



University of California, Santa Barbara  
Program Learning Outcomes

**PhD in Media Arts and Technology**

***Upon graduation with a PhD in Media Arts and Technology:***

*Core Knowledge*

---

- Students will be able to demonstrate broad knowledge in the interdisciplinary field of Media Arts and Technology, including but not limited to the areas of electronic music and sound design, visual and spatial arts and multimedia engineering, encompassing history, foundations, theory, criticism, systems and applications.
- Students will be able to demonstrate parallel awareness of the landmark developments and state of the art of the Media Arts and Technology field (including but not limited to music, arts, architecture, media arts, multimedia engineering, computer science), and will have working knowledge of the state of the art in at least one of the areas.
- Students will be able to demonstrate deep knowledge of the state of the art in at least one of the domains of inquiry in Engineering, Sciences or Arts and Design and relate it to Media Arts and Technology.
- Students will be able to demonstrate specialized knowledge in one or more areas, sufficient enough to plan and carry out substantive and independent research in that area.
- When the thesis warrants it, students will be able to synthesize knowledge and lead research across the domains of inquiry in Engineering, Sciences and Arts and Design.

*Research Methods and Analysis*

---

- Students will be able to understand and demonstrate qualitative and quantitative methodologies and theoretical approaches used in all of the Media Arts and Technology program research areas and wider domains of inquiry when applicable.
- Students will be able to understand and employ generalized methodologies of digital media and human-computer interaction that apply across the conventional modalities of sound, image, moving image, space, form, fabrication and performance.
- Students will be able to understand and employ generalized methodologies of computational and algorithmic composition in ways that apply across the conventional modalities of sound, image, moving image, space, form, fabrication and performance.
- Students will be able to analyze and review the state of the art of research in the chosen area(s) and/or domain(s), guided by the understanding of theoretical and/or philosophical foundations, aesthetic practices and approaches, and/or engineering practices and approaches and relevant technical and theoretical literature.

***Continued on Page 2***

## University of California, Santa Barbara Program Learning Outcomes, continued

- Students will be able to plan, execute and present an original research project and thesis that constitutes a major and novel contribution to the field(s) of inquiry, analyze the findings and organize the results into a coherent argument by using methodologies that are relevant or constitute a major contribution to the research area(s) and domain(s) of inquiry.
- Students will be able to rigorously reflect and analyze their research results.

### *Pedagogy*

---

- Students will be able to communicate technical and/or theoretical and/or aesthetic material to audiences ranging from general to specialized.
- Students will be able to design high quality undergraduate and graduate courses, including setting course goals, readings, programming examples, hardware requirements, audiovisual materials and appropriate venue identification.
- Students will possess classroom and people management skills and techniques for effective lecturing and methods of guiding and assessment.

### *Scholarly Communication*

---

- Students will be able to review and cogently synthesize relevant literature, scholarship and aesthetic practice in the field.
- Students will be able to create effective and persuasive written technical and/or theoretical and/or aesthetic arguments that contribute to the understanding of their inquiry by their peers.
- Students will be able to reflect upon their work and research and consistently write on a level appropriate to academic audiences as found in leading academic conferences and journals.
- Students will be able to engage in a critical dialogue about the technological and aesthetic structure, merits, and context of their work.
- Students will understand and properly use citations and references in their academic writing to make technical and/or theoretical and/or aesthetic arguments.
- Students will be able to make clear and cogent presentation of their work, including academic, professional and performative and presentational setting.

### *Professionalism*

---

- Students will demonstrate a commitment to creativity, innovation and transdisciplinarity.
- Students will be able to teach classes, lead workshops, and manage project teams.
- Students will be able to articulate the importance of contributing technical, theoretical and aesthetic advances and innovation to their respective communities.

**Continued on Page 3**

## University of California, Santa Barbara Program Learning Outcomes, continued

- Students will be able to select appropriate venues and present a work of art and/or stage a performance of their work or present a conference paper.
- Students will be able to identify funding sources for research work, inquiry and practice and be able to write a funding proposal for such research work inquiry and practice.
- Students will be familiar with the relevant presentation venues, festivals, professional conferences, and events in the respective research areas such as but not limited to (ACM SIGGRAPH, Ars Electronica, ACM Multimedia, ISEA, NIME, ICMC, IEEE, Transmediale, Sonar, documenta, Venice Biennale, LACMA, ACADIA, eCAADe , MOCA, MOMA, SF MOMA, the Getty Center, Centre Georges Pompidou...).
- Students will understand the importance of keeping current on the technical and aesthetic state of the art and advances in their field.
- Students will be able to identify their career options post-graduation, both as independent artists and in the industry and academia.
- Students will demonstrate a commitment to the fundamental principles of ethical academic and professional conduct.
- Students will balance their technological and scientific competence by also being culturally and critically conversant with the social, political and economic determinants of the Media Arts and Technology field.

### *Independent Research*

---

- Students will demonstrate an ability to conduct research projects that meet high standards of theoretical, methodological, and aesthetic rigor.
- Students will be able to produce scholarship and engage in practice that is comparable in scope, format and ambition to articles, books, conference and journal papers, that appear in leading peer reviewed presses in the research areas of Media Arts and Technology and other applicable domains of inquiry.
- Students will be able to engage in practice that is comparable in scope, format and ambition to projects and performances that appear in leading peer reviewed and competitively curated venues in the research areas of Media Arts and Technology and other applicable domains of inquiry.