ENGR 499 Social Media for Scientists & Engineers
Units: 2
Section: 28526
Fall 2017: Tuesday Thursday 2:00 PM - 2:50 PM

Location: MHP B7B

Instructor: Sarah Mojarad
Office: DRB 212
Office Hours: By appointment
Contact Info: Mojarad@usc.edu (reply within 24 hours)

Course Description
This course is an introduction to the various ways in which social media and science are intersecting in a compelling manner. New technologies and online communities are powerful tools that are changing the ways in which scientists are engaging one another (inreach) and general audiences (outreach). Through a series of case studies, students examine issue-based examples that address the complexities surrounding ethics, privacy, reputation management, ownership, and the law. Assignments, including weekly discussion board posts, focus on the development and understanding of appropriate usage of social media for personal and professional development. Distinguished guest lecturers provide additional insights from their experiences as practitioners of the topics presented.

This course is appropriate for Viterbi graduate students. Upper level undergraduate students are accepted on a case-by-case basis.

Learning Objectives
Participants will learn:

1. To utilize social media in meaningful ways to disseminate scientific information
2. How to successfully communicate with scientific and non-scientific communities
3. The positive and negative impacts of social media illustrated via case studies
4. The impact of social media on personal and professional branding
5. How social media is changing the peer-review process and publishing landscapes
6. Issues concerning social media ownership, privacy, law, and ethics
7. The importance of developing a personal and professional brand
8. To maintain a professional, online identity and reputation
9. To analyze a social media presence and evaluate the strengths and weaknesses

Course Notes
Students are required to attend class and participate in online discussion board weekly. Following lecture on Wednesday, students will have access to one or two weekly discussion board questions via Blackboard. Initial responses are due by Thursday at 11:59 PM. Follow up responses to your peers (3 per question) are due by Sunday at 11:59 PM.

Technological Proficiency and Hardware/Software Required
Web access is required. Readings and assignments are available on a week-to-week basis via course website on Blackboard.

This course contains audio materials, and in some cases, you may be required to record audio for homework assignments. Using a basic headset or the recording feature on your computer/cell phone is acceptable. Headsets can be purchased through the USC bookstore or on vendors such as Amazon.com.

Required Readings and Supplementary Materials
Required readings and supplementary materials are provided on blackboard. This course does not have a required textbook for purchase.

Description and Assessment of Assignments

Attendance **5%**: Class attendance is mandatory and expected. While lectures will be posted online, key components of this class are: (i) in-class discussions, and (ii) guest lectures that require in-person attendance and participation in discussions with the guest speakers.

Discussion Board **10%**: Each week, students are asked to engage in discussion board conversation with their peers. Initial posts are due by Thursday at 11:59 PM, and two follow up posts are due by Sunday at 11:59 PM. After the deadline, work will be considered late and penalized by 50%. Discussion board posts that are more than a week late will receive no credit.

Assignments **40%**: There are four assignments in this course. The goal of these assignments is to connect concepts and ideas learned in class to your own experiences and observations using social media. Each assignment is worth 10% of your final grade. Late assignments will be accepted for credit with prior approval from the instructor.

- Assignment 1 – Improving Wikipedia: Opportunities in Science Communication for Students
    - Overview: Using the Wikipedia Education Foundation Dashboard, students provided readings and tutorials on how to update Wikipedia articles. For this assignment, you are asked to update three articles that are related to your field of study at USC or are within STEM-related topics.
- Assignment 2 – Digital Outreach: Harnessing the Power and Connectivity of Social Media
    - Overview: So far in the course, we've learned of the value and opportunities social media provides to scientists and engineers who are interested in outreach. In this assignment, you will experience it firsthand. You will create a Twitter account to tweet about your research and connect with others in the field.
- Assignment 3 – The Case of the EpiPen: Company and Leadership in Crisis
    - Overview: Mylan, the company that created EpiPen, faced a growing crisis in 2016 due to rapid price increases of the lifesaving injection used to treat anaphylaxis. You will be provided readings to be better understand the context of the situation. Based off of the information provided, you will respond to several questions in an essay format.
- Assignment 4 – Who Owns It? Grey Areas in Copyright and Artificial Intelligence
    - Overview: Currently in the US, a copyright can be registered provided a human being creates the work. Given the rise of AI and machine learning, it is not difficult to imagine a future where computers have the ability to create songs, images, and books with little to no involvement from humans. Students are asked to weigh in on what degree of copyright—if any—should be granted to people or machines.

Group Project **15%:** In weeks six and seven, you will work in small groups to improve your online brand. Groups should be 3-4 students and meeting outside of class is expected. Details will be provided in

Final Project **30%**: The final project is a case study that you will put together on USC. You are asked to analyze your school's current social and website presence and make recommendations. Note that results from your final project may be provided to your school's social media or marketing team, so please make it professional and tactful.

Grading Breakdown

Assignment	% of Grade
Attendance	5
Discussion Board	10
Assignments (4)	40
Group Project	15
Final Project	30
TOTAL	**100**

Grading Scale
Course final grades will be determined using the following scale

A   95-100
A-   90-94
B+   87-89
B   83-86
B-   80-82
C+   77-79
C   73-76
C-   70-72
D+   67-69
D   63-66
D-   60-62
F   59 and below

Assignment Submission Policy
Assignments should be submitted via Blackboard. If there are any issues with upload, please email to Mojarad@usc.edu.

Grading Timeline
Grading and feedback will be provided on a weekly basis via Blackboard.

Course Schedule: A Weekly Breakdown

	Topics/Daily Activities	Readings and Homework	Deliverable/ Due Dates
Week 1	Introduction and Course Overview Case study: Kim Kardashian and the FDA	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM
Week 2	Scientists and Engineers: Online Communities Topics: Wikipedia, Reddit, Quora, ResearchGate, SciLink	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Assignment 1 assigned**
Week 3	The Impact of Social Inreach Case Study: Lior Pachter and GTEx	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Assignment 1 due**
Week 4	Introduction to Social Outreach Case Study: NASA	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Assignment 2 assigned**
Week 5	Managing Social Outreach and Dealing with the Media	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM

	Case Study: Kevin Folta and Food Babe		**Assignment 2 due**
Week 6	Personal Branding for Scientists and Engineers	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Group Project**
Week 7	Personal Branding for Scientists and Engineers	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Group Project**
Week 8	Crisis Communication Case Study: Tim Hunt	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM
Week 9	Crisis Communication Case Study: Ebola	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Assignment 3 assigned**
Week 10	Online Reputation	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Assignment 3 due**
Week 11	Social Media and the Law Case Study: Monkey Selfie	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM
Week 12	Social Media and the Law Case Study: Fazlul Sarkar and Pubpeer	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Assignment 4 assigned**
Week 13	How to Make and Effective Presentation; Collaborating with Colleagues: Digital vs. Face-to-Face	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Assignment 4 due**
Week 14	Looking forward: AR/VR	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM **Final Project assigned**
Week 15	Final Project	Discussion Board See Blackboard for assigned readings	Discussion Board: Initial post Thursday 11:59 PM; Follow up posts Sunday 11:59 PM
Week 16		**Final Scheduled December 7 - 2:00-4:00pm**	**Final Project Due**

Statement on Academic Conduct and Support Systems

Academic Conduct
Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" https://policy.usc.edu/student/scampus/part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

Discrimination, sexual assault, intimate partner violence, stalking, and harassment are prohibited by the university. You are encouraged to report all incidents to the *Office of Equity and Diversity/Title IX Office* http://equity.usc.edu and/or to the *Department of Public Safety* http://dps.usc.edu. This is important for the health and safety of the whole USC community. Faculty and staff must report any information regarding an incident to the Title IX Coordinator who will provide outreach and information to the affected party. The sexual assault resource center webpage http://sarc.usc.edu fully describes reporting options. Relationship and Sexual Violence Services https://engemannshc.usc.edu/rsvp provides 24/7 confidential support.

Support Systems
A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* http://ali.usc.edu, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://dsp.usc.edu provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* http://emergency.usc.edu will provide safety and other updates, including ways in which instruction will be continued by means of Blackboard, teleconferencing, and other technology.