Course Syllabus

Course Number: DS 316

Course Title: Behind the social media curtain

Department Name: Natural Sciences and Mathematics

College/School/Division Name: Chaminade University of Honolulu

Term: Spring 2022

Course Credits: 3

Class Meeting Days: Monday, Wednesday, Friday

Class Meeting Hours: 9:30am-10:20am

Class Location: DATA SCIENCE CENTER

Instructor Name: Rylan Chong, Ph.D.

Email: rylan.chong@chaminade.edu

Phone: (808)739-7445

Office Location: DATA SCIENCE CENTER

Office Hours: MTWThF 12:00pm-1:00pm

Instructor Website: NA

Other Professional Contact Information: NA

1. University Course Catalog Description

This course will provide a better understanding and a glimpse behind the social media curtain on how your social media posts and data are being used. This course will include lectures, discussion, assignments, hand-on experiences with sanitized social media data, and a project that could be used for future classes and further investigation. The goal of this course will be to provide students a better understanding on how their social media posts and data are being used, the policies and ethics of social media, data security, and have a hands-on experience exploring social media data through some text mining techniques.

2. Course Overview

This course will provide an introduction on what, why, and how social media data is being used. There will be three parts to this course. The first part will be to introduce the foundations and understanding of social media. The second part will be to explore the policies, physical and digital data security, and ethics of using social media data. The last part of this course will be a hands-on experience to perform some text mining analytics on social media data.

3. Program Learning Outcomes

Upon completion the B.S. degree program Data Science Analytics and Visualization, a graduating student will demonstrate the following competencies:

1. Source, describe and curate large data sets ('Big Data') that may not be amenable to traditional hardware and software, and conventional statistical analysis including domain and file specific metadata and the tools built around alternatives to tabular relations that allow the use of multimodal data;
2. Identify, describe and apply foundational mathematical and statistical concepts and operations, including the application of tools such as R, SQL and Python languages, that underlie data sourcing, management, analysis and interpretation;
3. Develop and implement approaches for effective data translation, dissemination and communication between domains, stakeholders and the public;
4. Identify and apply basic data modeling, predictive models and visualizations to support decision-making;
5. Integrate an awareness of ethical issues and collective standards to positively influence the application of data science to service, justice and peace in working towards solutions for societal problems;
6. Explain, plan and execute data science tasks within multidisciplinary teams;
7. Execute a domain-specific capstone project addressing a stakeholder-generated use case.

4. Course Learning Outcomes and Linkage to Program Learning Outcomes

Students who successfully complete this course will be able to:

Course Learning Outcomes	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
1. Identify and describe the various social media platforms and data.	X						
2. Identify and describe the policies, physical and digital data security, and ethics of social media data.					X	X	
3. Explain and apply social media data methods of collecting.	X	X	X			X	
4. Explain and apply text mining analytics.		X	X	X		X	
5. Evaluate and interpret social media data analytics.		X	X		X	X	

5. Course Prerequisites

EN 102 and COM 101

6. Required Learning Materials

Learning materials will be provided on Canvas. These include Powerpoint PDF slides, tutorials, websites, articles, R-Studio, Google Drive, Zoom video conference application, consider.it application, and Microsoft applications.

7. Course Website:

All assignments and materials will be submitted via **Canvas Course Management System** unless stated otherwise. The assignments are to be clear, professional quality, and must be submitted in the requested format or the work will receive zero points. Please familiarize yourself with Canvas and visit the site regularly as materials, grades, announcements, and submission of assignments will be on Canvas.

Chaminade University Data Science Program Website: datascience.chaminade.edu

8. Technical Assistance for Canvas Users:

Search for help on specific topics at help.instructure.com. Chat live with Canvas Support 24/7/365. Watch this video to get you started with online guides and tutorials. Contact the Chaminade IT Helpdesk for technical issues: helpdesk@chaminade.edu, or call (808) 735-4855

9. Assessment.

Assessments	Points
Communication	5
Assignments 7x	70
Proposal	5
Final project	20
Total	**100**

10. Grading Scale

Letter grades are given in all courses except those conducted on a credit/no credit basis. They are interpreted as follows:

A 90-100%   90 points or more: Outstanding scholarship and an unusual degree of intellectual initiative

B 80-90%   80-89 points: Superior work done in a consistent and intellectual manner

C 70-80%   70-79 points: Average grade indicating a competent grasp of subject matter

D 60-70%   60-69 points: Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work.

F <60%   59 points or less: Failed to grasp the minimum subject matter; no credit given

11. Course Schedule

Week	Date	Lesson	Assignment
1	01/10-01/14	• Introduce syllabus • What is social media and related data?	
2	01/17-01/21	• Policies and ethics of social media data.	
3	01/24-01/28	• Cybersecurity – Physical security	Assignment 1: Discussion paper
4	01/31-02/04	• Cybersecurity – Digital security • Introduce project	
5	02/07-02/11	• Qualitative research	Assignment 2: Physical vs digital security assignment
6	02/14-02/18	• Traditional analysis – Themes table	

7	02/21-02/25	• Installing R Studio • Review R programming • Apply for Twitter API access • Proposal	Assignment 3: Traditional qualitative analysis
8	02/28-03/04	• Apply for Twitter API access • Methods of collecting social media data	
9	03/07-03/11	• Text mining social media data and interpretation – Wordcloud and frequency chart	Assignment 4: Collecting social media data
10	03/14-03/18	• Text mining social media data and interpretation – Sentiment analysis	Assignment 5: Wordcloud and frequency chart analyses
11	03/21-03/25	Spring break	
12	03/28-04/01	• Text mining social media data and interpretation – Cluster analysis	Assignment 6: Sentiment analysis
13	04/04-04/08	• Work on project	Assignment 7: Cluster analysis
14	04/11-04/15	• Work on project	
15	04/18-04/22	• Work on project	
16	04/25-04/29		Final project due
	05/02-05/06		

Course Changes: The instructor reserves the right to change the schedule, deadlines, course requirements, and grading throughout the semester. Changes will be announced through email or Canvas Course Management System.

12. Alignment of Natural Sciences Courses with Marianist and Hawaiian values of the University.

The Natural Sciences Division provides an *integral, quality education:* sophisticated integrative course content taught by experienced, dedicated, and well-educated instructors.

- We *educate in family spirit* – every classroom is an *Ohana* and you can expect to be respected yet challenged in an environment that is supportive, inclusively by instructors who take the time to personally get to know and care for you.

- We *educate for service, justice and peace*, since many of the most pressing global issues (climate change, health inequity, poverty, justice) are those which science and technology investigate, establish ethical parameters for, and offer solutions to.

- We *educate for adaptation and change*. In science and technology, the only constant is change. Data, techniques, technologies, questions, interpretations and ethical landscapes are constantly evolving, and we teach students to thrive on this dynamic uncertainty.

The study of science and technology can be formative, exploring human creativity and potential in the development of technologies and scientific solutions, the opportunity to engage in the stewardship of the natural world, and the opportunity to promote social justice. We provide opportunities to engage with the problems that face Hawai'i and the Pacific region through the Natural Sciences curriculum, in particular, those centered around severe challenges in health, poverty, environmental resilience, and erosion of traditional culture. The Marianist Educational Values relate to Native Hawaiian ideas of *mana, na'auao, ohana*, *aloha* and *aina*. We intend for our Natural Sciences programs to be culturally-sustaining, rooted in our Hawaiian place, and centered on core values of *Maiau,* be neat, prepared, careful in all we do; *Makawalu*, demonstrate foresight and planning; *`Ai,* sustain mind and body; *Pa`a Na`au*, learn deeply.

13.1. Late Work Policy

You are expected to attend class prepared with the assigned readings, materials, and assignments completed. All late work will not be accepted and will result in a zero. Alternatives may be discussed, if you have appropriate documentation to be excused from class or unable to submit your work.

13.2. Grades of "Incomplete"

Students and instructors may negotiate an incomplete grade when there are specific justifying circumstances. An Incomplete Contract (available form the Divisional Secretary and the Portal) must be completed. When submitting a grade the "I" will be accompanied by the alternative grade that will automatically be assigned after 90 days. These include IB, IC, ID, and IF. If only an "I" is submitted the default grade is F. The completion of the work, evaluation, and reporting of the final grade is due within 90 days after the end of the semester or term. This limit may not be extended.

13.3. Writing Policy

All writing products will be done in APA format.

13.4. Instructor and Student Communication
Questions for this course can be emailed to the instructor at [rylan.chong@chaminade.edu]. Online, in-person and phone conferences can be arranged. Response time will take place up to 3 days.

13.5. Cell phones, tablets, and laptops
Music Devices and Cellular Phones: Unless specifically permitted by your instructor, use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes, as it is discourteous and may lead to suspicion of academic misconduct. Students unable to comply will be asked to leave class. Out of consideration for your classmates, please set your cell phone to silent mode during class. Students are encouraged to bring laptops or tablets to class as the instructor will assign online activities and readings that will require the use of a laptop or tablet. Laptops and tablets should not be misused, such as checking distracting websites. Use your best judgment and respect your classmates and instructor.

13.6. Disability Access

If you need individual accommodations to meet course outcomes because of a documented disability, please speak with me to discuss your needs as soon as possible so that we can ensure your full participation in class and fair assessment of your work. Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the Counseling Center by the end of week three of the class, in order for instructors to plan accordingly. If a student would like to determine if they meet the criteria for accommodations, they should contact the Counseling Center at (808) 735-4845 for further information (counselingcenter@chaminade.edu).

13.7. Title IX Compliance

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. If you or someone you know has been harassed or assaulted, you can find the appropriate resources by visiting Campus Ministry, the Dean of Students Office, the Counseling Center, or the Office for Compliance and Personnel Services.

13.8. Attendance Policy

The following attendance policy is from the 2021-2022 Academic Catalog (p. 57-58): Students are expected to attend regularly all courses for which they are registered. Student should notify their instructors when illness or other extenuating circumstances prevents them from attending class and make arrangements to complete missed assignments. Notification may be done by emailing the instructor's Chaminade email address, calling the instructor's campus extension, or by leaving a message with the instructor's division office. It is the instructor's prerogative to modify deadlines of course requirements accordingly. Any student who stops attending a course

without officially withdrawing may receive a failing grade. Unexcused absences equivalent to more than a week of classes may lead to a grade reduction for the course. Any unexcused absence of two consecutive weeks or more may result in being withdrawn from the course by the instructor, although the instructor is not required to withdraw students in that scenario. Repeated absences put students at risk of failing grades. Students with disabilities who have obtained accommodations from the Chaminade University of Honolulu ADA Coordinator may be considered for an exception when the accommodation does not materially alter the attainment of the learning outcomes. Federal regulations require continued attendance for continuing payment of financial aid. When illness or personal reasons necessitate continued absence, the student should communicate first with the instructor to review the options. Anyone who stops attending a course without official withdrawal may receive a failing grade or be withdrawn by the instructor at the instructor's discretion.

13.9. Academic Conduct Policy

See the current Undergraduate Academic Catalog and the Student Handbook available from Student Affairs.