Presentation	Quiz 1
6	Frequent Pattern Mining & Association Rules * The Apriori algorithm * The Eclat algorithm * The FP-Growth algorithm * Rules generation & interpretation * Examples and applications using Python packages Student 5 Conference Paper Presentation	Cancelled Thursday class for Hurricane Helene
7	Continue last week's class and Exam briefing Student 5& 6 Conference Paper Presentation	
Project Checkpoint I Due Monday 6-Oct at 11:59 PM		
8	EXAM 1 Student 6 Conference Paper Presentation	Exam 1
9	Clustering * k-means and related methods * Hierarchical Clustering * Examples and applications using Python packages * Density-based methods * Spectral and Graph clustering * Examples and applications using Python packages Student 7 Conference Paper Presentation	HW 3
10	Anomaly detection * Introduction and Motivation * Time Series Anomaly Detection * Clustering-Based Anomaly Detection * Examples and applications using Python packages Student 8 Conference Paper Presentation	Quiz2
11	Text, web and social media analytics * Motivation and modern applications, Classical definitions and methods, Python module re (Regular expression (RegEx) operations) Natural Language Processing (NLP) * Intro to NLP, Basic text processing, Text normalization, Word normalization and stemming Student 9 &10 Conference Paper Presentation	HW 4
Project Checkpoint II Due Monday 3-Nov at 11:59 PM		
12	EXAM 2 Student 11 Conference Paper Presentation	Exam 2 (tentative)

Week	Lesson/Topic	Assignments (tentative)
13	Word Embedding Techniques and Text Vectorization * Relationships between words using n-grams * One-hot encoding * Term frequency and inverse document frequency (TFIDF) * Examples and applications using Python packages Student 12 Conference Paper Presentation Groups presentations: 5 minutes per groups	
14	Word Embedding Techniques and Text Vectorization * Bag of Words (BOW), Word2Vec, GloVe * Examples and applications using Python packages Sentiment Analysis * Applications of sentiment analysis, Text cleaning, tokenization, and stemming/lemmatization, Sentiment Lexicons like VADER and AFINN * Examples and applications using Python packages Student 14 Conference Paper Presentation	Quiz 4
15	Introduction to NLP + Natural Language Processing (NLP) with Transformers * BERT * Named Entity Recognition (NER) * Generative Pre-trained Transformer (GPT) Final Presentations	
16	Final Presentations	Final Project Due Friday December 5th at 11:59 PM
TBD	Final Exam	

Final Project

In the final project you will show your knowledge and skills in data mining and text mining, using any combination of the different tools and topics discussed throughout the semester applied to an area/field of your interest.

- **Final Project Report**
Your goal is to submit a cohesive project report that conveys that you have mastered the techniques discussed during the semester.
- **Final Project Presentation**
You will present your final project and summarize your findings. The final project presentation accounts for 10% of your final project grade.

Your instructor will provide you with specific guidelines for the final project report and final project presentation shortly after the first few weeks of classes (format and length, call for proposals, reference materials, presentation guidelines and logistics, rubric, etc.)

Sample final project topics from previous years include:

- **Text mining for analysis of topics discussed in social media platforms**
- **Finding patterns in performance of recent winning sports teams**
- **Clustering and recommendation algorithms for video streaming services**
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- **Characterization of street network spatial features**
- **Clustering of traffic crashes and their relationship with inclement weather**

Important Dates

August 18 –22	M-F	Drop/Add Week
October 13	M	Midterm grades due
November 11	T	Veteran's Day - <i>No Classes</i>
November 18	F	Withdrawal Without Academic Penalty Deadline (W assigned)
November 24 – 28	M - F	Thanksgiving Holiday Break - <i>No Classes</i>
December 2	T	Last Day of Classes
December 3 – 5	W-F	Reading Days - <i>No Classes</i>
December 8 –12	M-F	Final Exams
December 17	W	Final Grades Available Online

Sample Rubric for Conference Paper Presentation

Objective	Category	Below Expectations	Below Average	Average	Good	Excellent
	Score	1	2	3	4	5
Presentation Content	Relevance and Accuracy	Inaccurate or off-topic	Lacks clarity and has inaccuracies	Mostly accurate but lacks depth	Accurate and covers topic well	Highly accurate, in-depth, and comprehensive
	Depth of Analysis	Superficial or no analysis	Limited analysis, lacks depth	Adequate analysis with some depth	Well-analyzed with clear insights	Deep and insightful analysis
	Use of Evidence	No evidence or unsupported claims	Limited or weak evidence	Adequate evidence supporting points	Strong, relevant evidence	Extensive, highly relevant evidence
Presentation Organization	Structure and Flow	Disorganized, no clear structure	Some organization but lacks coherence	Organized with minor lapses	Well-organized with clear flow	Exceptionally organized, logical, and easy to follow
	Clarity of Information	Confusing or unclear	Somewhat unclear or vague	Mostly clear and understandable	Clear and well-articulated	Exceptionally clear, concise, and well-articulated
Presentation Delivery	Engagement and Presence	Poor delivery, no engagement	Limited engagement, lacks confidence	Adequate delivery, some engagement	Engaging delivery with confidence	Highly engaging, confident, and professional
	Visual Aids and Media Use	No visuals or poorly used	Ineffective use of visuals	Visuals support the content	Visuals enhance understanding	Visuals are highly effective and professional
	Facilitation of Discussion	No engagement with peers	Minimal peer engagement	Moderate peer engagement	Actively engages peers in discussion	Highly effective in engaging and facilitating peer discussion
Total points for Presentation = 100						

Sample Rubric for Report and Presentations

The final presentations and reports will be evaluated using the rubrics included below.

Sample Report Rubric

Objective	Category	Below Expectations	Weak	Average	Good	Excellent
	Score	1	2	3	4	5
Students can write professional quality documents	Introduction	Opening is off-topic and inappropriate to the purpose, not concise and no clarity	Opening is somewhat related to the topic and appropriate to the purpose but is not concise and clear	Opening is related to the topic and appropriate to the purpose. Somewhat clear and concise	Opening is related to the topic and appropriate to the purpose. Clear and concise	Strong opening that is clear and concise
	Organization	Disorganized; incorrect format; unclear direction	Somewhat organized;	Organized; correct format; unclear direction	Organized; correct format; clear direction	Correct formatting, strong clarity and

			incorrect format; unclear direction			organization in the development of main points
	Literature Review	Does not present information from any source	Presents information from irrelevant sources representing limited points of view/approaches	Presents information from relevant sources representing limited points of view/approaches	Presents in-depth information from relevant sources representing limited points of view/approaches	Synthesizes in- depth information from relevant sources representing limited points of view/approaches
	Research Design (weighted twice)	Does not provide information on research design	Inquiry design demonstrates misunderstanding of the methodology or theoretical framework	Critical elements of the methodology or theoretical framework are missing, incorrectly developed or unfocused	Critical elements of the methodology or theoretical framework are appropriately developed however, more subtle elements are ignored or unaccounted for	All elements of the methodology or theoretical framework are skillfully developed and may be synthesized from across disciplines or relevant subdisciplines
	Analysis (weighted twice)	Incorrect, Irrelevant, no supporting evidence	Correct, irrelevant, no supporting evidence	Correct, relevant, no supporting evidence	Relevant and correct with supporting evidence	Relevant, correct, complete, incorporates innovative insights
	Next Steps	Missing or content does not support conclusion	Conclusion irrelevant to the findings	Conclusion somewhat relevant to the findings	Conclusion relevant to the findings	Strong conclusion that is clear, complete and compelling
	Grammar & Spelling	Uses language that often impedes meaning due to errors	Uses language that often sometimes meaning due to errors	Uses language that generally conveys meaning to readers with clarity, although writing includes some errors	Uses straightforward language that conveys meaning to readers. Language has few errors	Uses graceful language that communicates meaning to readers with clarity and fluency and is virtually error free
	Reference Style (APA)	Did not follow APA style	Numerous errors in APA style, did not cite sources correctly, formatting issues	Some errors in APA style, cited correctly but formatting issues persist	Minimum errors in style and formatting but does not detract from readability	No errors in APA style
Total points for Report = 50						

Presentation Rubric

Objective	Category	Below Expectations	Weak	Average	Good	Excellent
	Score	1	2	3	4	5
Students can demonstrate mastery of communication technology	Use of Media	Lack of media detracts from the presentation objective	Misuse of media that detracts from the presentation objective	Use of media barely supports and contributes to the presentation objective	Use of media supports and contributes to the presentation objective	Use of media supports, clarifies and reinforces the presentation objective
	Quality of Slides	Very poor quality. Not enough or too much colors, fonts and animations that detract from project objective	Poor quality. Not enough or too much colors, fonts and animations that detract from project objective	Fonts, colors and animations barely support the presentation objective	Fonts, colors and animations support the presentation objective	Fonts, colors and animations support, clarify and reinforce the presentation objective
Students can develop and deliver a compelling oral talk with relevant facts and information	Opening statement	Opening is off-topic and inappropriate to the purpose, not concise and no clarity	Opening is somewhat related to the topic and appropriate to the purpose but is not concise and clear	Opening is related to the topic and appropriate to the purpose. Somewhat clear and concise	Opening is related to the topic and appropriate to the purpose. Clear and concise	Strong opening that is clear and concise
	Organization	Disorganized; incorrect format; unclear direction	Somewhat organized;	Organized; correct format; unclear direction	Organized; correct format; clear direction	Correct formatting, strong clarity and

			incorrect format; unclear direction			organization in the development of main points
	Literature Review	Does not present information from any source	Presents information from irrelevant sources representing limited points of view/approaches	Presents information from relevant sources representing limited points of view/approaches	Presents in-depth information from relevant sources representing limited points of view/approaches	Synthesizes in- depth information from relevant sources representing limited points of view/approaches
	Analysis	Incorrect, Irrelevant, no supporting evidence	Correct, irrelevant, no supporting evidence	Correct, relevant, no supporting evidence	Relevant and correct with supporting evidence	Relevant, correct, complete, incorporates innovative insights
	Next Steps	Missing or content does not support conclusion	Conclusion irrelevant to the findings	Conclusion somewhat relevant to the findings	Conclusion relevant to the findings	Strong conclusion that is clear, complete and compelling
	Timing	Presentation is too short, insufficient coverage of material	Presentation is too long. Unable to cover all the material	Able to cover all the material within five extra minutes	Utilizes allotted time to provide sufficient coverage of material	Well-paced coverage of material within the allotted time
Students can deliver an oral talk with clarity and appropriate poise	Delivery Techniques	Does not participate in the oral presentation	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) detract from the understandability of the presentation, and speaker appears uncomfortable.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation understandable, and speaker appears tentative.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation interesting, and speaker appears comfortable.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation compelling, and speaker appears polished and confident.
	Peer Evaluation	5 points				
Total Points = 50						