The Undergraduate Certificate in New Media program emphasizes the critical understanding and practice of new media through diverse and interdisciplinary perspectives. The certificate introduces students to the changing new media landscape that is transforming the way we think in the fields of art, technology, the humanities, and social sciences. Through critical thinking and making, our students learn to innovate as they question the impact of new media on the human experience and cultivate technological equity in our communities. The certificate is not an official program offered by Undergraduate Education and will not be noted on a student’s transcript.

Core Class

Students should take a project-based undergraduate seminar in NWMEDIA with learning goals that will include new media theory, new media tools, prototyping, evaluation methods, and collaboration methods. Any NWMEDIA undergraduate course will count towards the core class. Students can also petition the academic committee to have a course that substantially deals with new media that they have taken in another department count towards fulfilling this requirement.

Currently, the BCNM offers the following undergraduate classes:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NWMEDIA R1B</td>
<td>New Media Reading and Composition</td>
<td>4</td>
</tr>
<tr>
<td>NWMEDIA 39A</td>
<td>Freshman Seminar in New Media</td>
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<tr>
<td>NWMEDIA 90</td>
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<td>New Media and American Cultures</td>
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</tr>
<tr>
<td>NWMEDIA 151AC</td>
<td>Transforming Tech: Issues and Interventions in STEM and Silicon Valley</td>
<td>4</td>
</tr>
<tr>
<td>NWMEDIA C166</td>
<td>Critical Practices: People, Places, Participation</td>
<td>4</td>
</tr>
<tr>
<td>NWMEDIA 190</td>
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<td>NWMEDIA 198</td>
<td>Directed Group Study</td>
<td>1-3</td>
</tr>
</tbody>
</table>

New Media Engagement

Help organize and manage a BCNM conference, lecture, hackathon, or workshop. Students will have the opportunity to interact extensively with new media faculty and will be immersed in the subject. By petition, students can also have their own new media activities and events on campus count towards this requirement. These applications will be considered by the executive committee.

Choose Option 1 or 2

Option 1: Enroll in a New Media Graduate-Level Course

Students will be challenged to think critically about new media in the graduate-level courses the BCNM offers. They will produce either a design project or a substantial paper depending on the class, showing their thorough appreciation for transformations in new media. Since these courses are intended for graduates, students will need to seek instructor approval to enroll in the class. Currently, the BCNM offers the following graduate courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
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<td>NWMEDIA 200</td>
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<td>NWMEDIA 201</td>
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<td>NWMEDIA 202</td>
<td>New Media Methods</td>
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<tr>
<td>NWMEDIA C203</td>
<td>Critical Making</td>
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</tr>
<tr>
<td>NWMEDIA 204</td>
<td>Critical Practices: People, Places, Participation</td>
<td>4</td>
</tr>
<tr>
<td>NWMEDIA C262</td>
<td>Theory and Practice of Tangible User Interfaces</td>
<td>4</td>
</tr>
<tr>
<td>NWMEDIA C263</td>
<td>Technologies for Creativity and Learning</td>
<td>3</td>
</tr>
<tr>
<td>NWMEDIA C265</td>
<td>Interface Aesthetics</td>
<td>3</td>
</tr>
<tr>
<td>NWMEDIA 290</td>
<td>Special Topics in New Media</td>
<td>1-4</td>
</tr>
</tbody>
</table>

Option 2: Produce a final project during an independent study on a new media topic

Students may enroll in an independent study with a BCNM faculty member to produce an extended paper or final project on a new media topic of their choice. Topics must be pre-approved by the BCNM Director. The paper should exhibit the student’s thorough command of new media concepts.

Expand all course descriptions [+]Collapse all course descriptions [-]
**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.
Freshman Seminar in New Media: Read More [+]

**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.

Freshman Seminar in New Media: Read Less [-]

**NWMEDIA 90 Introduction to New Media 1 - 4 Units**

Terms offered: Summer 2016 10 Week Session, Summer 2016 Second 6 Week Session, Summer 2015 Second 6 Week Session
See Schedule of Classes for current section offerings. Topics introduce new media and related issues.
Introduction to New Media: Read More [+]

**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.

Introduction to New Media: Read Less [-]

**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.
Critical Practices: People, Places, Participation: Read More [+]

**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.

Critical Practices: People, Places, Participation: Read Less [-]

**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).
New Media and American Cultures: Read More [+]

**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.

New Media and American Cultures: Read Less [-]
NWMEDIA 151AC Transforming Tech: Issues and Interventions in STEM and Silicon Valley
4 Units
Terms offered: Fall 2020
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.
Transforming Tech: Issues and Interventions in STEM and Silicon Valley:
Read More [+]
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: 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.
Critical Practices: People, Places, Participation:
Read More [+]
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
Critical Practices: People, Places, Participation:
Read Less [-]
NWMEDIA 190 Special Topics in New Media 1 - 4 Units
Terms offered: Spring 2021, Fall 2020, Spring 2020
See Schedule of Classes for current section offerings. Topics deal with new media and related issues.
Special Topics in New Media:
Read More [+]
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.
Special Topics in New Media:
Read Less [-]
NWMEDIA 191 Special Topics in New Media 1 - 4 Units
Terms offered: Fall 2020
See Schedule of Classes for current section offerings. Topics deal with new media and related issues.
Special Topics in New Media: Read More [+]
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:
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.
Special Topics in New Media: Read Less [-]

NWMEDIA 198 Directed Group Study 1 - 3 Units
Terms offered: Spring 2019, Spring 2017, Spring 2016
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.
Directed Group Study: Read More [+]
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 hour of lecture and 2 hours of colloquium 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.
Directed Group Study: Read Less [-]

NWMEDIA 200 History and Theory of New Media 4 Units
Terms offered: Fall 2021, Spring 2021, Fall 2019
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.
History and Theory of New Media: Read More [+]
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.
History and Theory of New Media: Read Less [-]

NWMEDIA 201 Questioning New Media 3 Units
Terms offered: Fall 2021, Spring 2021, Fall 2020
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.
Questioning New Media: Read More [+]
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
Questioning New Media: Read Less [-]
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.

New Media Methods: Read More [+]

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.

New Media Methods: Read Less [-]

NWMEDIA C203 Critical Making 4 Units
Terms offered: 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.

Critical Making: Read More [+]

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
Critical Making: Read Less [-]

NWMEDIA 204 Critical Practices: People, Places, Participation 4 Units
Terms offered: 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.

Critical Practices: People, Places, Participation: Read More [+]

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.

Critical Practices: People, Places, Participation: Read Less [-]

NWMEDIA 205 Locative Media 4 Units
Terms offered: 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.

Locative Media: Read More [+]

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.
Locative Media: Read Less [-]
NWMEDIA C262 Theory and Practice of Tangible User Interfaces 4 Units
Terms offered: Fall 2021, Fall 2019, Fall 2018
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.
Theory and Practice of Tangible User Interfaces: Read More [+]
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
Theory and Practice of Tangible User Interfaces: Read Less [-]

NWMEDIA C263 Technologies for Creativity and Learning 3 Units
Terms offered: Fall 2020, Spring 2015, Spring 2014
How does the design of new educational technology change the way people learn and think? How do we design systems that reflect our understanding of how we learn? This course explores issues on designing and evaluating technologies that support creativity and learning. The class will cover theories of creativity and learning, implications for design, as well as a survey of new educational technologies such as works in computer supported collaborative learning, digital manipulatives, and immersive learning environments.
Technologies for Creativity and Learning: Read More [+]
Rules & Requirements
Credit Restrictions: Students will receive no credit for INFO C263 after completing NWMEDIA 290, or INFO 290.

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of seminar per week
Additional Details
Subject/Course Level: New Media/Graduate
Grading: Letter grade.
Instructor: Ryokai
Also listed as: INFO C263
Technologies for Creativity and Learning: Read Less [-]

NWMEDIA C265 Interface Aesthetics 3 Units
Terms offered: Spring 2021, Spring 2020, Spring 2019
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.
Interface Aesthetics: Read More [+]
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
Interface Aesthetics: Read Less [-]

NWMEDIA 290 Special Topics in New Media 1 - 4 Units
Terms offered: Spring 2021, Fall 2020, Spring 2020
See Schedule of Classes for current section offerings. Topics deal with new media and related issues.
Special Topics in New Media: Read More [+]
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.
Special Topics in New Media: Read Less [-]
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.
Topics in New Media: Read More [+]

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.

Topics in New Media: Read Less [-]

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.
Individual Study or Research: Read More [+]

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.

Individual Study or Research: Read Less [-]