

UNIVERSITY OF CALIFORNIA, SAN DIEGO
INVENTORY OF EDUCATIONAL EFFECTIVENESS INDICATORS
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Inventory of Educational Effectiveness Indicators - Graduate *
 (as of 06/2015)

Department/ Program	Degree Type	Degree	(2) What are these learning outcomes? Where are they published?		(3) What data/evidence is used to determine that graduates have achieved the stated outcomes?	(4) Who interprets the evidence? What is the Process?		
Anthropology (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2011-12	Master of Arts	Anthropology	Have theoretical background and the methodological skills necessary for a career in professional research and teaching anthropology. Apply anthropological knowledge to contemporary problems. It is assumed that all students enter with the goal of proceeding to the doctoral degree.	Program Website	Catalog Copy	Complete a Master's thesis or Master's thesis equivalency project.	M.A. Committee	Completion of course requirements and Master's thesis.
	Doctor of Philosophy	Anthropology	Have theoretical background and the methodological skills necessary for a career in professional research and teaching anthropology at the university level. Apply anthropological knowledge to contemporary problems.	Program Website	Catalog Copy	Students entering the doctoral program must complete a Master's degree before continuing toward the doctorate. Written doctoral dissertation and oral examination in defense of dissertation.	Doctoral Committee	Write and successfully defend dissertation in oral examination.
		Anthropology with Concentration in Cognitive Science	Be knowledgeable in field methods and complete a research project reflecting the interests and background of the student.	Program Website	Catalog Copy	Written dissertation and oral examination in defense of dissertation	Dissertation Committee	Write and successfully defend dissertation in oral examination.
		Anthropology with Specialization in Anthropogeny	Designed to allow students to participate in research and education focused on explaining the origins of the human phenomenon.	Program Website	Catalog Copy	Written dissertation and oral examination in defense of dissertation	Dissertation Committee	Write and successfully defend dissertation in oral examination.
Architecture-Based Enterprise Systems Engineering (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2014-15	Master of Advanced Studies	Architecture-Based Enterprise Systems Engineering	Equip students with the knowledge they need to address enterprise-wide challenges associated with business and national security issues resulting from the globalization. Addressing the environment in the context of people, organization, and technology will provide students with a broad perspective that will enable them to take leadership roles within their organizations.	Program Website	Catalog Copy	Students are required to complete forty-two units of core courses and a capstone project.	Student's Capstone Committee comprised of select faculty from the program.	Pass required coursework and capstone project.

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Audiology (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2011-12	Doctorate in Audiology	Audiology: (Joint Doctorate with SDSU)	Have the knowledge base, research exposure, and advanced clinical skills to enter the workforce in any setting, and be prepared to function as independent audiology professionals in the expanding health care arena. The Au.D. program is a four-year graduate degree program designed for individuals who intend to specialize in clinical practice and to meet professional standards requiring a clinical doctorate as the entry-level degree for a certified audiologist.	Program Website	Catalog Copy	Examinations and doctoral project with final written document	Program and Doctoral Project Committee	Must pass examinations at the end of each year to advance. Doctoral project can take the form of a number of different options (research-based investigation, evidence-based position paper, etc). All doctoral projects must have final written format.
Bioengineering (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2007-08	Master of Engineering	Bioengineering	The purpose of this degree is to prepare design and project engineers for careers in the biomedical and biotechnology industries within the framework of the graduate program of the Department of Bioengineering.	Program Website	Catalog Copy	Students must select six courses from approved core areas, three additional approved technical elective courses, and three general elective courses. Students must maintain at least a B average in the courses taken to fulfill the degree requirements.	Department Faculty	Successfully complete coursework.
	Master of Science	Bioengineering	Extend and broaden an undergraduate background and be equipped with fundamental knowledge in bioengineering. The M.S. is intended for those students wishing to gain experience in academic research, especially those considering continuing graduate studies at the doctoral level.	Program Website	Catalog Copy	Written master's thesis and oral examination in defense of thesis	Thesis Committee	Write thesis and oral examination in defense of thesis

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				Program Website	Catalog Copy			
Bioengineering (continued)	Doctor of Philosophy	Bioengineering	Be prepared for a variety of careers in research and teaching.	Program Website	Catalog Copy	Doctoral examinations, teaching experience, qualifying examination with oral defense, written dissertation with oral defense.	Department Graduate Studies Committee, Doctoral Committee	Pass doctoral examinations in: engineering foundations, integrative bioengineering, and life sciences. Complete 4 quarters of teaching experience. Pass Senate Qualifying Exam, write dissertation and pass oral defense.
		Bioengineering with Specialization in Bioinformatics	Be equipped with interdisciplinary skills needed in businesses such as the pharmaceutical industry, agrobusiness, and biotechnology companies, or in academia, where there is a great need for academic faculty who have broad, interdisciplinary training.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee comprised of members of home department, Bioinformatics, and other faculty.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.

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Bioengineering (continued)		Bioengineering with Specialization in Multi-Scale Biology	The training outcomes (as summarized on the program website and catalog pages) include (1) experience in cross disciplinary science at the interfaces between two or more scientific disciplines; (2) hands-on experience in specialized research technologies for probing biological structure and function at multiple scales of biological organization; and (3) familiarity with integrative, quantitative analysis from molecule to organism scales.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of required co-mentor(s) from outside the home department, as well as members of home department, and other faculty per UCSD committee standards.	Complete both home department requirements and Interfaces Ph.D. Specialization in Multi-Scale Biology program requirements and training, write dissertation and defend in an oral examination.
		Bioengineering with Specialization in Quantitative Biology	This Ph.D. specialization is designed to train students to develop and apply quantitative theoretical and experimental approaches to studying fundamental principles of living systems.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee comprised of members of home department, Bioinformatics, and other faculty.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.

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Bioinformatics and Systems Biology (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2009-10	Master of Science (granted with doctoral program)	Bioinformatics and Systems Biology		Program Website	Catalog Copy			
	Doctor of Philosophy	Bioinformatics and Systems Biology	Be equipped with interdisciplinary skills needed to develop computational tools and use them to analyze big data associated with cellular and biological processes.	Program Website	Catalog Copy	Written dissertation and oral examination	Doctoral Committee	Write and successfully defend dissertation in oral examination.
		Bioinformatics and Systems Biology with Specialization in Quantitative Biology	This Ph.D. specialization is designed to train students to develop and apply quantitative theoretical and experimental approaches to studying fundamental principles of living systems.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of members of home department, and other faculty per UCSD committee standards.	Pass all examinations, complete requirements and training for department and specialization, write dissertation and defend in an oral examination.
		Bioinformatics and Systems Biology with Specialization in Biomedical Informatics	This Ph.D. specialization is designed to train students to develop and apply the effective use of biomedical data, information, and knowledge for scientific inquiry, problem solving, and decision making, driven by effort to improve human health.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of members of home department, and other faculty per UCSD committee standards.	Pass all examinations, complete requirements and training for department and specialization, write dissertation and defend in an oral examination.

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Biological Sciences (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2010-11 Joint Doctoral Program Review: 2007-2008	Master of Science	Biology (Degree Awarded only as part of Integrated BS/MS Degree. Only available to UCSD Students)	Gain advanced research experience, think independently, and be equipped with advanced skills for teaching.	Program Website Catalog Copy	Written thesis and oral examination	Thesis Committee	Write and successfully defend dissertation in oral examination.
	Doctor of Philosophy	Biology	Developed the skills necessary to become independent researchers and teachers in the biological sciences and to be prepared for a variety of careers in biological sciences.	Program Website Catalog Copy	Qualifying Examinations, Annual Examinations, written dissertation and oral examination; teaching experience	Doctoral Committee	Pass all exams, write dissertation, pass oral defense of dissertation.
		Biology (Joint Doctorate with SDSU)	Have developed the capacity for independent research and for teaching in the biological sciences.	Program Website Catalog Copy	Written dissertation and oral examination	Joint Doctoral Committee (UCSD/SDSU)	Pass all exams, write dissertation, pass oral defense of dissertation.
		Biology with Specialization in Bioinformatics	Be equipped with interdisciplinary skills needed in businesses such as the pharmaceutical industry, agrobusiness, and biotechnology companies, or in academia, where there is a great need for academic faculty who have broad, interdisciplinary training.	Program Website Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee comprised of members of home department, Bioinformatics, and other faculty.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Biology with Specialization in Multi-Scale Biology	The training outcomes (as summarized on the program website and catalog pages) include (1) experience in cross disciplinary science at the interfaces between two or more scientific disciplines; (2) hands-on experience in specialized research technologies for probing biological structure and function at multiple scales of biological organization; and (3) familiarity with integrative, quantitative analysis from molecule to organism scales.	Program Website Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of required co-mentor(s) from outside the home department, as well as members of home department, and other faculty per UCSD committee standards.	Complete both home department requirements and Interfaces Ph.D. Specialization in Multi-Scale Biology program requirements and training, write dissertation and defend in an oral examination.

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Biological Sciences (continued)		Biology with Specialization in Quantitative Biology	Develop the interdisciplinary skills necessary to become independent researchers and teachers in the quantitative biological sciences and to be prepared for a variety of careers in biological sciences.	Program Website	Catalog Copy	Qualifying Examinations, Annual Examinations, written dissertation and oral examination; teaching experience	Doctoral Committee	Pass all exams, write dissertation, pass oral defense of dissertation.
		Biology with Specialization in Anthropogeny	Designed to allow students to participate in research and education focused on explaining the origins of the human phenomenon.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of members of home department, and other faculty per UCSD committee standards.	Pass all examinations, complete requirements and training for department and specialization, write dissertation and defend in an oral examination.
Biomedical Sciences (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2009-10	Doctor of Philosophy	Biomedical Sciences	Develop laboratory skills and the ability to formulate scientific hypotheses and become familiar with the research activities of the faculty. Develop specialized knowledge in a thesis research area.	Program Website	Catalog Copy	Written dissertation and oral examination	Doctoral Committee	Write dissertation and defend in an oral examination.
		Biomedical Sciences with Specialization in Bioinformatics	Be equipped with interdisciplinary skills needed in businesses such as the pharmaceutical industry, agrobusiness, and biotechnology companies, or in academia, where there is a great need for academic faculty who have broad, interdisciplinary training.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee comprised of members of home department, Bioinformatics, and other faculty.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.

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Biomedical Sciences (continued)		Biomedical Sciences with Specialization in Multi-Scale Biology	The training outcomes (as summarized on the program website and catalog pages) include (1) experience in cross-disciplinary science at the interfaces between two or more scientific disciplines; (2) hands-on experience in specialized research technologies for probing biological structure and function at multiple scales of biological organization; and (3) familiarity with integrative, quantitative analysis from molecule to organism scales.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of required co-mentor(s) from outside the home department, as well as members of home department, and other faculty per UCSD committee standards.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Biomedical Sciences with Specialization in Anthropogeny	Designed for advanced graduate students from within the Biomedical Sciences program to have the opportunity to specialize in research and education on explaining the human phenomenon. The program is specifically dedicated towards a transdisciplinary education in human origins.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of members of home department, and other faculty per UCSD committee standards.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Biomedical Sciences with Specialization in Quantitative Biology	This Ph.D. specialization is designed to train students to develop and apply quantitative theoretical and experimental approaches to studying fundamental principles of living systems.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of members of home department, and other faculty per UCSD committee standards.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.

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				Program Website	Catalog Copy			
Chemical Engineering (1) Formal learning outcomes? Yes	Master of Science	Chemical Engineering	Extend and broaden an undergraduate education with fundamental knowledge in different fields.	Program Website	Catalog Copy	Plan 1: Written research thesis or comprehensive examination. Plan 2: Oral examination	Thesis Committee, Department Faculty	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination
	Doctor of Philosophy	Chemical Engineering	Be prepared for a variety of careers in research and teaching with an emphasis on research	Program Website	Catalog Copy	Qualifying examination, written dissertation, research project, and oral examination	Doctoral Committee	Pass examinations, write dissertation and defend dissertation in an oral examination
(6) Date of last Academic Senate Review: 2010-11								
Chemistry and Biochemistry (1) Formal learning outcomes? Yes	Master of Science	Chemistry	Designed for students who wish to earn a thesis or coursework M.S. in Chemistry as a stepping stone to jobs in industry, higher education, or teaching careers.	Program Website	Catalog Copy	Plan 1: Written master's thesis; Plan 2: American Chemical Society Exam (must pass 3 out of 5 exams). For doctoral students earning the M.S. on the way to the Ph.D., the departmental examination fulfills this requirement.	Plan 1: Thesis Committee. Plan 2: American Chemical Society	Plan 1: Write master's thesis and oral examination in defense of thesis. Plan 2: Must pass three of five exams.
	Doctor of Philosophy	Chemistry	Be prepared for careers in science by expanding their knowledge of chemistry while developing their ability for critical analysis, creativity, and independent study.	Program Website	Catalog Copy	Placement, departmental, and qualifying exams, teaching requirement, written doctoral dissertation, and oral examination in defense of the dissertation	Faculty and Doctoral Committee	Pass exams, fulfill teaching requirement, write dissertation, and successfully defend it in an oral examination.
	(6) Date of last Academic Senate Review: 2007-08							
Joint Doctoral Program Review: 2009-10		Chemistry (Joint Doctorate with SDSU)	Designed for students who, after completing a year of master's level studies in the Chemistry Department at San Diego State University, wish to pursue a doctoral degree in preparation for careers in academia or industry.	Program Website	Catalog Copy	Qualifying examinations, written dissertation and oral examination in defense of dissertation	Doctoral Committee (UCSD and SDSU faculty). The thesis adviser is an SDSU faculty member.	Pass examinations, write dissertation, and defend dissertation in an oral examination

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				Program Website	Catalog Copy			
Chemistry and Biochemistry (continued)		Chemistry with Specialization in Bioinformatics	Be equipped with interdisciplinary skills needed in businesses such as the pharmaceutical industry, agrobusiness, and biotechnology companies, or in academia, where there is a great need for academic faculty who have broad, interdisciplinary training.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee comprised of members of home department, Bioinformatics, and other faculty.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Chemistry with Specialization in Computational Science	This Ph.D. specialization is designed to allow students to obtain standard basic training in their chosen field of science, mathematics, or engineering with a specialization in computational science integrated into their graduate studies.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Department Faculty, Interdisciplinary Doctoral Committee	Pass all examinations, complete all requirements and training, write dissertation and defend in an oral examination.
		Chemistry with Specialization in Multi-Scale Biology	The training outcomes (as summarized on the program website and catalog pages) include (1) experience in cross-disciplinary science at the interfaces between two or more scientific disciplines; (2) hands-on experience in specialized research technologies for probing biological structure and function at multiple scales of biological organization; and (3) familiarity with integrative, quantitative analysis from molecule to organism scales.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of re-quired co-mentor(s) from outside the home department, as well as members of home depart-ment, and other faculty per UCSD committee standards	Complete both home department requirements and Interfaces Ph.D. Specialization in Multi-Scale Biology program requirements and training, write dissertation and defend in an oral examination.

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				Program Website	Catalog Copy			
Chemistry and Biochemistry (continued)		Chemistry with Specialization in Quantitative Biology	This Ph.D. specialization is designed to train students to develop and apply quantitative theoretical and experimental approaches to studying fundamental principles of living systems.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of re-quired co-mentor(s) from outside the home department, as well as members of home depart-ment, and other faculty per UCSD committee standards	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
Classics (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2004-05 This Tri-Campus Program is reviewed at UC Irvine.	Doctor of Philosophy	Classics (Tri-campus Doctorate with UCSD, UCI, and UCR)	Study the ancient texts and objects in their wider social, cultural and historical contexts. Bring the culture of Greeks and Romans into the preview of contemporary literary and sociological theory. Examine the reception of ancient literature and culture by later cultures and the appropriation of the ancient world by the modern world. Pay particular attention to the intersections of Greek and Roman society and culture with each other and with the other cultures of the ancient world. Utilize to the fullest the potential of new computing technologies as tools for research and teaching	Program Website (UCI)	Catalog Copy	Qualifying examinations, language examinations, written dissertation and oral examination in defense of dissertation	Doctoral Committee	Pass all exams, pass foreign language examinations, write and successfully defend dissertation.
Clinical Psychology (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2007-2008	Doctor of Philosophy	Clinical Psychology (Joint Doctorate with SDSU)	Develop skills to competently conduct and evaluate research, with the eventual goal of becoming an independent scientist. Provide evidence-based treatments, assessments, and preventive interventions. Will be sensitive to and provide services and conduct research with a diverse population. Act in accordance with the highest ethical standards in clinical, research, and professional situations.	Program Website	Catalog Copy	Second-year research project, completion of clinical practicum and internship, qualifying examinations, written dissertation and oral examination in defense of dissertation	Dissertation/Guidance Committee	Pass required courses, conduct research project, pass all qualifying examinations, write dissertation and defend dissertation in oral examination, complete internship.

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Clinical Research (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2011-12	Master of Advanced Studies	Clinical Research	The program offers a broad-based curriculum in clinical research methodology and integrates classroom instruction with practical training to provide students with the knowledge and skills necessary to produce valid, credible research.	Program Website	Catalog Copy	The thirty-six-unit degree is comprised of twenty two units of core courses, four units of advanced statistics electives, six units of general electives and four units of an independent study project.	ISP committee comprised of select faculty from UCSD School of Medicine and Skaggs School of Pharmacy & Pharmaceutical Sciences	Pass required courses and independent study project.
Cognitive Science (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2008-09	Master of Science (granted with doctoral program) Doctor of Philosophy	Cognitive Science						
		Cognitive Science	Have a broad training in neurological processes and phenomena; the experimental methods, results, and theories from the study of psychology, language, and social cultural issues; and the studies of computational mechanisms.	Program Website	Catalog Copy	Research project, written dissertation and oral examination in defense of dissertation	Faculty and Doctoral Committee	Complete research project and present to faculty. Write dissertation and defend in oral examination.
		Cognitive Science with Specialization in Anthropogeny	Designed to allow students to participate in research and education focused on explaining the origins of the human phenomenon.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of members of home department, and other faculty per UCSD committee standards.	Pass all examinations, complete requirements and training for department and specialization, write dissertation and defend in an oral examination.

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Communication (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2014-15	Master of Arts (granted with doctoral program)	Communication						
	Doctor of Philosophy	Communication	Combine modes of analysis from the humanities and social sciences to explore the history, structure, and process of communication. Study is organized around the following three analytic perspectives: communication as a social force, communication and culture, and communication and human information processing.	Program Website	Catalog Copy	Written dissertation and oral examination; foreign language requirement	Doctoral Committee	Write and successfully defend dissertation.
	Communication with Concentration in Cognitive Science	Communication	Combine modes of analysis from the humanities and social sciences to explore the history, structure, and process of communication.	Program Website	Catalog Copy	Written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee	Write and successfully defend dissertation.
	Communication: Science Studies	Communication	Integrate the perspective developed within the communication of science.	Program Website	Catalog Copy	Foreign language requirement, internships, written dissertation. and oral examination in defense of dissertation.	Interdisciplinary Doctoral Committee	Complete requirements, complete internship, write dissertation and defend in oral examination.

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Comparative Studies in Language, Society, and Culture (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2002-03	Doctor of Philosophy	Comparative Studies in Language, Society, Culture	Specialize in humanities, social sciences, or the arts, with an opportunity to design curricula, conduct research, and write dissertations under the guidance of interdepartmental and/or intercampus Ph.D. committees.	Program Website	Catalog Copy	Satisfy all requirements for advancement to candidacy and pass the qualifying examination in one department, and undertake advanced study in a related area. Defend written dissertation proposal, complete written dissertation, defend in oral examination.	Interdepartment or Intercampus Ph.D. committee Doctoral Committee	Advance to candidacy in the program upon successfully defending a written dissertation proposal before the interdepartmental and/or intercampus Ph.D. committee, then writes dissertation and defends it in oral examination.
Computational Science, Mathematics and Engineering Program (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: not yet reviewed	Master of Science	Computational Science, Mathematics and Engineering	Gain both a solid theoretical foundation and practical experience in solving real scientific problems using the latest mathematical algorithms, computer software, and computer hardware.	Program Website	Catalog Copy	Qualifying exam and comprehensive exam or written paper and oral presentation.	Qualifying exam committee	Complete requirements, pass qualifying exams, pass comprehensive exam or write paper and make an oral presentation.

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				Program Website	Catalog Copy			
Computer Science and Engineering (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2007-08	Master of Science	Computer Science	Specialize in distinct areas of study including: algorithms and complexity, artificial intelligence, bioinformatics, computer architecture and compilers, computer graphics and computer vision, databases and information management, embedded systems and software, high-performance computing, programming systems, security and cryptography, software engineering, systems and networking and VLSI/CAD (computer-aided design).	Program Website	Catalog Copy	Plan 1: Written master's thesis; Plan 2: Comprehensive written examination	Plan 1: Thesis Committee; Plan 2: Computer Science Graduate Department	Plan 1: Write master's thesis and have it reviewed by the thesis committee; Plan 2: Pass comprehensive examination
		Computer Science: Computer Engineering	Computer engineering explores the engineering analysis and design aspects of algorithms and technology. Specific research areas include computer systems, signal processing systems, architecture, networks, computer-aided design, fault tolerance, and data storage systems.	Program Website	Catalog Copy			
	Doctor of Philosophy	Computer Science	Be prepared for research, industrial or entrepreneurial career spanning fundamental aspects and application of computation, spanning theory, software, hardware, and applications.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Doctoral Committee	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.

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Computer Science and Engineering (continued)		Computer Science: Computer Engineering	Be prepared for research, industrial or entrepreneurial career spanning fundamental aspects and application of computation, spanning theory, software, hardware, and applications.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Doctoral Committee	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Computer Science with Concentration in Cognitive Science	Research in computer science and cognitive science.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary Dissertation Committee	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Computer Science with Specialization in Bioinformatics	Be equipped with interdisciplinary skills needed in businesses such as the pharmaceutical industry, agrobusiness, and biotechnology companies, or in academia, where there is a great need for academic faculty who have broad, interdisciplinary training.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee comprised of members of home department, Bioinformatics, and other faculty.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Computer Science with Specialization in Computational Science	This Ph.D. specialization is designed to allow students to obtain standard basic training in their chosen field of science, mathematics, or engineering with a specialization in computational science integrated into their graduate studies.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Department Faculty, Doctoral Committee	Pass all examinations, complete all requirements and training, write dissertation and defend in an oral examination.

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Data Science and Engineering (1) Formal learning outcomes? Yes (6) Date of Academic Senate Review: 2022-23	Master of Advanced Studies	Data Science and Engineering	Designed for working professionals with a broad background in education and/or training in related areas of computer science, or other engineering or mathematics and with substantial experience in data analysis.	Program Website		Students are required to complete thirty-eight units of core courses and a capstone project.	Student's Capstone Committee comprised of select faculty from the program.	Pass required coursework and capstone project.
Economics (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2011-12	Master of Arts (granted with doctoral program)	Economics						
	Doctor of Philosophy	Economics	Have a solid, analytically oriented training in microeconomics, macroeconomics, econometrics, and advanced specialties.	Program Website	Catalog Copy	Written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Write dissertation and defend in oral examination.
		Economics and International Affairs	Be prepared for research careers in economics with an emphasis on international affairs and the Pacific region. Students should be able to combine analytical skills of economics with political economy, institutional analysis, and region/empirical knowledge.	Program Website	Catalog Copy	Written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Write dissertation and defend in oral examination.
Education Studies (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2012-13 Joint Doctoral Program Review: 2013-14	Master of Arts	Teaching and Learning: Bilingual Education (ASL-English)	Meet the needs of deaf and hard-of-hearing children from various language and cultural backgrounds. Participate in research and development on the leading edge of bilingual, multicultural education for deaf and hard-of-hearing children.	Program Website	Catalog Copy	Written master's thesis.	Thesis Committee	Write master's thesis and have it reviewed.
		Teaching and Learning: Curriculum Design	Design, implement, and evaluate curricular innovations in their own classrooms.	Program Website	Catalog Copy	Written master's thesis.	Thesis Committee	Write master's thesis and have it reviewed.

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Education Studies (continued)	Master of Education	Education	Have strong subject matter preparation and clear career intentions. Earn a Preliminary California Teaching Credential and the M.Ed. Degree prior to entering the teaching profession.	Program Website	Catalog Copy	Coursework grades, Student teaching evaluations and Teaching Performance Assessment (edTPA) preparation.	Educational Studies Department	Complete educational foundations coursework, advance to M.Ed./Credential Professional Coursework, complete professional preparation coursework and student teaching, and pass edTPA assessment.
	Doctor of Education	Educational Leadership (Joint Ed.D. with CSUSM)	Develop four specific leadership capacities: (1) leadership for learning; (2) leadership for a diverse society; (3) leadership for organizational change; and (4) leadership for organizational development.	Program Website	Catalog Copy	Qualifying Paper in Year 1 Dissertation Proposal & Defense Year 2 Written dissertation and oral defense.	Doctoral Committee	Write dissertation and successfully defend it in examination by the dissertation committee.
		Teaching and Learning	Conduct research on professional practice within their own institutions, addressing specific local problems that have national implications for teaching and learning, school reform, and professional development.	Program Website	Catalog Copy	Written dissertation and oral defense.	Doctoral Committee	Write dissertation and successfully defend it in oral examination by the dissertation committee.

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				Program Website	Catalog Copy			
Electrical and Computer Engineering (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2014-15	Master of Science	Electrical Engineering: Applied Ocean Sciences	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.
		Electrical Engineering: Applied Physics	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.
		Electrical Engineering: Communication Theory and Systems	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.
		Electrical Engineering: Computer Engineering	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: research project followed by a comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.
		Electrical Engineering: Electronic Circuits and Systems	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.

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				Program Website	Catalog Copy			
Electrical and Computer Engineering (continued)		Electrical Engineering: Intelligent Systems, Robotics and Control	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.
		Electrical Engineering: Nanoscale Devices & Systems	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.
		Electrical Engineering: Photonics	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.
		Electrical Engineering: Signal and Image Processing	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.
		Electrical Engineering: Medical Devices and Systems	Have the intensive technical preparation necessary for subsequent pursuit of a Ph.D. An M.S. degree (without a Ph.D.) prepares students for a career in research or teaching.	Program Website	Catalog Copy	Plan 1: written master's thesis; Plan 2: comprehensive exam.	Thesis Committee, Department Faculty	Plan 1: Take required course work, write thesis and defend in oral examination. Plan 2: Take required course work and pass examination.

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Electrical and Computer Engineering (continued)	Doctor of Philosophy	Electrical Engineering: Applied Ocean Sciences	Be knowledgeable about all aspects of man's purposeful and unusual intervention into the sea.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department faculty and faculty from the Scripps Institution of Oceanography.	Pass all examinations, write dissertation and defend in oral examination
		Electrical Engineering: Applied Physics	Applied Physics: Electronic Devices and Materials Be knowledgeable in the following fields: synthesis, characterization, and application of metals, semiconductors and dielectric materials in solid state electronic and opto-electronic devices. Applied Physics: Electronic Devices and Materials\Magnetic Recording Be knowledgeable in the following fields: studying magnetic heads, recording media, and the process of transferring information between the heads and the medium. Applied Physics: Radio and Space Science Be knowledgeable in the study of radio waves propagating through turbulent media. The theory of such propagation is also studied with a view to removing the distorting effects of the turbulent medium on astronomical observations and providing an accurate restoration of the intrinsic signals.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Electrical Engineering: Communication Theory and Systems	Be knowledgeable in the following areas of study: detection signals, the prediction and filtering of random processes, the design and analysis of communication systems, the analysis of protocols for communication networks and statistical processing of images.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination

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Electrical and Computer Engineering (continued)		Electrical Engineering: Computer Engineering	Have the skills in both software and hardware design to make proper unbiased trade-offs in design and for researchers to consider all paths towards the solution of research questions and problems. Areas of emphasis include VLSI and logic design and reliable computer and communication systems.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Electrical Engineering: Electronic Circuits and Systems	Be knowledgeable in the following fields: analog and digital integrated circuits, very large-scale integration (VLSI), analog and digital signal processing and system algorithms and architectures.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Electrical Engineering: Intelligent Systems, Robotics and Control	Be knowledgeable in the following issues: with the design of human-interactive intelligent systems that can sense the world (defined as some specified domain of interest); represent or model the world; detect and identify states and events in the world; reason about and make decisions about the world; and/or act on the world, perhaps all in real-time.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination

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				Program Website	Catalog Copy			
Electrical and Computer Engineering (continued)		Electrical Engineering: Nanoscale Devices & Systems	Be knowledgeable in the program area addresses the science and engineering of materials and device structures with characteristic sizes of ~100nm.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Electrical Engineering: Photonics	Be knowledgeable in the field of optical science and engineering, optical and opto-electronic materials and device technology, communication and computer engineering as well as photonic systems of engineering.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Electrical Engineering: Signal and Image Processing	Explore engineering issues related to the modeling of signals starting from the physics of the problem, developing and evaluating algorithms for extracting the necessary information from the signal, and the implementation of these algorithms on electronic and opto-electronic systems.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Electrical Engineering: Medical Devices and Systems	Explore engineering issues related to medical devices for diagnosis of cancers, diagnosis of chronic and infectious diseases, anatomical and clinical pathology using imaging algorithms and systems, minimally invasive and robotic surgery, and remote medicine employing wireless sensor network solutions.	Program Website	Catalog Copy	Comprehensive examination, qualifying examination, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination

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				Program Website	Catalog Copy			
Ethnic Studies (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2009-10	Master of Arts (granted with doctoral program)	Ethnic Studies	Conduct inter-disciplinary original discovery scholarship in keeping with our efforts to influence and improve the quality of scholarship and teaching about race and ethnicity at institutions of higher learning in the U.S. and around the world.	Program Website	Catalog Copy	Comprehensive Exam	Department Graduate Record Committee	The M.A. degree is awarded on the basis of the successful completion of all the required coursework in the first and second years of the program and passing the Comprehensive Examination.
	Doctor of Philosophy	Ethnic Studies	Conduct inter-disciplinary original discovery scholarship in keeping with our efforts to influence and improve the quality of scholarship and teaching about race and ethnicity at institutions of higher learning in the U.S. and around the world.	Program Website	Catalog Copy	Completion of Master's degree, qualifying examination, dissertation prospectus, written dissertation, oral examination	The Doctoral Committee Chair of the Ph.D. Examination Committee	Complete Master's degree, pass qualification examination, obtain approval of dissertation prospectus, write and successfully defend dissertation.
Global Policy and Strategy (effective July 1, 2015, formerly International Relations and Pacific Studies) (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2012-13	Master of International Affairs (BA/MIA)	International Affairs	Build competency beyond the B.A. in International Studies in one of five regional areas, and one of six career tracks; opportunities for specialization is policy analysis and evaluation and foreign language proficiency.	Program Website	Catalog Copy	The post-BA MIA requires forty-eight units of 400-level coursework and corresponding language proficiency based on regional specialization. Successful completion of an internship between the senior year and matriculation to graduate standing.	Department faculty	Complete coursework and meet language requirements.
	Master of International Affairs (MIA)	International Affairs	Two year professional degree that allows specializations in at least one of five regional areas, and one of six career tracks; opportunities for specialization is policy analysis and evaluation and foreign language proficiency.	Program Website	Catalog Copy	The MIA requires 98 units of course work, second year proficiency in at least one foreign language requirement, and completion of at least one professional career track and one regional track.	Department faculty	Complete coursework and all requirements.

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				Program Website	Catalog Copy			
Global Policy and Strategy (continued)	Master of Advanced Study	International Affairs	Executive master's degree with specialized and advanced education in the field of international affairs.	Program Website	Catalog Copy	The MAS-IA requires 48 units of course work requiring the completion of three career track electives, two regional courses, a capstone, and four electives.	Department faculty	Complete coursework and all requirements.
	Doctor of Philosophy	Political Science and International Affairs	Preparation for university level teaching and research, or to become international affairs researchers and specialists in policy analysis.	Program Website	Catalog Copy	The program has a required first-year curriculum offered by the Department of Political Science. In the first year, students focus on coursework in politics and research methods. During the second year, students begin to focus their coursework on their chosen area of research, completing the 18 required courses for advancement to candidacy. In addition, candidates are expected to finish a seminar paper and sit for their general comprehensive exam. Completion of the dissertation.	Dissertation Committee	Completion of requirements, dissertation and defense.
Healthcare: Leadership of Healthcare Organizations (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2007-08	Master of Advanced Studies	Leadership of Health Care Organizations	Gain the advanced knowledge and skills that are essential to manage escalating challenges in the competitive business environment of health care.	Program Website	Catalog Copy	Students are required to complete thirty-eight units of core courses and four units of a capstone project.	Student's Capstone Committee comprised of select faculty from UCSD School of Medicine.	Pass required coursework and capstone project.

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				Program Website	Catalog Copy			
Health Policy and Law (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2014-15	Master of Advanced Studies (joint degree with California Western School of Law)	Health Policy and Law	Be equipped with a more complete understanding of the best scientific, ethical, regulatory, and management practices.	Program Website	Catalog Copy	Students are required to complete twenty-seven units of core courses, fifteen units of general electives, and three units of a capstone project.	Student's Capstone Committee comprised of select faculty from UCSD School of Medicine and California Western School of Law.	Pass required courses and capstone project.
History (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2010-11	Master of Arts	History	Use basic skills of historical research as well as to the debates about, and the approaches to, historical scholarship in this field. Areas of concentration include the following: Ancient Studies Chinese Studies European History History of Science United States History	Program Website	Catalog Copy	Complete requirements and pass a one-hour oral examination in field of study. Foreign language proficiency is recommended for all M.A. students, required for those with concentration in European history.	The oral exam is conducted by three faculty examiners who have worked with the student.	Students must meet course requirements based on their area of concentration, then are required to pass the oral examination.
		History: Judaic Studies	Build a coordinated graduate program leading to an M.A. Courses that count toward the degree may be in a wide array of university programs and departments, including history, literature, anthropology, political sciences, sociology, and philosophy.	Program Website	Catalog Copy	Written Master's thesis.	Thesis Committee	Pass coursework, write and receive approval of Master's thesis

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History (continued)	Doctor of Philosophy	History	Consistently find employment at some of the best institutions of higher education in this country and abroad, as well as in government, NGOs, and the private sector. Each student will pursue a major field within one of the Ph.D. programs, and two minor fields. Areas of concentration include: Ancient History East Asian History European History History of Science Latin American History Middle Eastern History United States History	Program Website	Catalog Copy	Language requirement based on field of study, minor field examination, major field oral qualifying examination, written dissertation and oral defense	Doctoral Committee	Meet language requirement, pass minor field examination and qualifying examination, write and successfully defend dissertation.
		History: Science Studies (interdepartmental degree with the program in Science Studies)	Acquire a deeper understanding of scientific knowledge and technological change, past and present. The program offers students an opportunity to integrate the perspectives developed in communication studies and the history, sociology, and philosophy of science, while receiving a thorough training at a professional level in one of the component disciplines.	Program Website	Catalog Copy	Language requirement based on field of study, minor field examination, major field oral qualifying examination, written dissertation and oral defense	Doctoral Committee	Meet language requirement, pass minor field examination and qualifying examination, write and successfully defend dissertation.
	Doctor of Philosophy and Juris Doctor	Ph.D. in History and J.D. from California Western School of Law	Consistently find employment at some of the best institutions of higher education in this country and abroad, as well as in government, NGOs, and the private sector.	Program Website	Catalog Copy	Minor field examination, major field: oral qualifying examination, written dissertation and defense and completion of language requirement based on field.	Faculty from UCSD Department of History and California Western School of Law.	Pass minor field examination, oral qualifying examination, written dissertation and oral defenses. Complete language requirement based on major field.

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				Program Website	Catalog Copy			
Language and Communicative Disorders (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2008-09	Doctor of Philosophy	Language and Communicative Disorders (Joint Doctorate with SDSU)	Apply techniques developed in cognitive science and neuroscience to the study of language and language disorders.	Program Website	Catalog Copy	Qualifying examinations (written and oral), dissertation and defense.	Dissertation Committee	Write dissertation and defend in oral examination.
Latin American Studies (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2014-15	Master of Arts	Latin American Studies	Integrate a broad range of disciplinary approaches to a world region of growing international significance. Upon graduation, most students pursue advanced degrees in academic or professional fields; others proceed to careers in the private sector or in government.	Program Website	Catalog Copy	Plan 1: Written master's thesis; or Plan 2: Comprehensive written examination.	Thesis Committee, Department Faculty	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination
		Latin American Studies: Cultural Studies	Integrate a broad range of disciplinary approaches to a world region of growing international significance. Upon graduation, most students pursue advanced degrees in academic or professional fields; others proceed to careers in the private sector or in government.	Program Website	Catalog Copy	Master's thesis on a topic relevant to Latin American Cultural Studies.	Master's Thesis Committee	Write master's thesis and have it reviewed.
		Latin American Studies: Gender Studies	Integrate a broad range of disciplinary approaches to a world region of growing international significance. Upon graduation, most students pursue advanced degrees in academic or professional fields; others proceed to careers in the private sector or in government.	Program Website	Catalog Copy	Master's thesis on a topic relevant to gender issues in Latin America.	Master's Thesis Committee	Write master's thesis and have it reviewed.
		Latin American Studies: History	Integrate a broad range of disciplinary approaches to a world region of growing international significance. Upon graduation, most students pursue advanced degrees in academic or professional fields; others proceed to careers in the private sector or in government.	Program Website	Catalog Copy	Master's thesis, based on historical research and focused on a topic relevant to Latin American Studies.	Master's Thesis Committee	Write master's thesis and have it reviewed.

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				Program Website	Catalog Copy			
Latin American Studies (continued)		Latin American Studies: International Migration	Integrate a broad range of disciplinary approaches to a world region of growing international significance. Upon graduation, most students pursue advanced degrees in academic or professional fields; others proceed to careers in the private sector or in government.	Program Website	Catalog Copy	master's thesis on a topic relevant to Latin American International Migration.	Master's Thesis Committee	Write master's thesis and have it reviewed.
		Latin American Studies: Sociology	Integrate a broad range of disciplinary approaches to a world region of growing international significance. Upon graduation, most students pursue advanced degrees in academic or professional fields; others proceed to careers in the private sector or in government.	Program Website	Catalog Copy	master's thesis, based on sociological research and focused on a topic relevant to Latin American Studies.	Master's Thesis Committee	Write master's thesis and have it reviewed.
Linguistics	Master of Arts (granted with doctoral program)	Linguistics						
(1) Formal learning outcomes? Yes	Doctor of Philosophy	Linguistics	Possess training in theoretical linguistics and formal analysis with innovative empirical and/or experimental approaches to the study of human language.	Program Website	Catalog Copy	Qualifying examination, colloquium presentation, dissertation, and oral defense	Dissertation Advisory Committee	Pass examinations, write dissertation and defend dissertation in an oral examination
(6) Date of last Academic Senate Review: 2008-09								
Linguistics (continued)		Linguistics with Concentration in Cognitive Science	Possess training in theoretical linguistics and formal analysis with innovative empirical and/or experimental approaches to the study of human language. In addition, possess expertise in a secondary specialization from the field of cognitive science, which may include child development, computational modeling, distributed cognition, language disorders, neuroscience, philosophy, and psycholinguistics.	Program Website	Catalog Copy	Qualifying examination, colloquium presentation, dissertation, and oral defense	Dissertation Advisory Committee	Pass examinations, write dissertation and defend dissertation in an oral examination
		Linguistics with Specialization in Anthropogeny	Designed to allow students to participate in research and education focused on explaining the origins of the human phenomenon.	Program Website	Catalog Copy	Qualifying examination, colloquium presentation, dissertation, and oral defense	Dissertation Advisory Committee	Pass examinations, write dissertation and defend dissertation in an oral examination

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Literature (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2010-11	Master of Fine Arts	Writing	Pursue a career within the field of writing as practitioners, critics, and teachers.	Program Website	Program Website	Coursework, teaching evaluations, two public readings, thesis manuscript	Department faculty, MFA Thesis Committee (composed of at least three faculty members from Writing or Literature and a fourth, preferably tenured, faculty member from another department)	Complete a final project consisting of a manuscript of fiction (120 pages) or poetry (65 pages) and a public presentation. Conduct critical discussion about their manuscript with four faculty, including one extra departmental reviewer.
Literature (continued)	Doctor of Philosophy	Literature	Display a strong comparatist and theoretical background in literary and cultural studies that cuts across national, linguistic, and disciplinary boundaries. Develop the capacity for independent research and innovative teaching on the historical and contemporary connections between cultures, literatures, and societies, with the aim of seeking employment at institutions of higher learning in the U.S. and around the world	Program Website	Catalog Copy	Students need to pass two (or in some cases three) courses that satisfy language requirement, pass the qualifying exam (requires preparation in two fields and long research paper), write the dissertation, and pass an oral defense.	Department Faculty and Dissertation Committee	Satisfy language requirements via completion of course and translation exam, pass qualifying examination, write dissertation and successfully defend it in an oral examination

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Management (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: The Rady School of Management received AACSB accreditation in 2011; next review by AACSB in 2016-17	Master of Business Administration	Business Administration	A Rady MBA Graduate . . . 1. Is an ethically, socially and environmentally responsible business leader. 2. Is able to identify opportunities and realize social and economic benefit by bringing innovative offerings and discoveries to market. 3. Can thrive in global, information rich, high velocity environments, tackle complex organizational challenges, and use sophisticated methods to assess and manage risk. 4. Is able to work successfully in collaborative, multi-disciplinary teams, and incorporate cutting edge economic, psychological and legal principles into decision making. 5. Can effectively communicate complex business, scientific, and technical ideas.	Program Website	Catalog Copy	Direct measures of student learning is done through individual course-embedded measures (i.e. cases, papers, presentations, exercises, exam questions) specifically designed to assess whether learning objectives have been met.	MBA Curriculum Steering Committee	The MBA Curriculum Steering Committee identifies course embedded measures to be used for each learning objective and grade on the assignment that reflect achievement of the learning objective.
	Master of Finance	Finance	Master of Finance is a new program, learning outcomes are currently under development	Program Website	Catalog Copy	Direct measures of student learning will be done through individual course-embedded measures (i.e. cases, papers, presentations, exercises, exam questions) specifically designed to assess whether learning objectives have been met.	Master of Finance Curriculum Steering Committee	The Master of Finance Curriculum Steering Committee is currently identifying programmatic learning objective and the core courses in which assessment will take place.

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				Program Website	Catalog Copy			
Management (continued)	Doctor of Philosophy	Management	1. Students will attain a foundation of methodological skills to build their research program. 2. Students will learn to conduct collaborative research that is indicative of ability to work with research team members. 3. Students will learn to conduct independent research that is indicative of preparation at a top caliber research university. 4. Students will become skilled teachers.	Program Website	Catalog Copy	Formal coursework in core and domain/methodology courses, directed study in preparation for a research career, individual research, qualifying exam, written dissertation, oral defense, and teaching evaluations.	Department Faculty and Dissertation Committee	The Ph.D. Curriculum Committee identifies program embedded measures to be used for each learning objective and the minimum performance needed that will reflect achievement of the learning objective.
Materials Science (1) Formal learning outcomes? Yes	Master of Science	Materials Science and Engineering	Have knowledge of materials with the objective of predicting, modifying, and tailoring the properties of materials to yield enhanced material performance.	Program Website	Catalog Copy	Plan 1: Written thesis. Plan 2: Comprehensive examination	Thesis Committee, Department Faculty	Plan 1: Write dissertation and defend in an oral examination. Plan 2: Pass comprehensive examination.
(6) Date of last Academic Senate Review: 2013-14	Doctor of Philosophy	Materials Science and Engineering	Obtain a career in research and/or teaching in their area of specialization.	Program Website	Catalog Copy	Qualifying examinations, dissertation and oral examination in defense of dissertation.	Dissertation Committee	Pass all examinations, write dissertation and defend in an oral examination

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				Program Website	Catalog Copy			
Mathematics (1) Formal learning outcomes? Yes	Master of Arts	Mathematics	Have a strong mathematical background in preparation for careers in teaching or industry or government, or for pursuing a Ph.D.	Program Website	Catalog Copy	Two written comprehensive examinations	Department Faculty	Complete coursework and pass exams
		Mathematics: Applied	Have a strong mathematical background in preparation for careers in teaching or industry or government, or for pursuing a Ph.D.	Program Website	Catalog Copy	Two written comprehensive examinations	Department Faculty	Complete coursework and pass exams
(6) Date of last Academic Senate Review: 2006-07	Master of Science	Statistics	Have a strong mathematical background and experience in statistical computing with various applications.	Program Website	Catalog Copy	Two written comprehensive examinations	Department Faculty	Complete coursework and pass exams
	Doctor of Philosophy	Mathematics	Have a preparation in teaching and a broad knowledge of mathematics for careers as university professors, as well as careers in industry or government.	Program Website	Catalog Copy	Three qualifying exams, written dissertation and a public oral defense.	Qualifying exam and appeals committee (QEAC), Department Faculty, Doctoral Committee	Pass all examinations, write dissertation and defend in an oral examination.
		Mathematics with Specialization in Bioinformatics	Be equipped with interdisciplinary skills needed in businesses such as the pharmaceutical industry, agrobusiness, and biotechnology companies, or in academia, where there is a great need for academic faculty who have broad, interdisciplinary training.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and a public oral defense.	Interdisciplinary Doctoral Committee comprised of members of home department, Bioinformatics, and other faculty.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Mathematics with Specialization in Computational Science	This Ph.D. specialization is designed to allow students to obtain standard basic training in their chosen field of science, mathematics, or engineering with a specialization in computational science integrated into their graduate studies.	Program Website	Catalog Copy	Qualifying examinations, proficiency requirements, written dissertation and a public oral defense.	Qualifying exam and appeals committee (QEAC), Department Faculty, Doctoral Committee	Pass all examinations, complete proficiency requirements, write dissertation and defend in an oral examination.
		Mathematics with Specialization in Statistics	This Ph.D. specialization is designed to provide a student with solid training in statistical theory and methodology that finds broad application in various areas of scientific research including natural, biomedical and social sciences, as well as engineering, finance, business management, and government regulations.	Program Website	Catalog Copy	Qualifying and comprehensive examinations, data analysis training, written dissertation and a public oral defense.	Qualifying exam and appeals committee (QEAC), Department Faculty, Doctoral Committee	Pass all examinations, complete all requirements and training, write dissertation and defend in an oral examination.
Mathematics (continued)								

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Mathematics and Science Education (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2013-14	Doctor of Philosophy	Mathematics and Science Education (Joint Doctorate with SDSU)	Contribute to the developing body of knowledge about human cognitive processes in mathematics and science. Students will be expected to maintain a strong connection to educational practice through teaching and application of research results to instructional situations.	Program Website	Catalog Copy	Second-year examination, written and oral dissertation proposal, written doctoral dissertation and oral dissertation defense	Second-year exam committee, doctoral committee	Pass second-year exam, advance to candidacy, write and defend dissertation
Mechanical and Aerospace Engineering (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2013-14	Master of Science	Engineering Sciences: Aerospace Engineering	Extend and broaden an undergraduate background and/or as practicing engineers be equipped with fundamental knowledge in their particular fields.	Program Website	Catalog Copy	Plan 1: Written Master's thesis. Plan 2: Oral comprehensive exam	Plan 1: Thesis Committee Plan 2: Examination Committee	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination
		Engineering Sciences: Applied Mechanics	Extend and broaden an undergraduate background and/or as practicing engineers be equipped with fundamental knowledge in their particular fields.	Program Website	Catalog Copy			
		Engineering Sciences: Applied Ocean Science	Extend and broaden an undergraduate background and/or as practicing engineers be equipped with fundamental knowledge in their particular fields.	Program Website	Catalog Copy			

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				Program Website	Catalog Copy			
Mechanical and Aerospace Engineering (continued)		Engineering Sciences: Engineering Physics	Extend and broaden an undergraduate background and/or as practicing engineers be equipped with fundamental knowledge in their particular fields.	Program Website	Catalog Copy	Plan 1: Written Master's thesis. Plan 2: Oral comprehensive exam	Plan 1: Thesis Committee Plan 2: Examination Committee	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination
		Engineering Sciences: Mechanical Engineering	Extend and broaden an undergraduate background and/or as practicing engineers be equipped with fundamental knowledge in their particular fields.	Program Website	Catalog Copy	Plan 1: Written Master's thesis. Plan 2: Oral comprehensive exam	Plan 1: Thesis Committee Plan 2: Examination Committee	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination
	Doctor of Philosophy	Engineering Sciences: Aerospace Engineering	Be prepared for a variety of careers in research and teaching with an emphasis on research.	Program Website	Catalog Copy	Part 1: Qualifying examination Part 2: Submission of a dissertation prospectus and oral examination	Doctoral Committee	Pass qualifying examinations, write dissertation and defend in an oral examination
		Engineering Sciences: Applied Mechanics	Be prepared for a variety of careers in research and teaching with an emphasis on research.	Program Website	Catalog Copy	Part 1: Qualifying examination Part 2: Submission of a dissertation prospectus and oral examination	Doctoral Committee	Pass qualifying examinations, write dissertation and defend in an oral examination
		Engineering Sciences: Applied Ocean Science	Be prepared for a variety of careers in research and teaching with an emphasis on research.	Program Website	Catalog Copy	Part 1: Qualifying examination Part 2: Submission of a dissertation prospectus and oral examination	Doctoral Committee	Pass qualifying examinations, write dissertation and defend in an oral examination
		Engineering Sciences: Engineering Physics	Be prepared for a variety of careers in research and teaching with an emphasis on research.	Program Website	Catalog Copy	Part 1: Qualifying examination Part 2: Submission of a dissertation prospectus and oral examination	Doctoral Committee	Pass qualifying examinations, write dissertation and defend in an oral examination
		Engineering Sciences: Mechanical Engineering	Be prepared for a variety of careers in research and teaching with an emphasis on research.	Program Website	Catalog Copy	Part 1: Qualifying examination Part 2: Submission of a dissertation prospectus and oral examination	Doctoral Committee	Pass qualifying examinations, write dissertation and defend in an oral examination

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Mechanical and Aerospace Engineering (continued)		Engineering Sciences with Specialization in Computational Science	Obtain standard basic training in their chosen field of science, mathematics, or engineering with a specialization in computational science integrated into their graduate studies.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Department Faculty, Doctoral Committee	Pass all examinations, complete all requirements and training, write dissertation and defend in an oral examination.
		Engineering Sciences: Applied Mechanics (Joint Doctorate with SDSU)	Attain advanced knowledge and demonstrate research skills in a specialized field.	Program Website	Catalog Copy	Part 1: Qualifying examination Part 2: Submission of a dissertation prospectus and oral examination	Advising Committee and Doctoral Committee	Pass qualifying examinations, write dissertation and defend in an oral examination
		Engineering Sciences with Specialization in Multi-Scale Biology	The training outcomes (as summarized on the program website and catalog pages) include (1) experience in cross-disciplinary science at the interfaces between two or more scientific disciplines; (2) hands-on experience in specialized research technologies for probing biological structure and function at multiple scales of biological organization; and (3) familiarity with integrative, quantitative analysis from molecule to organism scales.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of required co-mentor(s) from outside the home department, as well as members of home department, and other faculty per UCSD committee standards.	Complete both home department requirements and Interfaces Ph.D. Specialization in Multi-Scale Biology program requirements and training, write dissertation and defend in an oral examination.
Medical Device Engineering (1) Formal learning outcomes? Yes (6) Date of Academic Senate Review: 2019-20	Master of Advanced Studies	Medical Device Engineering	Aims to provide professional students the opportunity to specialize in the research and education on innovations in the development and the increasing application of technology in their field.	Program Website	Catalog Copy	Students are required to complete thirty-six units of core courses and a capstone project.	Student's Capstone Committee comprised of select faculty from the program.	Pass required coursework and capstone project.

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Medicine (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2010 by Liaison Committee on Medical Education (LCME)	M.D.	Medicine	Be prepared to practice medicine and keep pace with new developments in the life sciences. The UCSD School of Medicine is uniquely positioned to provide a solid foundation for a successful career in primary care, subspecialty medicine, academia or private practice. We seek to train compassionate physicians and physician-scientists who are highly skilled practitioners, innovators and leaders. Program Website Catalog Copy		Students must successfully complete preclinical core courses, clinical core courses, electives, and an independent study project.	School of Medicine faculty In order to graduate, the faculty has determined that each student must: -pass all courses in the "School of Medicine" series (the pre-clinical core courses) -pass Step I of the United States Medical Licensing Examination -pass all clinical core courses -pass Step II of the United States Medical Licensing Examination -pass the Clinical Practice Examination -satisfy the elective and Independent Study Project requirements.	
Music (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2008-09	Master of Arts	Music	Learning objectives vary with areas of emphasis, as follows: <u>Composition</u> : Strengthen expressive and technical capacity and skills, produce innovative musical compositions <u>Computer Music</u> : Develop new techniques for computer music composition, performance, and analysis <u>Integrative Studies</u> : Explore diverse methodologies and disciplines to pursue innovative scholarship and creative practice <u>Performance</u> : Develop skills for the creative, intelligent, and passionate performance of contemporary music. Program Website Catalog Copy		Research project and master's thesis	Department faculty, thesis committee	Gain experience in area of emphasis, complete coursework, research project, and master's thesis.

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Music (continued)	Doctor of Musical Arts	Contemporary Music Performance	Develop skills for the creative, intelligent, and passionate performance of contemporary music	Program Website	Catalog Copy	Completion of a second major recital plus one of the following: (a) thesis or research project; or (b) a concert that is innovative in design and/or content, and which is supported by a document containing extensive stylistic or analytical discussion of the program; or (c) a lecture/concert pertaining to innovative and/or original material, with appropriate documentation as determined by the committee, or (d) two approved chamber music concerts with appropriate documentation as determined by the committee. A final public defense of the composition/ dissertation/recitals is also required.	Department faculty	Completion of requirements and final public defenses.
	Doctor of Philosophy	Music	Learning objectives vary with areas of emphasis, as follows: <u>Composition</u> : Strengthen expressive and technical capacity and skills, produce innovative musical compositions <u>Computer Music</u> : Develop new techniques for computer music composition, performance, and analysis <u>Integrative Studies</u> : Explore diverse methodologies to pursue innovative scholarship and creative practice	Program Website	Catalog Copy	For Composition students, completion of a major composition project. For Integrative Studies and Computer Music students, completion of an acceptable dissertation. A final public defense of the composition/ dissertation/recitals.	Department Faculty	Complete composition project or dissertation. Successfully perform and/or defend work in a public forum.

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				Program Website	Catalog Copy			
NanoEngineering (1) Formal learning outcomes? Yes	Master of Science	NanoEngineering	Extend and broaden an undergraduate education with fundamental knowledge in different fields.	Program Website	Catalog Copy	Plan 1: Written research thesis. Plan 2: Oral examination	Thesis Committee, Department Faculty	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination
	Doctor of Philosophy	NanoEngineering	Be prepared for a variety of careers in research and teaching with an emphasis on research	Program Website	Catalog Copy			
Neurosciences (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2012-13	Doctor of Philosophy	Neurosciences	Foster and maintain a community of excellence in study and research in neurosciences and to be prepared to develop creative and innovative scientific research in order to lead productive and successful careers.	Program Website	Catalog Copy	Research rounds, teaching positions, minor proposition exam, qualifying examination, written dissertation, and oral defense.	Minor Proposition Committee and Doctoral Committee	Complete research rounds and teaching requirements. Pass minor proposition exam, 10-page NIH proposal, and oral examination. Pass qualifying exam, and write and successfully defend dissertation.
Neurosciences with Concentration in Computational Science		Gain a broad range of scientific and technical skills that are essential to understand the computational resource of neural systems.	Program Website	Catalog Copy	Oral course examinations, research rounds, teaching positions, minor proposition exam, written dissertation, and oral defense.			

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Neurosciences (continued)		Neurosciences with Specialization in Multi-Scale Biology	The training outcomes (as summarized on the program website and catalog pages) include (1) experience in cross disciplinary science at the interfaces between two or more scientific disciplines; (2) hands-on experience in specialized research technologies for probing biological structure and function at multiple scales of biological organization; and (3) familiarity with integrative, quantitative analysis from molecule to organism scales.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of re-quired co-mentor(s) from outside the home department, as well as members of home depart-ment, and other faculty per UCSD committee standards.	Complete both home department requirements and Interfaces Ph.D. Specialization in Multi-Scale Biology program requirements and training, write dissertation and defend in an oral examination.
		Neurosciences and Cognitive Science	Foster and maintain a community of excellence in study and research in neurosciences and to be prepared to develop creative and innovative scientific research in order to lead productive and successful careers. In addition, possess expertise in a secondary specialization from the field of cognitive science, which may include child development, computational modeling, distributed cognition, language disorders, neuroscience, philosophy, and psycholinguistics.	Program Website	Catalog Copy	Research rounds, teaching positions, minor proposition exam, qualifying examination, written dissertation, and oral defense.	Minor Proposition Committee and Doctoral Committee	Complete research rounds and teaching requirements. Pass minor proposition exam, 10-page NIH proposal, and oral examination. Pass qualifying exam, and write and successfully defend dissertation
		Neurosciences with Specialization in Anthropogeny	Designed to allow students to participate in research and education focused on explaining the origins of the human phenomenon.	Program Website	Catalog Copy	Research rounds, teaching positions, minor proposition exam, qualifying examination, written dissertation, and oral defense.	Minor Proposition Committee and Doctoral Committee	Complete research rounds and teaching requirements. Pass minor proposition exam, 10-page NIH proposal, and oral examination. Pass qualifying exam, and write and successfully defend dissertation

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				Program Website	Graduate Website			
Pharmacy and Pharmaceutical Sciences (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2008-09 - by Accrediting Council for Pharmacy Education	Pharm. D.	Pharmacy	Be prepared to be leaders in the profession of pharmacy and to effectively practice in a wide variety of currently existing and potential future roles in hospitals and medical centers, community pharmacy settings, academia, government, and the pharmaceutical industry.	Program Website	Graduate Website	Thesis project, introductory and advanced clinical experience competencies and comprehensive examination.	Thesis Committee, School faculty and clinical experience preceptors.	Pass comprehensive examination, complete introductory and advanced clinical experiences, document completion of clinical experience competencies and thesis project.
Philosophy (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2007-08	Master of Arts	Philosophy	Gain an understanding of diverse traditions and develop as philosophers in their own right.	Program Website	Catalog Copy	Distribution seminars and Master's research paper	Department Faculty	Complete distribution seminar requirements and write Master's research paper.
	Doctor of Philosophy	Philosophy	Gain an understanding of diverse traditions and develop as philosophers in their own right.	Program Website	Catalog Copy	Distribution seminars requirement, philosophy writing workshop, language requirement, teaching requirements, doctoral dissertation and oral examination in defense of dissertation	Doctoral Committee	Complete all requirements, propose and write dissertation and defend in oral examination.
		Philosophy with Concentration in Cognitive Science	Combine modes of analysis from the humanities and social sciences to explore the history, structure, and process of communication.	Program Website	Catalog Copy	Written dissertation and examination in defense of dissertation	Interdisciplinary Doctoral Committee	Write and successfully defend dissertation.
		Philosophy: Science Studies	Understand, interpret and explain the scientific enterprise demand a systematic integration of the perspectives developed within history, sociology, and philosophy of science.	Program Website	Catalog Copy	Foreign language requirement, internships, written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee	Complete language requirement and internship. Write dissertation and defend in oral examination.

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				Program Website	Catalog Copy			
Physics (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2011-12 Physics (continued)	Master of Science	Physics	Be knowledgeable about the field of physics and biophysics	Program Website	Catalog Copy	Comprehensive examination	Department Faculty	Complete coursework and pass comprehensive exam
		Physics with Specialization in Materials Physics	Be knowledgeable about the field of physics with a special concentration in material physics.	Program Website	Catalog Copy	Comprehensive examination	Department Faculty	Complete coursework and pass comprehensive exam
	Doctor of Philosophy	Physics	Understand a broad advanced education in physics while also emphasizing their special interests.	Program Website	Catalog Copy	Written examination, physics teaching, written thesis and oral defense	Department Faculty and Doctoral Committee	Pass all examinations, complete all requirements and training, write dissertation and defend in an oral examination.
		Physics Biophysics	Be prepared for a career in biophysics.	Program Website	Catalog Copy	Written examination, physics teaching, written thesis and oral defense	Department Faculty and Doctoral Committee	Pass all examinations, complete all requirements and training, write dissertation and defend in an oral examination.
		Physics with Specialization in Bioinformatics	Be equipped with interdisciplinary skills needed in businesses such as the pharmaceutical industry, agrobusiness, and biotechnology companies, or in academia, where there is a great need for academic faculty who have broad, interdisciplinary training.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary Doctoral Committee comprised of members of home department, Bioinformatics, and other faculty.	Pass all examinations, complete requirements and training for both departments, write dissertation and defend in an oral examination.
		Physics with Specialization in Quantitative Biology	Equip students of strong quantitative background with knowledge and skills necessary to lead quantitative, multi-facet investigation of living systems	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Pass all examinations, complete all requirements and training, write dissertation and defend in an oral examination.
		Physics with Specialization in Computational Science	This Ph.D. specialization is designed to allow students to obtain standard basic training in their chosen field of science, mathematics, or engineering with a specialization in computational science integrated into their graduate studies.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Department Faculty, Doctoral Committee	Pass all examinations, complete all requirements and training, write dissertation and defend in an oral examination.

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		Physics with Specialization in Multi-Scale Biology	The training outcomes (as summarized on the program website and catalog pages) include (1) experience in cross disciplinary science at the interfaces between two or more scientific disciplines; (2) hands-on experience in specialized research technologies for probing biological structure and function at multiple scales of biological organization; and (3) familiarity with integrative, quantitative analysis from molecule to organism scales.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, research training, written dissertation and oral examination in defense of dissertation	Interdisciplinary doctoral committee comprised of re-quired co-mentor(s) from outside the home department, as well as members of home depart-ment, and other faculty per UCSD committee standards	Complete both home department requirements and Interfaces Ph.D. Specialization in Multi-Scale Biology program requirements and training, write dissertation and defend in an oral examination

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Political Science (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2010-11	Master of Arts (granted with doctoral program)	Political Science		Program Website	Graduate Website			
	Doctor of Philosophy	Political Science	Be prepared to teach and conduct research in major research universities.	Program Website	Catalog Copy	Dissertation prospectus, oral and written examinations, doctoral dissertation and oral defense of dissertation	Doctoral Committee	Complete dissertation prospectus, pass all examinations, write and defend dissertation.
		Political Science and International Affairs	Be prepared for research careers in economics with an emphasis on international affairs and the Pacific region. Students should be able to combine analytical skills of economics with political economy, institutional analysis, and region/empirical knowledge	Program Website	Catalog Copy	Regional requirement, seminar papers, comprehensive examinations, written dissertation, and oral defense	Doctoral Committee comprised of faculty from Political Science and Graduate School of International Relations and Pacific Studies (IR/PS)	Complete regional requirements, submit seminar papers, pass all examinations, write and defend dissertation.
Psychology (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2010-11	Master of Arts (granted with doctoral program)	Psychology						
	Doctor of Philosophy	Psychology	Gain broad training in experimental psychology	Program Website	Catalog Copy	Research paper, teaching requirement, qualifying examination or paper, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Complete all requirements, pass all examinations, write dissertation and defend in oral examination.
		Psychology with Concentration in Cognitive Science	Have a basic introduction to cognitive psychology. Acquire or demonstrate knowledge of statistical tools and experimental design. Complete a yearlong project of empirical research in psychology.	Program Website	Catalog Copy	Written dissertation and examination in defense of dissertation	Dissertation Advisory Committee	Write dissertation and examination in defense of dissertation

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Psychology (continued)		Psychology with Specialization in Anthropogeny	Designed to allow students to participate in research and education focused on explaining the origins of the human phenomenon.	Program Website	Catalog Copy	Research paper, teaching requirement, qualifying examination or paper, written dissertation, and oral examination in defense of dissertation	Department Faculty and Doctoral Committee	Complete all requirements, pass all examinations, write dissertation and defend in oral examination.
Public Health (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2008-09	Doctor of Philosophy	Public Health: Epidemiology (Joint Doctorate with SDSU)	Study health problems including areas such as infectious disease epidemiology, chronic disease epidemiology, cancer epidemiology, behavioral epidemiology, community-based trials, physical activity and health, exercise and health, and nutrition and health.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, written dissertation and oral examination in defense of dissertation	Doctoral Committee	Pass all examinations, complete all requirements, write dissertation and defend in an oral examination
		Public Health: Global Health (Joint Doctorate with SDSU)	Gain the fundamental knowledge, understanding and specific skills necessary to become public health researchers and professional leaders in global health settings.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, written dissertation and oral examination in defense of dissertation	Doctoral Committee	Pass all examinations, complete all requirements, write dissertation and defend in an oral examination
		Public Health: Health Behavior (Joint Doctorate with SDSU)	Gain advanced skills including behavior change theories and strategies for population application, qualitative and quantitative research methods, and the application of interventions and research methods to health behavior in disenfranchised populations and to understand and change health policy.	Program Website	Catalog Copy	Qualifying examinations, teaching requirement, written dissertation and oral examination in defense of dissertation	Doctoral Committee	Pass all examinations, complete all requirements, write dissertation and defend in an oral examination

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Scripps Institution of Oceanography (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2008-09	Master of Advanced Studies	Climate Science and Policy	Gain scientific knowledge of the earth's climate system as well as provide an understanding of the political, legal and economic challenges associated with applying scientific knowledge to governmental and social contexts. Prepare practitioners to make wise and realistic decisions about the management of climate impacts.	Program Website	Graduate Website	50 units of coursework, a written capstone project report, and oral presentation	Interdisciplinary capstone committee.	Successfully complete all coursework.
		Marine Biodiversity and Conservation	Gain knowledge about marine ecosystems from the scientific, economic and policy perspective, as well as provide important cultural and communication skills needed to improve conservation of marine biodiversity in the world's most diverse and threatened ecoregions through development of local capacity and management tools	Program Website	Catalog Copy	48 units of coursework, a written capstone project report, and oral presentation	Interdisciplinary capstone committee.	Successfully complete all coursework.
	Master of Science	Earth Sciences	Learning outcomes are determined by curricular programs, as described below.	Program Website	Catalog Copy	Plan 1: Written Master's thesis. Plan 2: Oral comprehensive exam. For doctoral students earning the M.S. on the way to the Ph.D., the departmental examination fulfills this requirement.	Plan 1: Thesis Committee Plan 2: Examination Committee	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination
		Marine Biology	Learning outcomes are determined by curricular programs, as described below.	Program Website	Catalog Copy	Plan 1: Written Master's thesis. Plan 2: Oral comprehensive exam. For doctoral students earning the M.S. on the way to the Ph.D., the departmental examination fulfills this requirement.	Plan 1: Thesis Committee Plan 2: Examination Committee	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination
		Oceanography	Learning outcomes are determined by curricular programs, as described below.	Program Website	Catalog Copy	Plan 1: Written Master's thesis. Plan 2: Oral comprehensive exam. For doctoral students earning the M.S. on the way to the Ph.D., the departmental examination fulfills this requirement.	Plan 1: Thesis Committee Plan 2: Examination Committee	Plan 1: Write thesis and defend in oral examination Plan 2: Pass oral examination

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				Program Website	Catalog Copy			
Scripps Institution of Oceanography (continued)		Earth Sciences (Contiguous BS/MS Degree. Only available to UCSD Students)	Gain advanced research experience in an area of the earth sciences, think independently, and be equipped with advanced skills for teaching.	Program Website	Catalog Copy	Written thesis and oral presentation	Thesis Committee	Complete course requirements, write and successfully defend thesis in oral examination.
		Marine Biology (Contiguous BS/MS Degree. Only available to UCSD Students. Starting Fall 2015)	Gain advanced research experience in an area of marine biology, think independently, and be equipped with advanced skills for teaching.	Program Website	Catalog Copy	Written thesis and oral presentation	Thesis Committee	Complete course requirements, write and successfully defend thesis in oral examination.
	Concurrent Doctor of Philosophy and MBA	Earth Science, Marine Biology or Oceanography (Joint Doctoral with Rady School of Management)	Enables students to develop linkages between Scripps and Rady studies.	Program Website	Catalog Copy	PhD requirements: Scripps department and qualifying examinations, written dissertation and oral examination in defense of dissertation. Expectations for MBA will be forthcoming.	Scripps and Rady faculty	Pass all examinations, write dissertation and defend in oral examination
	Doctor of Philosophy	Geophysics (Joint Doctorate with SDSU)	Gain advanced knowledge in earthquake science and applied geophysics to provide skills needed to address important local, regional, and global societal problems where geophysics can contribute to solutions.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Scripps and SDSU faculty	Pass all examinations, write dissertation and defend in oral examination
		Earth Sciences	Learning outcomes are determined by curricular programs, as described below.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Marine Biology	Learning outcomes are determined by curricular programs, as described below.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination

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				Program Website	Catalog Copy			
Scripps Institution of Oceanography (continued)		Oceanography	Learning outcomes are determined by curricular programs, as described below.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
	Curricular Programs	Applied Ocean Science	Perform research in marine acoustics, optics, electromagnetics, geophysics, ecology, sediment transport, coastal processes, physical oceanography, and air-sea interactions, with emphasis on the resolution of key scientific issues through novel technological development.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Biological Oceanography	Gain interdisciplinary knowledge about ocean ecology, including how populations of marine organisms interact with one another and with their physical and chemical environment and how marine communities respond to natural and human impacts on the ocean environment.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Climate Sciences	Gain knowledge about the study of the climate system of the Earth with emphasis on the physical, dynamical, and chemical interactions of the atmosphere, ocean, land, ice, and the terrestrial and marine biospheres.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Geosciences	Gain knowledge about the application of general principles of geology, geochemistry, and geophysics to problems in the marine and terrestrial environments of the Earth.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Geophysics	Gain knowledge about the application of general principles of mathematics and experimental physics to fundamental problems of the oceans, oceanic and continental lithosphere, crust, and deep interior of the Earth.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
Scripps Institution of Oceanography (continued)		Marine Biology	Gain knowledge about the study of marine organisms concerning the evolutionary, organismic, genetic, physiological, and biochemical processes in these organisms and the relationship between them and their biotic and physical environment.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination

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		Marine Chemistry and Geochemistry	Explore links between a range of study areas including the oceans, the solid earth, the atmosphere, marine organisms, polar ice sheets, lakes, meteorites and the solar system.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination
		Physical Oceanography	Gain knowledge about the mechanisms of energy transfer through the sea and across its boundaries, and with the physical interactions of the sea with its surroundings, especially including the influence of the seas on the climate of the atmosphere.	Program Website	Catalog Copy	Department and qualifying examinations, written dissertation and oral examination in defense of dissertation.	Doctoral Committee	Pass all examinations, write dissertation and defend in oral examination

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Department/ Program	Degree Type	Degree	(2) What are these learning outcomes? Where are they published?		(3) What data/evidence is used to determine that graduates have achieved the stated outcomes?	(4) Who interprets the evidence? What is the Process?		
Sociology (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2013-14	Master of Arts (granted with doctoral program)	Sociology		Program Website	Catalog Copy			
	Doctor of Philosophy	Sociology	Be prepared to contribute knowledge about societies, advance the discipline of sociology, and teach sociology at the graduate and undergraduate levels. The graduate program in sociology is organized on the basis of four programs: 1. Comparative and Historical Sociology 2. Sociology of Culture 3. Sociology of Science, Technology, and Medicine 4. Social Inequalities	Program Website	Catalog Copy	Qualifying examinations, written and oral field examination. Written dissertation and oral examination in defense of dissertation.	Examining Committee, Doctoral Committee Pass examinations, write dissertation and defend dissertation in an oral examination	
	Sociology with Concentration in Cognitive Science	Sociology with Concentration in Cognitive Science	This program allows students to earn a Ph.D. in Sociology and Cognitive science.	Program Website	Catalog Copy	Students must complete all the regular sociology requirements. In addition, they take six cognitive science seminars and complete dissertation and oral defense.	Dissertation Advisory Committee composed of Sociology and Cognitive Science Program faculty.	Complete sociology and cognitive science requirements. Write and successfully defend dissertation.
	Sociology: Science Studies	Sociology: Science Studies	Research in sociology of science, technology, or medicine, broadly conceived.	Program Website	Catalog Copy	Internship, written dissertation and examination in defense of dissertation	Interdisciplinary Doctoral Committee	Complete language requirements and internship. Write and successfully defend dissertation.

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				Program Website	Catalog Copy			
Structural Engineering (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2006-07	Master of Science	Structural Engineering	Gain the additional fundamental knowledge as well as specialized advanced knowledge in selected structural engineering aspects over and above the undergraduate degree course work.	Program Website	Catalog Copy	Plan 1: Write thesis and defend in an oral examination. Plan 2: Comprehensive written and/or oral examination	Thesis Committee, Department Faculty.	Plan 1: Write thesis and defend in oral examination. Plan 2: Pass comprehensive written and/or oral examination.
		Structural Engineering with Specialization in Structural Health Monitoring, Prognosis, and Validated	Gain specialized knowledge in the three technology areas of (1) Sensing Technology, (2) Data Interrogation, and (3) Predictive Modeling.	Program Website	Catalog Copy	Plan 1: Write thesis and defend in an oral examination. Plan 2: Comprehensive written and/or oral examination	Thesis Committee, Department Faculty.	Plan 1: Write thesis and defend in oral examination. Plan 2: Pass comprehensive written and/or oral examination.
	Doctor of Philosophy	Structural Engineering	Be prepared for a variety of careers in research, teaching and advanced professional practice in the broad sense of structural engineering, encompassing civil and aerospace structures, earthquake and geotechnical engineering, composites, computational mechanics, and engineering mechanics.	Program Website	Catalog Copy	Doctoral examinations, teaching experience, written dissertation, and oral dissertation defense	Structural Engineering Graduate Affairs Committee, Doctoral Committee	Pass all examinations, write and successfully defend dissertation.
		Structural Engineering with Specialization in Computational Science	This is a campus-wide interdisciplinary training program designed to train the next generation of scientists, mathematicians, and engineers in the use of modern tools of computational science.	Program Website	Catalog Copy	Doctoral examinations, teaching experience, written dissertation, and oral dissertation defense	Structural Engineering Graduate Affairs Committee, Doctoral Committee	Pass all examinations, write and successfully defend dissertation.

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				Program Website	Catalog Copy			
Theatre and Dance (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2012-13	Master of Fine Arts	Theatre - Acting	Be prepared to take positions in the professional theatre in the United States and abroad.	Program Website	Catalog Copy	Courses, productions, externships, research, auditions, festivals, showcases.	Department faculty	Pass coursework and develop skills based on production experience.
		Theatre - Dance Theatre	Be prepared to take positions in the professional theatre in the United States and abroad.	Program Website	Catalog Copy	Courses, productions, externships, research, auditions, festivals, showcases.	Department faculty	Pass coursework and develop skills based on production experience.
		Theatre - Design	Be prepared to take positions in the professional theatre in the United States and abroad.	Program Website	Catalog Copy	Courses, productions, externships, research, auditions, festivals, showcases.	Department faculty	Pass coursework and develop skills based on production experience.
		Theatre - Directing	Be prepared to take positions in the professional theatre in the United States and abroad.	Program Website	Catalog Copy	Courses, productions, externships, research, auditions, festivals, showcases.	Department faculty	Pass coursework and develop skills based on production experience.
		Theatre - Playwriting	Be prepared to take positions in the professional theatre in the United States and abroad.	Program Website	Catalog Copy	Courses, productions, externships, research, auditions, festivals, showcases.	Department faculty	Pass coursework and develop skills based on production experience.
		Theatre - Stage Management	Be prepared to take positions in the professional theatre in the United States and abroad.	Program Website	Catalog Copy	Courses, productions, externships, research, auditions, festivals, showcases.	Department faculty	Pass coursework and develop skills based on production experience.
	Doctor of Philosophy	Drama and Theatre (Joint Doctorate with UCI)	Gain knowledge from a variety of research areas including Greek classical theatre, Shakespeare and his contemporaries, Italian, French, and German theatre, US-Latino, African-American, and Asian-American theatre; critical historical and performance theories.	Program Website	Catalog Copy	Comprehensive examination, qualifying papers, teaching requirement, written dissertation and oral examination in defense of dissertation	Doctoral Committee	Pass all examinations, complete requirements, write dissertation and defend in oral examination.

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				Program Website	Catalog Copy			
Visual Arts (1) Formal learning outcomes? Yes (6) Date of last Academic Senate Review: 2009-10	Master of Arts	Art History, Theory and Criticism	Gain knowledge about art history, theory and criticism through the study of fine art, media, and mass culture as well as larger frameworks including historical, cultural, social, intellectual and theoretical	Program Website	Catalog Copy	Departmental examination, oral examination, pass 1 foreign language examination, written Master's thesis	Departmental Committee	Pass examinations and write Master's thesis in accordance with M.A option.
	Master of Fine Arts	Visual Arts	Pursue a career within the field of art- including art making, criticism, and theory.	Program Website	Catalog Copy	Departmental examination, oral examination, written Master's thesis under 1 of 4 options: Catalog (1,500 words); Critical Paper (3,000 words); Analytical Essay (3, 000 words); Critical Thesis (40-50 pages)	Departmental Committee	Pass examinations and write Master's thesis in accordance with M.F.A option.
	Doctor of Philosophy	Art History, Theory and Criticism	Gain knowledge about art history, theory and criticism through the study fine art, media, and mass culture as well as larger frameworks including historical, cultural, social, intellectual and theoretical.	Program Website	Catalog Copy	Foreign language requirement (at least 2 foreign languages), qualifying examinations, written dissertation and oral examination in defense of dissertation.	Department Faculty and Doctoral Committee	Complete all requirements, pass all examinations, write and successfully defend dissertation.
	Doctor of Philosophy	Art History, Theory and Criticism in Art Practice	Seek research based practice alongside a written dissertation and to develop new work.	Program Website	Catalog Copy	Foreign language requirement (at least 2 foreign languages), qualifying examinations, written dissertation and oral examination in defense of dissertation.	Department Faculty and Doctoral Committee	Complete all requirements, pass all examinations, write dissertation and defend in oral examination.
		Art History, Theory and Criticisms with a Specialization in Anthropogeny	Designed to allow students to participate in research and education focused on explaining the origins of the human phenomenon.	Program Website	Catalog Copy	Foreign language requirement (at least 2 foreign languages), qualifying examinations, written dissertation and oral examination in defense of dissertation.	Department Faculty and Doctoral Committee	Complete all requirements, pass all examinations, write and successfully defend dissertation.
		Art History, Theory and Criticism with a Concentration in Art Practice and a Specialization in Anthropogeny	Designed to allow students to participate in research and education focused on explaining the origins of the human phenomenon.	Program Website	Catalog Copy	Foreign language requirement (at least 2 foreign languages), qualifying examinations, written dissertation and oral examination in defense of dissertation.	Department Faculty and Doctoral Committee	Complete all requirements, pass all examinations, write and successfully defend dissertation.

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Wireless Embedded Systems	Master of Advanced Studies	Wireless Embedded Systems	To engage in a focused area of research as a method of graduate training in a field already familiar to working professionals. To provide students the opportunity to specialize in the research and education on innovations in the development and the increasing application of technology in their field.	Program Website	Catalog Copy	Students are required to complete thirty-six units of core courses and capstone project.	Student's Capstone Committee comprised of select faculty from the program.	Pass required coursework and capstone project.
(1) Formal learning outcomes? Yes								
(6) Date of Academic Senate Review: 2019-20								

Notes:

* (5) How Are these findings used? All departments have a faculty member identified as the graduate program coordinator, and a faculty committee that deals with graduate education and curriculum. Internal policies and practices are reviewed on an ongoing basis, often brought forward by the students and research/dissertation advisors themselves. The faculty and staff graduate program coordinators meet annually with the Graduate Division to share best practices.

**Highlighted programs indicated new degrees offered since last submission