

Social Media Analytics – Fall 2023

Media and Communication 9749

Instructor: Dr. Andrew Iliadis, PhD
Class Location: Annenberg Hall 00005
Class Hours: T 5:30PM-8:00PM

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Course Description

The seminar offers an introduction to theoretical and methodological procedures for social scientific research that relies on social media and online content as primary data. Students will learn how to conceptualize a social scientific research project that uses online media as a main source of data about human behaviors, attitudes, and communication processes. Students will also learn how to use a specific tool (Gephi) to analyze content from social media (Twitter, Facebook, Instagram, etc.). A brief introduction to downloading data from secondary data sources will be provided. Student proficiency in basic statistical analysis and a higher level of computer literacy is not expected but helpful. The main goal of the graduate seminar is to help budding social scientists step over their disciplinary boundaries when collecting and analyzing data generated by social media. At the same time, the seminar learning activities will ensure that procedures and methods reflect sound and theoretically grounded research practices. There will be zero tolerance for hatred, discrimination, or violence.

Learning and Course Objectives

Upon completion of this course students should be able to:

- Understand the ethical dimensions of sourcing social media data
- Know how to source social media data through tools or secondary sources
- Discuss key concepts and themes relevant to social network analysis
- Have a working knowledge of at least one major data analysis tool

Readings

Required Course Readings (Available on Canvas)

1. Zimmer, M. (2010). "But the data is already public": On the ethics of research in Facebook. *Ethics and Information Technology*, 12(4), 313-325. <https://doi.org/10.1007/s10676-010-9227-5>
2. Metcalf, J., & Crawford, K. (2016). Where are human subjects in big data research? The emerging ethics divide. *Big Data & Society*, 3(1). <https://doi.org/10.1177/2053951716650211>

3. Fiesler, C., Beard, N., & Keegan, B. C. (2020, May). No robots, spiders, or scrapers: Legal and ethical regulation of data collection methods in social media terms of service. In *Proceedings of the international AAAI conference on web and social media*, 14(1), 187-196. <https://ojs.aaai.org/index.php/ICWSM/article/view/7290>
4. franzke, aline shakti, Bechmann, Anja, Zimmer, Michael, Ess, Charles and the Association of Internet Researchers (2020). Internet Research: Ethical Guidelines 3.0. <https://aoir.org/reports/ethics3.pdf>
5. Bruns, A. (2019). After the 'APIcalypse': social media platforms and their fight against critical scholarly research. *Information, Communication & Society*, 22(11), 1544-1566. <https://doi.org/10.1080/1369118X.2019.1637447>
6. John, N. A., & Nissenbaum, A. (2019). An agnotological analysis of APIs: Or, disconnectivity and the ideological limits of our knowledge of social media. *The Information Society*, 35(1), 1-12. <https://doi.org/10.1080/01972243.2018.1542647>
7. Bruns, A., Bechmann, A., Burgess, J., Chadwick, A., Clark, L. S., & Dutton, W. H. (2018). Facebook shuts the gate after the horse has bolted, and hurts real research in the process. *Internet Policy Review*, 25. <https://policyreview.info/articles/news/facebook-shuts-gate-after-horse-has-bolted-and-hurts-real-research-process/786>
8. Freelon, D. (2018). Computational research in the post-API age. *Political Communication*, 35(4), 665-668. <https://doi.org/10.1080/10584609.2018.1477506>
9. Scott, J. (1988). Social network analysis. *Sociology*, 22(1), 109-127. <https://doi.org/10.1177%2F0038038588022001007>
10. Borgatti, S. P., Mehra, A., Brass, D. J., & Labianca, G. (2009). Network analysis in the social sciences. *Science*, 323(5916), 892-895. <https://doi.org/10.1126/science.1165821>
11. Zhang, M. (2010). Social network analysis: History, concepts, and research. In *Handbook of social network technologies and applications* (pp. 3-21). Springer.
12. Marin, A., & Wellman, B. (2011). Social network analysis: An introduction. In J. Scott, & P. J. Carrington (Eds.), *The SAGE handbook of social network analysis* (pp. 11-25). Sage.
13. Batrinca, B., & Treleaven, P. C. (2015). Social media analytics: a survey of techniques, tools and platforms. *AI & Society*, 30(1), 89-116. <https://doi.org/10.1007/s00146-014-0549-4>
14. Fan, W., & Gordon, M. D. (2014). The power of social media analytics. *Communications of the ACM*, 57(6), 74-81. <https://doi.org/10.1145/2602574>
15. Rogers, R. (2017). Digital methods for cross-platform analysis. In *The SAGE handbook of social media* J. Burgess, A. Marwick, & T. Poell (Eds.), 91-110. Sage.
16. Bastian, M., Heymann, S., & Jacomy, M. (2009). Gephi: An open source software for exploring and manipulating networks. In *Proceedings of the International AAAI Conference on Web and Social Media*, 3(1), 361-362. <https://ojs.aaai.org/index.php/ICWSM/article/view/13937>
17. Larsson, A. O., & Moe, H. (2012). Studying political microblogging: Twitter users in the 2010 Swedish election campaign. *New Media & Society*, 14(5), 729-747. <https://doi.org/10.1177/1461444811422894>
18. Edwards, E., Ford, S., Gajjala, R., Murray, P. R., & Bhatia, K. V. (2021). Shaheen Bagh: Making sense of (re)emerging "Subaltern" feminist political subjectivities in hashtag

- publics through critical, feminist interventions. *New Media & Society*.
<https://doi.org/10.1177/14614448211059121>
19. Alperstein, N. M. (2022). A study of web ecology: The use of trackers on pro science climate change and climate denier websites. *New Media & Society*.
<https://doi.org/10.1177/14614448211067462>
 20. Yang, S., Quan-Haase, A., & Rannenber, K. (2017). The changing public sphere on Twitter: Network structure, elites and topics of the #righttobeforgotten. *New Media & Society*, 19(12), 1983–2002. <https://doi.org/10.1177/1461444816651409>
 21. Diógenes Lycarião & Marcelo Alves dos Santos (2017) Bridging semantic and social network analyses: the case of the hashtag #precisamosfalarsobreaborto (we need to talk about abortion) on Twitter. *Information, Communication & Society*, 20(3), 368-385, DOI: 10.1080/1369118X.2016.1168469
 22. Mauro Barisione, Asimina Michailidou & Massimo Airoidi (2019) Understanding a digital movement of opinion: the case of #RefugeesWelcome. *Information, Communication & Society*, 22(8), 1145-1164, DOI: 10.1080/1369118X.2017.1410204
 23. Bruns, A. (2012). How long is a tweet? Mapping dynamic conversation networks on Twitter using Gawk and Gephi. *Information, Communication & Society*, 15(9), 1323-1351.
<https://doi.org/10.1080/1369118X.2011.635214>
 24. Tiziano Bonini, Alessandro Caliendo & Alessandra Massarelli (2016) Understanding the value of networked publics in radio: employing digital methods and social network analysis to understand the Twitter publics of two Italian national radio stations. *Information, Communication & Society*, 19(1), 40-58, DOI: 10.1080/1369118X.2015.1093532
 25. Vicari, S. (2017). Twitter and Non-Elites: Interpreting Power Dynamics in the Life Story of the (#)BRCA Twitter Stream. *Social Media + Society*, 3(3).
<https://doi.org/10.1177/2056305117733224>
 26. Quinn, K., Epstein, D., & Moon, B. (2019). We Care About Different Things: Non-Elite Conceptualizations of Social Media Privacy. *Social Media + Society*, 5(3).
<https://doi.org/10.1177/2056305119866008>
 27. Lindell, J. (2017). Bringing Field Theory to Social Media, and Vice-Versa: Network-Crawling an Economy of Recognition on Facebook. *Social Media + Society*, 3(4).
<https://doi.org/10.1177/2056305117735752>
 28. Cossu, A. (2018). Beyond Social Media Determinism? How Artists Reshape the Organization of Social Movements. *Social Media + Society*, 4(1).
<https://doi.org/10.1177/2056305117750717>
 29. Gephi Tutorial Quick Start. https://gephi.org/tutorials/gephi-tutorial-quick_start.pdf
 30. Gephi Tutorial Visualization. <https://gephi.org/tutorials/gephi-tutorial-visualization.pdf>
 31. Gephi Tutorial Layouts. <https://gephi.org/tutorials/gephi-tutorial-layouts.pdf>
 32. Grandjean, M. (2015) Gephi, Introduction to network analysis and visualization.
www.martingrandjean.ch/wp-content/uploads/2015/10/Gephi-introduction.pdf
 33. Cherven, K. (2013). *Network graph analysis and visualization with Gephi*. Packt Publishing Ltd.
 34. Cherven, K. (2015). *Mastering Gephi network visualization*. Packt Publishing Ltd.
 35. Khokhar, D. (2015). *Gephi cookbook*. Packt Publishing Ltd.
 36. White, E. B., & Strunk, W. (1972). *The elements of style*. New York: Macmillan.

37. Silvia, P. J. (2007). *How to write a lot: A practical guide to productive academic writing*. American Psychological Association.
38. Williams, J. (1990). *Toward Clarity and Grace*. Chicago The University of Chicago.
39. Schumacher, J. (2014). *Dear committee members*. Anchor Books.

Course Assignments and Requirements

Attendance and participation (10 points): Regular attendance in class along with participation in class discussions, online conversations. Showing evidence that you've done the readings are and following along with all of the material.

Discussion leading (20 points): Prepare handout for class based on class readings for a given day as assigned that helps identify key issues and help lead discussion on those readings.

Concept explication (20 points): Identify a key concept (e.g., algorithmic influence, API limitations, mixed methods, or social media data privacy) that is approved in advance by instructor and provide a two-page explication: identify concept, search literature, examine empirical properties, develop conceptual definition, define it operationally.

Research proposal (50 points): Prepare a 5-7-page double-spaced paper that identifies an applied social media research issue, reviews relevant literature, suggests appropriate data and ways to access them, and suggest research methods (social network analysis). Include a clearly defined research question and a bibliography.

Final paper (100 points): Refine literature review, questions, analysis, and discussion for final empirical research article based on a project. Paper needs to be 15-20 pages (double-spaced, 1-inch margins, including references), have the usual sections and follow the norms of a research presentation in the field, suitable for submission to ICA or related conference.

Contribution Evaluation Guidelines

Exceptional: Frequent, substantive, formative, and original contributions to class discussions; consistently engaged and participatory demeanor (90-100%)

Excellent: Only minor exceptions to the criteria described above (80-89%)

Good: Regular contributor to discussions; consistent engagement (70-79%)

Satisfactory: Occasional contributions and inconsistent engagement (60-69%)

Marginal: Minimal contributions and/or significant lack of engagement (50-59%)

Failure: Repeated disruptive, inappropriate, or unethical behavior; behavior disrespectful to others; consistent lack of commitment and/or effort (< 50%)

Grading Scale

93-100 A	80-82 B-	67-69 D+
90-92 A-	77-79 C+	63-66 D
87-89 B+	73-76 C	60-62 D-
83-86 B	70-72 C-	Below 50 F

Course Policies

Emergencies and Absences

In the event of a major campus emergency, course requirements, deadlines, and grading percentages are subject to change. This may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. The instructor will notify the students as soon as possible via email. Temple's Campus Safety Services and safety contact information can be found at the following link: <http://safety.temple.edu/>.

Grade Concerns and Incompletes

You must wait twenty-four hours after receiving a grade to discuss it with your instructor. In addition, discussion about a grade must occur within one week of receiving the grade from the instructor. A meeting must be scheduled between the instructor and student. Neither the classroom nor e-mail is an appropriate place for these discussions. Additionally, if you would like to discuss your overall course grade and how to improve it, this must be done during the first three quarters of the course and not in the last quarter.

Missed or Late Work

Missed or late work will not be accepted unless the student has a significant reason (illness, death in the family, etc.). The student is expected to provide documented evidence of their absence from a credible source. If you are reading this sentence, congratulations! You have found the secret Easter egg. Email the instructor a picture of a bunny for an extra point towards your final grade. Any bunny will do, but you are free to use your imagination.

Academic Honesty

Plagiarism on any assignment will result in a minimum of a zero for the assignment.

Plagiarism includes the following:

- Paraphrasing someone else's work and claiming it as your own
- Copying someone else's work and claiming it as your own
- Collaborating with another person and claiming the work solely as your own
- Using one's own work from another course or from a previous semester
- Signing attendance sheets for other students

As is the case for any other course taught at this university, no form of academic dishonesty will be tolerated. All assignments in this course require your own original work. Students are advised to become familiar with Temple's Student Conduct Code to resolve questions about this matter. The Student Code of Conduct can be found at the following link:

<http://policies.temple.edu/PDF/398.pdf>. Students may also wish to consult the bulletin of Student Responsibilities located at <http://bulletin.temple.edu/undergraduate/about-temple-university/student-responsibilities/>.

Student Support Services

If students would like to speak to the instructor about accessibility accommodations, please try to let the instructor know ahead of time, preferably at the beginning of the course. Accessibility circumstances can change and sometimes students might not be able to let their instructors know ahead of time. If this is the case, please let your instructor know as soon as possible.

Disability Resources and Services

Students may also wish to register with Disability Resources and Services (DRS), located at 100 Ritter Annex (004-03), 1301 Cecil B. Moore Avenue, Philadelphia, PA 19122. DRS will work with the Accessibility Liaisons to help determine reasonable accommodations for individuals with disabilities. DRS provides assessments, training, and short-term equipment loans for students interested in assistive technology. The DRS website can be found at the following link: <http://disabilityresources.temple.edu/>.

Student Success Center (and Writing Center)

The Student Success Center (SSC) is a comprehensive, “one-stop-shop” academic support center serving graduate and undergraduate students at Temple University, from tutoring, to workshops, retreats, colloquia, and more. It is located at the Charles Library, Room 230, 1900 N. 13th St. Philadelphia, PA, 19122 and can be reached at (215) 204-0702 or ssc@temple.edu. In SSC, there are specific resources that may be helpful in supporting you. Students may wish to visit the Writing Center. The Writing Center provides a gathering place where student writers work with other student writers in a supportive, teaching-driven environment. They can work on writing in your coursework, or for any other type of writing you wish to bring, including cover letters, resumes, scholarship essays, or creative writing.

University Libraries

The libraries serve as trusted keepers of the intellectual and cultural record, collecting, describing, providing access to, and preserving a broad universe of materials, including physical and digital collections, rare and unique books, manuscripts, archives, ephemera and the products of scholarly enterprise at Temple. Have a question for a librarian or subject matter expert? They have answers! Start a live chat session with a librarian, submit a question by email to asktlibrary@temple.edu, text them at (267) 415-8925, or call them at (215) 204-8212. For more information, visit <https://library.temple.edu/>.

Counseling

Counseling services are available through Temple’s Tuttleman Counseling Services (TCS), located at 1700 N. Broad St., 2nd floor, Philadelphia, PA 19121. Their phone number is 215-204-7276. Assistance is confidential and free of charge. TCS provides an atmosphere that is informal and professional, where you can feel safe and comfortable seeking help. The TCS website can be found at the following link: <http://counseling.temple.edu/>.

Dean of Students

The Dean of Students provides holistic support, advocacy, and education, equipping students to succeed and thrive at Temple University. The Dean’s office aids students and their parents/families to ensure co-curricular learning and overall collegiate success. The office also

responds to student emergency and crisis situations and serves as a resource to faculty and staff who have concerns about a student. Contact them about concerns about the well-being of yourself or another student, to report a concerning incident, make a referral, if you need help or guidance, support and resources circumstances that would result in missing class time, questions about campus policies and procedures. The Dean of Students is located at 1755 N. 13th St, Room 304, Student Center, Philadelphia, PA 19122, and may be contacted at (215) 204-7188 or dos@temple.edu. Their website is <https://deanofstudents.temple.edu/>.

Career Center

The Career Center provides a full range of services to all Temple undergraduate and graduate students in a variety of ways. Services include career coaching in 30-minute scheduled appointments, professional development events and workshops, career assessments to gain insight into career paths and get guidance during your decision-making process, launching a career and explore careers and options, apply for jobs and internships, attend a career fair, and meet with employers. They are located at 220 Mitten Hall, 1913 N. Broad St, Philadelphia, PA, 19122, and can be reached at (215) 204-7981 or <https://www.temple.edu/life-at-temple/students/careers-and-internships/career-center>.

Schedule at a Glance

Dates	Lessons	Activities	Readings
W1 - 8/29	Overview	Introductions, Research Plans	Syllabus
W2 - 9/5	Ethics	Considerations, IRB	1,2,3,4
W3 - 9/12	Sourcing	APIs, Kaggle, data.world, etc.	5,6,7,8
W4 - 9/19	Analysis	Social Network Analysis	9,10,11,12
W5 - 9/26	Tools	Social Media Analytics Tools	13,14,15,16
W6 - 10/3	Research	Examples, Planning a Paper	17,18,19,20
W7 - 10/10	Workshop	Pick a Social Media Dataset	21,22,23,24
W8 - 10/17	Projects	<i>Research Proposal Due</i>	25,26,27,28
W9 - 10/24	Gephi 1	Installation and Set Up	29,30,31,32
W10 - 10/31	Gephi 2	Technical Features	33
W11 - 11/7	Gephi 3	Visualization Examples	34
W12 - 11/14	Gephi 4	Project Implementation	35
11/21	FALL BREAK	HAVE FUN	////////
W13 - 11/28	Workshop	Reviewing	36,37,38,39
W14 - 12/5	Final Paper Workshop	<i>Final Paper Due</i>	////////

Aspects of this syllabus may change throughout the semester.