

New Media (NWMEDIA)

Courses

NWMEDIA R1B New Media Reading and Composition 4 Units

Terms offered: Summer 2020 8 Week Session, Summer 2019 8 Week Session, Summer 2018 Second 6 Week Session

How do media shape our perception of our environment? What is at stake when we adopt or create new media? This seminar provides continued training in expository and argumentative writing, with an emphasis on new media. Satisfies the second half of the Reading and Composition requirement.

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of seminar per week

Summer:

6 weeks - 10 hours of seminar per week

8 weeks - 8 hours of seminar per week

10 weeks - 6 hours of seminar per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 39A Freshman Seminar in New Media 1 - 4 Units

Terms offered: Prior to 2007

This freshman seminar offers lower division students the opportunity to explore new media with a faculty member and a group of peers in a small-seminar setting.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of seminar per week

Summer:

6 weeks - 2.5-10 hours of seminar per week

8 weeks - 2-8 hours of seminar per week

10 weeks - 2-7 hours of seminar per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Final Exam To be decided by the instructor when the class is offered.

NWMEDIA 90 Introduction to New Media 1 - 4 Units

Terms offered: Summer 2025 Second 6 Week Session, Summer 2024 8 Week Session, Summer 2024 Second 6 Week Session

See Schedule of Classes for current section offerings. Topics introduce new media and related issues.

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of seminar per week

Summer:

3 weeks - 5-15 hours of seminar per week

6 weeks - 3-10 hours of seminar per week

8 weeks - 2-8 hours of seminar per week

10 weeks - 1.5-6 hours of seminar per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 104 Critical Practices: People, Places, Participation 4 Units

Terms offered: Prior to 2007

Critical Practices is a hands-on studio design course where students work at the intersection of technological innovation and socially engaged art. Students will integrate a suite of digital fabrication tools with social design methods to create work that engages in cultural critique. Working with innovative technologies and radical, new art practices, this course will explore: hybrid art forms, critical design for community engagement, interventions in public spaces, tactical media, and disobedient objects. These new making strategies will reframe our notions of people, places and participation.

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of studio per week

Summer:

6 weeks - 10 hours of studio per week

8 weeks - 7.5 hours of studio per week

10 weeks - 6 hours of studio per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 123 Computer Graphics Animation 4 Units

Terms offered: Summer 2025 Second 6 Week Session

Computer Graphics Animation constitutes a default method of image synthesis for fine art, game design, cinema, and advertising. This production-intensive studio course introduces students to professional CG Animation tools (Adobe Animate, Blender, Python, After Effects) as well as an overview of animation styles, aesthetics, philosophies and cultures. Sessionally project assignments based on tutorials cover modeling, texturing, lighting, animation, and rendering. Final projects focus on animation portfolio work with scenes, characters and animation sequences to be exported to video and game design.

Hours & Format

Summer:

6 weeks - 9 hours of studio per week

8 weeks - 7.5 hours of studio per week

12 weeks - 4.5 hours of studio per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 131 Digital Infrastructure 101: The Hidden Foundations of the Internet 3 Units

Terms offered: Summer 2025 First 6 Week Session

This course offers an in-depth exploration of the foundational elements of digital infrastructure. It examines the critical role of these physical infrastructures in emergent internet technologies such as cloud computing and edge computing. Students will investigate how data centers and cables underpin modern digital services such as video streaming, online gaming, and e-commerce. The course will cover the historical development of data centers and cables, their impact on the evolving landscape of internet technology, and the core components of these facilities and networks. By understanding these critical components, students will gain a comprehensive view of how digital infrastructure supports and transforms the modern world.

Hours & Format

Summer:

6 weeks - 4.5 hours of lecture and 3 hours of discussion per week

8 weeks - 3 hours of lecture and 2.5 hours of discussion per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 132 How to Build a Global Internet: Digital Infrastructure Projects from Subsea Cables to Data Centers 3 Units

Terms offered: Summer 2025 Second 6 Week Session

You are tasked with constructing subsea cables that stretch across oceans and data centers that store and compute digital content. Without these foundational infrastructures, a global internet could not exist. Yet these mega-projects can cost hundreds of millions of dollars and take years to execute. What is required to build such massive systems and facilities? What kinds of political, environmental, and technological challenges will you face? In this class, as you consider developing the internet's backbone in different parts of the world, you will learn to answer these questions.

Hours & Format

Summer:

6 weeks - 4.5 hours of lecture and 3 hours of discussion per week

8 weeks - 3 hours of lecture and 2.5 hours of discussion per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 133 Tech Wars: Security, Geopolitics, and Resilience of Digital Infrastructures 3 Units

Terms offered: Summer 2025 Second 6 Week Session

The internet is not only a place for sharing and interconnection, it is also a site of conflict, competition, and geopolitics. This course takes the students deep into the importance of security and protection to the digital infrastructures that support all internet traffic, especially the subsea cables and data centers that form the network's backbone.

Hours & Format

Summer:

6 weeks - 4.5 hours of lecture and 3 hours of discussion per week

8 weeks - 3 hours of lecture and 2.5 hours of discussion per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 134 Keeping the Internet Alive: The World of Digital Infrastructure Operations and Maintenance 3 Units

Terms offered: Not yet offered

Digital infrastructures—especially the data centers and subsea cables that underpin the global internet—are vital systems that need to be kept alive and running in order to support users around the world. Even once a digital infrastructure system is built, a complex web of operations kicks into gear to keep it smoothly functioning. This course is a deep dive into the world of digital infrastructure operations and maintenance. Who operates and maintains the hidden backbone of the global internet? What kind of jobs are available in this sector? How does this active industry maintain continuity in a world with increasing disruptions?

Hours & Format

Summer:

6 weeks - 4.5 hours of lecture and 3 hours of discussion per week

8 weeks - 3 hours of lecture and 2.5 hours of discussion per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 150AC New Media and American Cultures 4 Units

Terms offered: Summer 2014 10 Week Session, Summer 2014 First 6 Week Session, Summer 2013 First 6 Week Session

This course studies the influence of new media on various cultures in the U.S. and/or the influence of American cultures on new media. Topics vary by semester. Check current Schedule of Classes or Berkeley Center for New Media web site for current course offerings (bcnm.berkeley.edu).

Rules & Requirements

Requirements this course satisfies: Satisfies the American Cultures requirement

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3-4 hours of lecture per week

Summer:

6 weeks - 7-9 hours of lecture per week

8 weeks - 5-7 hours of lecture per week

10 weeks - 4-6 hours of lecture per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

NWMEDIA 151AC Transforming Tech: Issues and Interventions in STEM and Silicon Valley 4 Units

Terms offered: Summer 2025 8 Week Session, Summer 2024 8 Week Session, Summer 2023 8 Week Session

In this course, we will study major tech industry controversies and heavily criticized tech products, policies, and effects, including technologies used at the U.S.-Mexico border, social media platforms' spread of disinformation and fake news, racial bias in algorithms, and internet trolling and harassment. We will also examine tech companies' long-running tendency to exclude women and non-Asian minorities, and how tech workers have occasionally come under fire for the industry's harms. Students will be required to brainstorm and design their own interventions into the workings of the tech sector to make it more inclusive, equitable, and diverse.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer:

6 weeks - 7.5 hours of lecture and 2.5 hours of discussion per week

8 weeks - 6 hours of lecture and 2 hours of discussion per week

10 weeks - 4.5 hours of lecture and 1.5 hours of discussion per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA C166 Critical Practices: People, Places, Participation 4 Units

Terms offered: Spring 2022, Fall 2019

Critical Practices is a hands-on studio design course where students work at the intersection of technological innovation and socially engaged art. Students will integrate a suite of digital fabrication tools with social design methods to create work that engages in cultural critique. Working with innovative technologies and radical, new art practices, this course will explore: hybrid art forms, critical design for community engagement, interventions in public spaces, tactical media, and disobedient objects. These new making strategies will reframe our notions of people, places and participation.

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of studio per week

Summer:

6 weeks - 10 hours of studio per week

8 weeks - 7.5 hours of studio per week

10 weeks - 6 hours of studio per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Also listed as: ART C166

NWMEDIA C183 Cartographic Representation 4 Units

Terms offered: Fall 2025

This course introduces the art, science and politics of making maps in a mediated world. Much of the course focuses on key theories, concepts, principles in map design, visualization and communication, while building deeper theoretical, critical and experimental skills needed for the challenges of the future. This includes theories of new media, the history of cartography, the impact of the internet on critical, Indigenous and counter- approaches to mapping, contemporary media and cartographic arts including the experimental, expressive and artistic, and the technicalities of visualizing quantitative data through (carto)graphic design.

Objectives & Outcomes

Student Learning Outcomes: Become familiar with studio-based peer feedback environments, teamwork in cartographic production and the importance of community in cartographic production.

Demonstrate the ability to critically interpret and evaluate the ideological, political and technical aspects of historical and contemporary cartography.

Develop key basic skills in producing print-based and web-based cartography, and be able to articulate the key technical and communicative differences.

Have core competencies in a range of software including Adobe Creative Cloud, ArcGIS Online, Mapbox and basic HTML/CSS/JS coding.

Produce a final cartographic project using skills learned in the course by undertaking independent research, technical learning and collaborative feedback.

Understand cartographic rhetoric, and the power of maps as argumentative and decision-making devices.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Also listed as: GEOG C183

NWMEDIA 190 Special Topics in New Media 1 - 4 Units

Terms offered: Spring 2025, Fall 2023, Spring 2023

See Schedule of Classes for current section offerings. Topics deal with new media and related issues.

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of lecture per week

Summer:

3 weeks - 5-15 hours of lecture per week

6 weeks - 2.5-10 hours of lecture per week

8 weeks - 1.5-7.5 hours of lecture per week

10 weeks - 1.5-6 hours of lecture per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

NWMEDIA 191 Special Topics in New Media 1 - 4 Units

Terms offered: Summer 2024 3 Week Session, Fall 2020

See Schedule of Classes for current section offerings. Topics deal with new media and related issues.

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes. Students may enroll in multiple sections of this course within the same semester.

Hours & Format

Fall and/or spring: 15 weeks - 1-1.5 hours of lecture and 1-2.5 hours of discussion per week

Summer:

3 weeks - 8-15 hours of lecture and 4-10 hours of discussion per week

6 weeks - 3-4 hours of lecture and 3-6 hours of discussion per week

8 weeks - 2.5-3 hours of lecture and 2.5-4.5 hours of discussion per week

10 weeks - 2-2.5 hours of lecture and 2-3.5 hours of discussion per week

12 weeks - 1.5-2 hours of lecture and 1.5-3 hours of discussion per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 197 New Media Theory in Practice 4 Units

Terms offered: Prior to 2007

New Media Theory in Practice is a summer course that asks students to plan and generate public and collective experiences inspired by new media theory. These experiences range in form: from tours of the digital infrastructures of the Bay Area to artistic performances that utilize new media technologies. During the first part of the class, students conduct rigorous historical and cultural research on a specific site and design a structure for a collective experience of that site. Reading in related new media theory will provide the conceptual scaffolding for practical decisions.

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Summer: 6 weeks - 4-8 hours of fieldwork and 4-6 hours of seminar per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

NWMEDIA 198 Directed Group Study 1 - 3 Units

Terms offered: Fall 2025, Spring 2019, Spring 2017

Course may be student-initiated or initiated by a faculty affiliate of the Center for New Media. The subject matter will vary from semester to semester. Student initiated courses will be taught by a student facilitator under the supervision of the faculty sponsor, who must be a faculty affiliate of the Berkeley Center for New Media.

Rules & Requirements

Prerequisites: Upper division standing

Credit Restrictions: Enrollment is restricted; see the Introduction to Courses and Curricula section of this catalog.

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1-3 hours of lecture per week

Additional Details

Subject/Course Level: New Media/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

NWMEDIA 200 History and Theory of New Media 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

This course provides a broad historical and theoretical background for new media production and practice. The class will map out theoretical approaches from different disciplines and allow graduate students to discuss and apply them to their own research projects.

Rules & Requirements

Prerequisites: Graduate standing or consent of instructor. Required for all students in the Designated Emphasis in New Media

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of seminar per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

NWMEDIA 201 Questioning New Media 3 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023

Held in conjunction with the Art, Technology, and Culture Colloquium which brings internationally-known speakers to campus to present their work on advanced topics in new media: <http://atc.berkeley.edu>. Students will enhance skills in questioning new media: how to think critically about new media, how to use new media resources to research pioneering work in new media, how to form incisive questions about new media, and how to evaluate and create effective presentations on topics in new media.

Rules & Requirements

Prerequisites: Graduate standing or consent of instructor. Required of all students in the Designated Emphasis in New Media

Repeat rules: Course may be repeated for credit without restriction.

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 2 hours of colloquium per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

Instructor: Goldberg

NWMEDIA 202 New Media Methods 3 Units

Terms offered: Fall 2014

In this methods course we will study key languages of new media innovation, ranging from flow charts to scripting languages and circuit diagrams. Our study method involves the creation and application of sensing devices in an urban context, and engages students in establishing chains of references which connect ground truth to data, data to information, information to people, people to actions, and actions to policies. Taking into account technical, political, cultural and literacy questions we seek to connect our data production work with information needs of underserved communities in the Bay Area region.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Summer:

6 weeks - 9 hours of seminar per week

8 weeks - 6 hours of seminar per week

10 weeks - 5 hours of seminar per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

NWMEDIA C203 Critical Making 4 Units

Terms offered: Spring 2025, Spring 2022, Spring 2021, Spring 2020, Spring 2019, Spring 2018

Critical Making will operationalize and critique the practice of "making" through both foundational literature and hands on studio culture. As hybrid practitioners, students will develop fluency in readily collaging and incorporating a variety of physical materials and protocols into their practice. Students will envision and create future computational experiences that critically explore social and culturally relevant technological themes. No previous technical knowledge is required to take this course. Class projects involve basic programming, electronic circuitry, and digital fabrication design. Tutorials and instruction will be provided, but students will be expected to develop basic skills in these areas to complete course projects.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 2 hours of studio per week

Summer:

6 weeks - 4 hours of lecture and 8 hours of studio per week

8 weeks - 4 hours of lecture and 4 hours of studio per week

10 weeks - 3 hours of lecture and 3 hours of studio per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

Formerly known as: New Media 203

Also listed as: MEC ENG C205

NWMEDIA 204 Critical Practices: People, Places, Participation 4 Units

Terms offered: Spring 2022, Fall 2019

Critical Practices is a hands-on studio design course where students work at the intersection of technological innovation and socially engaged art. Students will integrate a suite of digital fabrication tools with social design methods to create work that engages in cultural critique. Working with innovative technologies and radical, new art practices, this course will explore: hybrid art forms, critical design for community engagement, interventions in public spaces, tactical media, and disobedient objects. These new making strategies will reframe our notions of people, places and participation.

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of studio per week

Summer:

6 weeks - 10 hours of studio per week

8 weeks - 7.5 hours of studio per week

10 weeks - 6 hours of studio per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

NWMEDIA 205 Locative Media 4 Units

Terms offered: Fall 2023, Fall 2022, Fall 2021

From postcards and maps to mobile phones, this course considers the history and future of locative media, as technological, situated, and navigational ways of expressing and understanding space, location, and bodies.

This is a theory and making course. It is designed to help students traverse the nuances between a) critically engaging with theoretical ideas and implementing the questions that they raise into their practice and b) critically engaging with the technological production of space and place, and implementing the questions that it raises into theory.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Summer:

6 weeks - 7.5 hours of seminar per week

8 weeks - 6 hours of seminar per week

10 weeks - 4.5 hours of seminar per week

12 weeks - 4 hours of seminar per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

NWMEDIA C262 Theory and Practice of Tangible User Interfaces 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023

This course explores the theory and practice of Tangible User Interfaces, a new approach to Human Computer Interaction that focuses on the physical interaction with computational media. The topics covered in the course include theoretical framework, design examples, enabling technologies, and evaluation of Tangible User Interfaces. Students will design and develop experimental Tangible User Interfaces using physical computing prototyping tools and write a final project report.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of laboratory per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

Instructor: Ryokai

Also listed as: INFO C262

NWMEDIA C265 Interface Aesthetics 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

This course will cover new interface metaphors beyond desktops (e.g., for mobile devices, computationally enhanced environments, tangible user interfaces) but will also cover visual design basics (e.g., color, layout, typography, iconography) so that we have systematic and critical understanding of aesthetically engaging interfaces. Students will get a hands-on learning experience on these topics through course projects, design critiques, and discussions, in addition to lectures and readings.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

Instructor: Ryokai

Also listed as: INFO C265

NWMEDIA 290 Special Topics in New Media 1 - 4 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024

See Schedule of Classes for current section offerings. Topics deal with new media and related issues.

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of lecture per week

Summer:

3 weeks - 5-15 hours of lecture per week

8 weeks - 1.5-7.5 hours of lecture per week

10 weeks - 1.5-4.5 hours of lecture per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

NWMEDIA 291 Topics in New Media 1 - 4 Units

Terms offered: Prior to 2007

See Schedule of Classes for current section offerings. Topics deal with new media and related issues.

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes. Students may enroll in multiple sections of this course within the same semester.

Hours & Format

Fall and/or spring: 15 weeks - 1-2 hours of seminar and 1-2 hours of discussion per week

Summer:

6 weeks - 2.5-6 hours of seminar and 2.5-4 hours of discussion per week

8 weeks - 2-4.5 hours of seminar and 2-3 hours of discussion per week

10 weeks - 1.5-3 hours of seminar and 1.5-3 hours of discussion per week

12 weeks - 1.5-2.5 hours of seminar and 1.5-2.5 hours of discussion per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.

NWMEDIA 299 Individual Study or Research 1 - 4 Units

Terms offered: Spring 2019, Spring 2018, Spring 2017

Individual study or research with Center for New Media- affiliated faculty.

This course provides the opportunity to search out and study in detail subjects unavailable in the ordinary course offerings. Unit credit will reflect comparable work per unit as regular courses, and will include both meetings with faculty sponsor and independent work.

Rules & Requirements

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of independent study per week

Summer: 8 weeks - 1.5-7.5 hours of independent study per week

Additional Details

Subject/Course Level: New Media/Graduate

Grading: Letter grade.