USC Annenberg

DSM 520: Managing Technologies for Digital Media (4.0 Units)

Fall 2022 – Wednesdays – 6.30-9.20pm
Section: (21868R)
Location: ASC 228

Instructor: Dr. Morten Bay
Office Hours: By appointment via Zoom (see links below)

Contact Info:
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Office hours sign-up: https://bay-usc.youcanbook.me
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Course Description

Digital and social media platforms play an increasing role in corporate and other organizational settings. This course prepares students for a professional work life in digital and social media industries and organizations by analyzing and assessing the fundamental principles and mechanisms that apply to the technologies that create these environments. This course aims to provide students in the Digital Social Media (DSM) program with the skills to keep themselves current with new computational technologies that may emerge after they leave USC. This happens through a strong focus on developing analytical skills that enable students to break down any digital media technology to understand its overall principles of functionality, how to communicate about the technology with those who know more (or less) about it, and its practical and ethical implications for the world.

Student Learning Outcomes

After completing this course, students will be able to:

- Provide an overview of the technologies and principles that underpin the digital media industry
- Explain the core principles of functionality in digital media technologies, from the smallest components to the largest implementations
- Analyze the functions and affordances of components in any given digital media technology
- Explain how digital media technologies influence society's power distributions, economic, industrial, and business practices
- Analyze and evaluate social, ethical, and DEIA challenges presented by digital media technologies as well as apply the appropriate policies that mitigate/regulate these challenges
- Demonstrate a high level of general technological proficiency in engagements with area-specific experts and other digital media technology professionals.
- Apply the appropriate communication skills to satisfactorily convey information about complex technological topics.

Course Notes

Instructor slide decks will be made available the day after the session.

Policies and Procedures

A respectful learning environment

This class consists of students with diverse identities from a very wide range of backgrounds and cultures. Intellectual freedom is a priority in class discussions, but **any form of sexism, racism, xenophobia, homophobia, ableism or other forms of discriminatory behavior on the basis of gender, ethnicity, sexual orientation, ability or class will not be tolerated. Incidents will be reported to the university immediately.**

Should you be triggered, offended or hurt by anything said in the classroom or require any form of trigger warnings, **speak up.** If you are not comfortable speaking up in class, contact the instructor privately to remedy the situation.

The above **naturally also applies to things said by your instructor**, who is a human being, always learning, and can make mistakes. Do not be afraid to call your instructor out in class sessions on these grounds. If done in a respectful manner, this will **not diminish** your standing in class, but **will improve it.**

Please see below for instructions on how to contact the Office of Equity and Diversity, the Title IX Office, The Office of Disability Services and Programs and how to report incidents of harassment and/or bias.

Pronouns and names

You have an absolute right to demand that your chosen pronouns are respected. Since it is still not standard to list preferred pronouns on university rosters, please enable your instructor to respect any specific pronoun choices by submitting this information via email before classes start or as early as possible after that. Your instructor's pronouns are He/him/his.

If your preferred name does not match the name in the university's registration system, please inform your instructor in a similar manner.

Faith/Belief-based accommodations

Please inform your instructor as early as possible if the suggested schedule in this syllabus conflicts with your faith or belief system so accommodations can be made.

Honoring Native Lands

By participating in this course, you implicitly accept the land acknowledgment below. If you are not comfortable with this for any reason, please notify your instructor as quickly as possible.

This course acknowledges the Gabrielino-Tongva peoples as the traditional land caretakers of Tovaangar (the Los Angeles basin and So. Channel Islands), and pays respect to the Honuukvetam (Ancestors), 'Ahiihirom (Elders) and 'Eyoohiinkem (our relatives/relations) past, present and emerging. Along with the Tongva, we also recognize the Chumash, Tataviam, Serrano, Cahuilla, Juaneno, and Luiseno People,

for the land that USC also occupies around Southern California. The course is taught in respectful consideration of the many legacies of violence, displacement, migration, and settlement that preceded its establishment as an opportunity for students.

Communication

Feel free to email me anytime with any concerns or questions. Please allow for 24 hours response time on weekdays, 48 hours on weekends. Due to ongoing research work, I am more inundated with emails than usual. If you have NOT heard back from me within 48 hours of sending your email, it may have been caught by an overzealous spam filter or drowned in a sudden wave of unrelated email, and you should follow up with me. Also, feel free to use any DM mechanism on the social media accounts mentioned above, however I make no guarantees for response time on those.

Required Readings and Supplementary Materials

There is no textbook in this course. All readings and other instructional material that must be read, watched, or listened to will be available on Blackboard.

Description and Assessment of Assignments

Weekly Pre-class Assignments:

Note that the readings for every week contain more material and insights than we have time to cover in class. For this reason, your comprehension of the reading materials will be tested in weekly assignments that count towards your final grade. Most weeks, these will be in the form of quizzes that can be found on Blackboard in the relevant week's folder. In some weeks the weekly assignment will be an exercise that you are required to report back with some form of deliverable, or an interactive assignment you complete in Blackboard or a third-party app/site.

Regarding the quizzes:

You will NOT be able to retake the quiz if you respond incorrectly to the question. If you can demonstrate that you had technical issues with the quiz module, or if you missed any quizzes and have acceptable reasons, you will be allowed to retake any remaining quizzes at the end of the semester.

The Weekly Pre-class Assignments are due at the time class starts on Wednesdays, 6.30pm.

Weekly Post-class Assignments

In addition, you will be required to write a discussion post to be posted on Blackboard that is a minimum of 200 words and a maximum of 500 words in length ***after each class.*** These discussion posts take up 15% of your overall grade and are required.

In the discussion posts, you must reflect on that week's class, the discussions of the readings and the topics of the week and what your own perspective is on all of it. The discussion posts will be due the evening before the following week's class, i.e., the discussion post reflecting on Week 3's Wednesday class will be due Tuesday in Week 4 at 11:59pm.

> *Tip:* If you want to pursue a few extra points for participation, leave respectful, thoughtful and interesting responses to your fellow students' discussion posts. It is perfectly all right to disagree as long as you show the proper respect for the person you are responding to and argue your case with substance.

Participation
Part of your grade will be determined by your participation in the sessions, in-person or (as an exception) online, synchronous or asynchronous. If you want to get a good participation grade, you should be attentive and engage with the class discussion, whether online or in-person. Your level of engagement in these activities will weigh heavily when determining your participation grade.

Midterm and Final papers:
The two papers in the class will be roughly the same in terms of what they require of you. In both papers, you will be required to choose one of the technologies we have discussed previously in class and write a paper that both explains it in detail, but also responds to a question about the technology provided by your instructor.

A few weeks into the course, you will be given a prompt that details the requirements and structure of the Midterm paper and other instructions, including a (very) brief study guide. In this document, you will also find a list of technologies we have discussed in class for you to choose from, as well as the question you must address in the paper. A similar document will be given to you a minimum of two weeks before the Final paper is due.

Whereas your Midterm paper only covers subjects we have discussed up to the due date (Wednesday in Week 9), the Final paper is expected to cover the whole course and is required to be longer. You will still only discuss one technology, but it may be from any week in the semester. When responding to the assigned question, you must thus also consider any relevant perspectives that might have come up during discussions of topics from early on in the course. Hence, it is a good idea to take comprehensive notes from the very beginning. The Final paper is due December 7 at 11:59pm.

Note: ALL writing assignments in this class must follow APA formatting guidelines.

Breakdown of Grade

Assignment	Points	% of Grade
Weekly Pre-class Assignments		20
Weekly Post-class Assignments		15
Midterm paper (Due 10/19)		20
Final paper (Due 12/7)		30
Participation		15
TOTAL		**100%**

Grading Scale
Note: This is the standard grading scale suggested by USC Annenberg. However, the actual, final grading scale for the course is created at the discretion of the instructor and for this course, it will be calculated based on the performance of the entire class and with consideration of external conditions and circumstances emerging during the semester.

94 to 100%: A	80% to 83%: B-	67% to 69%: D+

90% to 93%: A-	77% to 79%: C+	64% to 66%: D
87% to 89%: B+	74% to 76%: C	60% to 63%: D-
84% to 86%: B	70% to 73%: C-	0% to 59%: F

Grading Standards

Letter Grade	Description
A	**Excellent; demonstrates extraordinarily high achievement; comprehensive knowledge and understanding of subject matter; all expectations met and exceeded.**
B	**Good; moderately broad knowledge and understanding of subject matter; explicitly or implicitly demonstrates good, if not thorough understanding; only minor substantive shortcomings.**
C	**Satisfactory/Fair; reasonable knowledge and understanding of subject matter; most expectations are met; despite any shortcomings, demonstrates basic level of understanding.**
D	**Marginal; minimal knowledge and understanding of subject matter; more than one significant shortcoming; deficiencies indicate only the most rudimentary level of understanding.**
F	**Failing; unacceptably low level of knowledge and understanding of subject matter; deficiencies indicate lack of understanding.**

Grading Timeline

For effective learning, students should receive timely feedback on assignments and exams. Therefore, every attempt will be made to grade assignments/exams and post grades within two weeks. If you think a score or a grade is missing or inaccurate, you are responsible for notifying the Instructor via email **within one (1) week** of a score posting. The email must include a compelling reason/argument for why you believe your score or grade is inaccurate. Do NOT sign up for office hours to discuss your grade before having completed this step. After reviewing your email, any further action is at the discretion of the instructor. Moreover, you only have this period of time to contest a score on an assignment/exam. If you fail to inquire/notify us of any discrepancy, missing score, or contest a score within one week of the date the score is posted, no further changes will be made.

Assignment Submission Policy

All submissions are due at 11:59pm on the due date (unless otherwise stated) and must be submitted through Blackboard/TurnItIn in .DOC or .PDF format.

Add/Drop Dates for Session 001 (15 weeks: 8/22/22 – 12/2/22)

Link: https://classes.usc.edu/term-20223/calendar/
Friday, September 9: Last day to register and add classes for Session 001
Friday, September 9: Last day to drop a class without a mark of "W," except for Monday-only classes, and receive a refund for Session 001
Friday, September 9: Last day to change enrollment option to audit for Session 001
Friday, September 9: Last day to change a Pass/No Pass to a letter grade for Session 001

Friday, September 9: Last day to purchase or waive tuition refund insurance for fall
Tuesday, September 13: Last day to add or drop a Monday-only class without a mark of "W" and receive a refund or change to Pass/No Pass or Audit for Session 001
Friday, October 7: Last day to drop a course without a mark of "W" on the transcript for Session 001. Mark of "W" will still appear on student record and STARS report and tuition charges still apply. [Please drop any course by the end of week three (or the 20 percent mark of the session) to avoid tuition charges.]
Friday, November 11: Last day to drop a class with a mark of "W" for Session 001

Course Schedule: A Weekly Breakdown

Important note to students: *Be advised that this syllabus is subject to change - and probably will change - based on the progress of the class, events, and/or guest speaker availability. Students should consult the University Registration Calendar for dates associated with add/drop deadlines, fees, and grading options.*

Note on readings: *The readings are mandatory. I will cold-call students in class, and I do take note when it is clear that the student hasn't done the readings, and this will significantly lower the student's participation grade. Similarly for papers: If a student does not make use of the class readings when discussing a relevant topic, this will be regarded as if the student hasn't done the reading work, and this will also severely decrease the score for the paper. In other words, if you want to succeed in this course: READ THE REQUIRED MATERIALS BEFORE CLASS!*

You will be instructed on how to read scientific and academic papers strategically in the beginning of the course, helping you to save time and make the studying process easier.

Please note that the readings in this class are a mix of academic readings and journalistic, easy-to-read articles and book chapters. If it looks like there are a lot of pages to read in preparation for a class session, please know that these are much easier to read than academic articles and shouldn't take you very long to get through. The reading amount for each week is designed to be the equivalent of 40-60 academic pages, which is typical for a graduate-level course.

	Topics/Daily Activities	Readings/Homework	Deliverable/Due Dates
Week 1 8/24	**FOUNDATIONS** **Intro to the class and thinking about technology: What does "digital" and "media" actually mean?** **+ Strategic Reading**	Ruben: How to Read an a Scientific Paper https://www.science.org/content/article/how-read-scientific-paper-rev2 (Note: Sarcasm and Irony may be present in this reading) George Mason U Writing Center: Strategies for Reading Academic Articles https://writingcenter.gmu.edu/writing-resources/reading-practices/strategies-for-reading-academic-articles Harold Washington College Library: How to Read Scholarly Articles: Strategies for Reading https://researchguides.ccc.edu/c.php?g=516083&p=3571315 Cubitt, S. (2006). Analogue and digital. *Theory, Culture and Society*, *23*(2/3), 250. Negroponte, N. (1995). Bits and atoms. Wired magazine, 1, 1-9. Pötzsch, H. (2021). Bringing materiality into thinking about digital literacy: Theories and practices of critical education in	

		a digital age. In *Critical digital literacies: Boundary-crossing practices* (pp. 52-73). Brill.	
Week 2 8/31	**How computers work: A journey through the Von Neumann architecture**	Video: The Von Neumann Architecture https://youtu.be/Ml3-kVYLNr8 Video: How Computers Work: https://youtu.be/DKGZlaPlVLY White, R. (2015). How computers work: the evolution of technology. Pearson Education. Chapters 1-4	
Week 3 9/7	**HARDWARE** **Bits and atoms: The materiality of data and computing devices**	Video: Binary and Data: https://youtu.be/USCBCmwMCDA Blanchette, J. F. (2011). A material history of bits. *Journal of the American Society for Information Science and Technology*, *62*(6), 1042-1057. Borning, A. et al. (2020). The 'invisible' materiality of information technology. *Communications of the ACM*, *63*(6), 57-64.	[**Labor Day:** Monday, September 5]
Week 4 9/14	**Screens: How bits become pixels and pixels become new realities**	Video: Bitmap Images - https://www.youtube.com/watch?v=0KmimFoaITI Cubitt, S. (2017). Current screens. The Screen Media Reader: Culture, Theory, Practice, 39-54. Paez, D. (2020): *How a beloved video game style was spawned out of necessity.* Inverse.	
Week 5 9/21	**Manufacturing digital media technology: The global ecosystem of designers, manufacturers, and marketers**	Video: Petrova, M. (2018) *We traced what it takes to make an iPhone, from its initial design to the components and raw materials needed to make it a reality.* CNBC.com Staff. (2022). *Teardown Samsung Galaxy Z Fold 5G.* Techinsights.com https://www.techinsights.com/blog/teardown-samsung-galaxy-z-fold-5g Taffel, S. (2022). AirPods and the earth: Digital technologies, planned obsolescence and the Capitalocene. *Environment and Planning E: Nature and Space*	
Week 6 Dates: 9/28	**SOFTWARE** **What is code?**	Kittler, F.A., and Johnston, J. (2013). "There is no software." *Literature media*. Routledge, p. 147-155. Weber State U Online Textbook: Machine Code Priestley, M. (2021). Logic, Code, and the History of Programming. IEEE Annals of the History of Computing, 43(4), 92-96. Berry, D. (2016). Chapter 2: What is code? In *The philosophy of software: Code and mediation in the digital age.* Springer.	
Week 7 10/5	**Digital/Audiovisual: Turning the real into code**	Elsea (1996). Basics of Digital Recording – Converting Sounds into Numbers.	

		Video: Digital Audio Explained https://youtu.be/Ibrf6LHloGc Video: How video compression works https://youtu.be/QoZ8pccsYo4 Video: How image compression works https://youtu.be/Ba89cI9eIg8 Scarott, B. (2022) MP3, AAC, WAV, FLAC: all the audio file formats explained https://www.whathifi.com/advice/mp3-aac-wav-flac-all-the-audio-file-formats-explained Smith, A.R. (2015). A Taxonomy and Genealogy of Digital Light-Based Technologies. In Cubitt, S., Palmer, D., & Tkacz, N. (Eds). *Digital light* Open Humanities Press.	
Week 8 Dates: 10/12	**Gaming: The greatest engine of digital media technology innovation?**	Video: The Virtual Production of The Mandalorian Season One https://youtu.be/gUnxzVOs3rk Foxman, M. (2019). United we stand: Platforms, tools and innovation with the unity game engine. Social Media+ Society, 5(4) Lowood, H., & Guins, R. (Eds.). (2016). *Debugging game history: A critical lexicon*. MIT Press. Please read: Console, Game Development; Game Engine, Game as a Medium, Mechanics, Platform	[**Fall Recess:** Thursday, October 13 and Friday, October 14]
Week 9 Dates: 10/19	**NETWORKS** **The Internet I: From colonial telegraph cables to postcolonial fiber**	Video: Andrew Blum: What is the Internet, really? https://youtu.be/XE_FPEFpHt4 Winseck, D. (2017). The geopolitical economy of the global internet infrastructure. *Journal of Information Policy*, *7*(1), 228-267. Starosielski, N. (2015). Fixed Flow: Undersea Cables as Media Infrastructure in Parks, L. and Starosielski, N. (eds). *Signal Traffic: Critical Studies of Media Infrastructures.* University of Illinois Press.	**Midterm paper due**
Week 10 Dates: 10/26	**The Internet II: Protocols, packets, pipes and politics**	Video: The Internet -IP Addresses & DNS https://youtu.be/5o8CwafCxnU Video: The Internet - Packets, Routing and Reliability https://youtu.be/AYdF7b3nMto Video: The Internet - HTTP and HTML: https://youtu.be/kBXQZMmiA4s Bay, M. (2022) ARPANET. *Encyclopedia of Journalism*. SAGE. Russell, A. L. (2006). 'Rough consensus and running code'and	

		the Internet-OSI standards war. IEEE Annals of the History of Computing, 28(3), 48-61.	
Week 11 Dates: 11/2	**The Internet III: The Cloud that isn't: Platforms, infrastructures and political economies**	Video: Shoshana Zuboff on Surveillance Capitalism https://youtu.be/QL4bz3QXWEo Poell, T., Nieborg, D. B., & Duffy, B. E. (2021). Platforms and cultural production. John Wiley & Sons. Chapter 3.	
Week 12 11/9	**APPLICATION LAYER** **The (so-called) Web3**	Swartz, L. (2022). Theorizing the 2017 blockchain ICO bubble as a network scam. *new media & society*, *24*(7), 1695-1713. Zook, M., & McCanless, M. (2022). Mapping the uneven geographies of digital phenomena: The case of blockchain. *The Canadian Geographer/Le Géographe canadien*, *66*(1), 23-36. Serada, A. (2020). The Continuous Materiality of Blockchain. In *Konferenzband zum Scientific Track der Blockchain Autumn School 2020* (pp. 71-76). Hochschule Mittweida. Thylstrup, N. B., Archer, M., & Ravn, L. (2022). Traceability. *Internet Policy Review*, *11*(1), 1-12.	
Week 13 11/16	**Streaming: Storing is boring, but sharing is caring, and life is live**	Video: How OTT streaming works https://youtu.be/ocKnx9O2ybs Colbjørnsen, T. (2021). The streaming network: Conceptualizing distribution economy, technology, and power in streaming media services. Convergence, 27(5), 1264-1287. Chalaby, J. K., & Plunkett, S. (2021). Standing on the shoulders of tech giants: Media delivery, streaming television and the rise of global suppliers. *new media & society*, *23*(11), 3206-3228	
Week 14 Dates: 11/21-11/25	**NO CLASS**		[**Thanksgiving Recess:** Wednesday, November 23 to Sunday, November 27]
Week 15 11/30	**Metaverse or Meh-taworse?**	Ball, M. (2022).The Metaverse *and how it Will Revolutionize Everything*. Liveright Publishing Corporation. Chapters 3 and 9 Jungherr, Andreas, and Damien B. Schlarb. "The Extended Reach of Game Engine Companies: How Companies Like Epic Games and Unity Technologies Provide Platforms for Extended Reality Applications and the Metaverse." *Social Media+ Society* 8.2 (2022)	
STUDY DAYS			

Dates: 12/3-12/6			
FINAL EXAM PERIOD Dates: 12/7-12/14			**Final paper due December 7!**

Statement on Academic Conduct and Support Systems

a. Academic Conduct

Plagiarism

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." Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

The School of Communication maintains a commitment to the highest standards of ethical conduct and academic excellence. Any student found responsible for plagiarism, fabrication, cheating on examinations, or purchasing papers or other assignments will be reported to the Office of Student Judicial Affairs and Community Standards and may be dismissed from the School of Communication. There are no exceptions to the school's policy.

In addition, it is assumed that the work you submit for this course is work you have produced entirely by yourself, and has not been previously produced by you for submission in another course, without approval of the instructor.

b. Support Systems

Counseling and Mental Health - (213) 740-9355 – 24/7 on call
studenthealth.usc.edu/counseling
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call
suicidepreventionlifeline.org
Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention and Services (RSVP) - (213) 740-9355(WELL), press "0" after hours – 24/7 on call
studenthealth.usc.edu/sexual-assault
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED)- (213) 740-5086 | Title IX – (213) 821-8298
equity.usc.edu, titleix.usc.edu
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following *protected characteristics*: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations. The university

also prohibits sexual assault, non-consensual sexual contact, sexual misconduct, intimate partner violence, stalking, malicious dissuasion, retaliation, and violation of interim measures.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
usc-advocate.symplicity.com/care_report
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776
dsp.usc.edu
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Support and Advocacy - (213) 821-4710
uscsa.usc.edu
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.

Annenberg Student Success Fund
https://annenberg.usc.edu/current-students/resources/annenberg-scholarships-and-awards
The Annenberg Student Success Fund is a donor-funded financial aid account available to USC Annenberg undergraduate and graduate students for non-tuition expenses related to extra- and co-curricular programs and opportunities.