

**Data Exhibit 7.1a Inventory of Educational Effectiveness Indicators – Graduate Division Programs**

CATEGORY	(1) Have formal learning outcomes been developed?	(2) Where are these learning outcomes published? (Please specify)	(3) Other than GPA, what data/evidence is used to determine that graduates have achieved stated outcomes for the degree?	(4a) Who interprets the evidence?	(4b) What is the process?	(5) How are the findings used?	(6) Date of last program review for this degree program
At the institutional level:	Yes	Graduate Division: p. 29, Graduate Division Handbook <a href="http://graduate.ucsf.edu/system/files/Graduate_Handbook.pdf">http://graduate.ucsf.edu/system/files/Graduate_Handbook.pdf</a> - see also statement on graduate learning outcomes developed by Elizabeth Watkins and Judith Martin-Holland	Masters: thesis or comprehensive exam: <a href="http://graduate.ucsf.edu/content/master039s-degree">http://graduate.ucsf.edu/content/master039s-degree</a>  Doctorate: qualifying exam and dissertation: <a href="http://graduate.ucsf.edu/content/doctoral-degree">http://graduate.ucsf.edu/content/doctoral-degree</a>  Programs may also have additional requirements.  All programs with NIH training grants (including Bioengineering, Biophysics, BMI, BMS, TETRAD, CCB, and Neuroscience) require the completion of an ethics course by their students.	Masters: Thesis committee or examination committee  Doctorate: Qualifying exam committee of four faculty; Dissertation committee of three faculty.  Program procedures may differ – see below.	Programs differ in their requirements – please see below.	All departments have a faculty member identified as the graduate program coordinator, and larger departments have a faculty committee that deals with graduate education and curriculum. In both cases, internal policies and practices are reviewed on an ongoing basis, and concerns about the curriculum, the oral exam, and the capstone project/thesis are often brought forward by the students and research/dissertation advisors themselves.	N/A
Biochemistry and Molecular Biology (TETRAD <sup>1</sup> ) PhD	Yes	“QE Outline” (not online)	Qualifying examination, teaching requirement 1 q, research training, written dissertation, exit seminar	Orals Committee (4 TETRAD faculty), Dissertation Committee (3 TETRAD faculty)	Complete program requirements, take oral exam before June 1 2 <sup>nd</sup> Year, submit dissertation, 1 pub peer reviewed journal or equiv., exit seminar.	Program oversight by Graduate Curriculum Committee, meets 1x/quarter; faculty advisor for student monitors their progress.	April 2009

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Bioengineering PhD	Yes	<a href="http://bioeng.berkeley.edu/currentgrads/program.php">http://bioeng.berkeley.edu/currentgrads/program.php</a> and <a href="http://bioeng.berkeley.edu/gradhandbook/introduction.php">http://bioeng.berkeley.edu/gradhandbook/introduction.php</a> <a href="http://bioeng.berkeley.edu/gradhandbook/qualifying/exam.php">http://bioeng.berkeley.edu/gradhandbook/qualifying/exam.php</a>	Qualifying examination, teaching requirement, research training, written dissertation, exit seminar	Interdisciplinary orals committee (4 faculty) with core members of Graduate Group & 1 outside faculty member, with members from both campuses; 3 Group faculty for dissertation committee.	Complete all coursework, 3 lab rotations, & one term of teaching; pass qualifying exam no later than December of 3 <sup>rd</sup> Year; submit dissertation.	All graduate advisors meeting annually to review student progress. Broad concerns re progress are brought to the Executive Committee.	May 2006
Biological and Medical Informatics (iPQB <sup>3</sup> ) PhD	Yes	<a href="http://bioinformatics.ucsf.edu/progression/qualifying_exam.php">http://bioinformatics.ucsf.edu/progression/qualifying_exam.php</a> , select 'Qualifying Exam' from pull-down menu and links on page.	4th Year Research Seminar, oral qualifying exam, teaching requirement 1 quarter, research training, written dissertation, exit seminar	Orals committee (4 faculty); dissertation committee (3 faculty) meeting annually to monitor progress and approve dissertation.	Complete all coursework & core competencies, Journal Club 2x, take qualifying exam by end of 2 <sup>nd</sup> year, give 4 <sup>th</sup> Year Seminar at annual research retreat, submit dissertation.	iPQB Executive Committee meets 1x/yr, provides overall program oversight (breakout meetings for BMI alone as needed); iPQB curriculum committee meets 2x/yr, monitors curriculum; faculty mentors track student progress.	May 2010

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Biomedical Sciences PhD	Yes	<a href="http://bms.ucsf.edu/academics.html#qual_exam">http://bms.ucsf.edu/academics.html#qual_exam</a> & <a href="http://bms.ucsf.edu/">http://bms.ucsf.edu/</a>	Qualifying examination, 1 quarter teaching requirement, research training, informal student research presentations, written dissertation, exit seminar.	Orals committee (4 faculty); dissertation committee (3 faculty).	Complete coursework, Journal Club 2X plus any additional journal club requirement imposed by BMS thematic areas, 3 lab rotations, take oral exam before end of 2nd Year, submit dissertation, exit seminar, min. 1 pub peer reviewed journal or equiv., expectation of completion within 5-6 years. 6+ years referred to Student Assistance Committee.	Students meet annually with thesis committee and separately with thesis advisor; written reports are provided to program office. Student Assistance Committee meets formally at least 1x/yr to consider student progress, and program improvement, and on an ad hoc basis at other times.	November 2009
Biophysics (PIBS <sup>2</sup> & iPQB <sup>3</sup> ) PhD	Yes	<a href="http://biophysics.ucsf.edu/bp_qualifying_exam.php">http://biophysics.ucsf.edu/bp_qualifying_exam.php</a>  <a href="http://biophysics.ucsf.edu/bp_candidacy.php">http://biophysics.ucsf.edu/bp_candidacy.php</a>	Oral qualifying exam, TA 1 quarter, research training, written dissertation, exit seminar.	Orals committee (4 faculty, Chair from BP, 1 outside member); dissertation committee (3 faculty)	Complete coursework; TA; Journal Club 2x, take oral exam before end of 2 <sup>nd</sup> Year, submit dissertation, exit seminar, one 1 <sup>st</sup> author pub. New: six year limit in program, continue only with approval.	iPQB Executive Committee meets 1x/yr, provides overall program oversight (breakout meetings for Biophysics alone as needed); iPQB curriculum committee meets 2x/yr, monitors curriculum; faculty mentors track student progress.	April 2004, scheduled for 2010-11

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Cell Biology (TETRAD <sup>1</sup> ) PhD	Yes	"QE Outline" (not online)	Qualifying examination, teaching requirement 1 q, research training, written dissertation, exit seminar	Orals Committee (4 TETRAD faculty), Dissertation Committee (3 TETRAD faculty)	Complete program requirements, take oral exam before June 1 2 <sup>nd</sup> Year, submit dissertation, 1 pub peer reviewed journal or equiv., exit seminar.	Program oversight by Graduate Curriculum Committee, meets 1x/quarter; faculty advisor for student monitors their progress.	April 2009
Chemistry & Chemical Biology (PIBS <sup>2</sup> ) PhD	Yes	"Chemistry and Chemical Biology Graduate Program Oral Examinations" and "UCSF Chemistry and Chemical Biology Graduate Program - Guidelines for Dissertation Committee Formation and Meetings" (not online)	Qualifying examination, research training, written dissertation, exit seminar	Quals committee: (4 faculty, 3 from CCB). Dissertation committee (3 faculty, at least one from CCB)	Complete coursework, Journal Club 2x, TA 1 quarter, take oral exam end of 2 <sup>nd</sup> year, submit dissertation.	PIBS Executive Committee meets 3-4x/yr, provides overall program oversight; curriculum committee of each program meets 3x/yr, monitors curriculum; faculty mentors track student progress.	March 2008
Clinical Research Masters in Advanced Study	Yes	<a href="http://www.epibiostat.ucsf.edu/courses/masters.html#products">http://www.epibiostat.ucsf.edu/courses/masters.html#products</a>	Literature review, poster or oral presentation at national meeting, submit as 1 <sup>st</sup> author a peer-reviewed manuscript, teach 1 quarter.	Masters committee (3 faculty: one each from scholar's research field, biostatistics, & epidemiology.	Complete coursework, the 3 clinical research capstone products, and submit periodic progress reports on products.	Advisory Committee meets quarterly, provides program oversight. Clinical research products and progress reports used by Program Director to modify program emphasis.	May 2008

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Developmental Biology (TETRAD <sup>1</sup> ) PhD	Yes	"QE Outline" (not online)	Qualifying examination, teaching requirement 1 q, research training, written dissertation, exit seminar	Orals Committee (4 TETRAD faculty), Dissertation Committee (3 TETRAD faculty)	Complete program requirements, take oral exam before June 1 2 <sup>nd</sup> Year, submit dissertation, 1 pub peer reviewed journal or equiv., exit seminar.	Program oversight by Graduate Curriculum Committee, meets 1x/quarter; faculty advisor for student monitors their progress.	April 2009
Genetics (TETRAD <sup>1</sup> ) PhD	Yes	"QE Outline" (not online)	Qualifying examination, teaching requirement 1 q, research training, written dissertation, exit seminar	Orals Committee (4 TETRAD faculty), Dissertation Committee (3 TETRAD faculty)	Complete program requirements, take oral exam before June 1 2 <sup>nd</sup> Year, submit dissertation, 1 pub peer reviewed journal or equiv., exit seminar.	Program oversight by Graduate Curriculum Committee, meets 1x/quarter; faculty advisor for student monitors their progress.	April 2009
Global Health Sciences MS	Yes	<a href="http://www.globalhealthsciences.ucsf.edu/education/graduate/curriculum/program-of-study.aspx">http://www.globalhealthsciences.ucsf.edu/education/graduate/curriculum/program-of-study.aspx</a> & <a href="http://www.globalhealthsciences.ucsf.edu/education/graduate/curriculum/degree-objectives.aspx">http://www.globalhealthsciences.ucsf.edu/education/graduate/curriculum/degree-objectives.aspx</a>	Qualifying examination based on fieldwork protocol, evaluation of capstone project.	Review committee (reviews both qual and capstone); 3 faculty & non-voting mentors.	Complete coursework; written fieldwork protocol; oral & written presentation of project.	Program director sits in on all quals, receives feedback from quals faculty and faculty advisors.	Established 2008, initial review due 2013
History of Health Sciences MA	Yes	<a href="http://www.dahsm.medschool.ucsf.edu/history/index.aspx">http://www.dahsm.medschool.ucsf.edu/history/index.aspx</a>	Written thesis.	Thesis: 4 faculty and thesis advisor.	Complete coursework; submit Master's thesis.	Thesis advisor provides feedback to Program Director	Program re-opened 2005, will be reviewed in 2011

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History of Health Sciences PhD	Yes	<a href="http://www.dahsm.medschool.ucsf.edu/history/index.aspx">http://www.dahsm.medschool.ucsf.edu/history/index.aspx</a>	Preliminary examination; research training; written dissertation.	Prelims: 4 faculty for written exam, same 4 for oral. Dissertation: advisor & 2 other faculty.	Demonstrate competence in a foreign language; Prelim at end of 2 <sup>nd</sup> Year; submit dissertation.	Program director sits in on all quals, receives feedback from quals faculty and faculty advisor.	Program re-opened 2005, will be reviewed in 2011
Medical Anthropology PhD	Yes	<a href="http://www.dahsm.medschool.ucsf.edu/medical/index.aspx">http://www.dahsm.medschool.ucsf.edu/medical/index.aspx</a>	Preliminary exam (oral); research training; show verbal language fluency; qualifying exam (oral); field statements; written dissertation.	Prelim: 1 UCSF faculty. Qualls: 4 faculty (at least 1 UCSF, 1 UCB; 1 anthropologist & 1 outside. Dissertation: At least 1 UCSF & 1 UCB anthropologist, 1 other faculty.	Pass prelim; complete all coursework & language requirement; write field statements; pass quals; do fieldwork; submit dissertation; give dissertation presentation to the department.	Program director sits in on all quals, receives feedback from quals faculty and faculty advisor.	May 2007
Neuroscience (PIBS <sup>2</sup> ) PhD	Yes	<a href="http://www.neuroscience.ucsf.edu/neurograd/steps.html">http://www.neuroscience.ucsf.edu/neurograd/steps.html</a>	Two-part qualifying exam (out of area and pre-thesis); research training; written dissertation & thesis talk.	Out-of-area quals: 3 NS faculty. Pre-dissertation quals: 4 faculty, 2 from NS; dissertation: 4 faculty inclu. Advisor & + 1 outside UCSF member.	Out-of-area quals before 2 <sup>nd</sup> Year; pre-dissertation quals mid-2 <sup>nd</sup> Year; complete all coursework; submit dissertation; do thesis talk.	PIBS Program Executive Committee meets 3-4x/yr, provides overall program oversight; curriculum committee of the program meets 3x/yr, monitors curriculum; faculty mentors track student progress.	April 2008

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Nursing MS	Yes	<a href="http://nurseweb.ucsf.edu/public/stuhdbk.pdf">http://nurseweb.ucsf.edu/public/stuhdbk.pdf</a> and <a href="http://nurseweb.ucsf.edu/www/ix-cs.shtml">http://nurseweb.ucsf.edu/www/ix-cs.shtml</a> under Master of Science Program	Thesis or comprehensive examination.	Thesis committee or faculty of degree program.	Complete coursework; write thesis or pass comprehensive examination.	Graduate Program Council provides oversight with input from faculty mentors and students.	May 2009
Nursing PhD	Yes	<a href="http://nurseweb.ucsf.edu/public/stuhdbk.pdf">http://nurseweb.ucsf.edu/public/stuhdbk.pdf</a>	Qualifying examination; written dissertation; thesis defense.	Quals: 4 faculty, 1 outside Dept.; Dissertation: 3 faculty	Complete coursework and research residencies; write dissertation and defend it.	Graduate Program Council provides oversight with input from faculty mentors and students.	May 2009
Oral & Craniofacial Sciences MS	Yes	<a href="http://dentistry.ucsf.edu/admissions/admiss_program-msocs.html">http://dentistry.ucsf.edu/admissions/admiss_program-msocs.html</a>	Research protocol, dissertation.	Three faculty on dissertation committee.	Finish coursework, journal club, research protocols, research, submit thesis.	Student progress reviewed annually by academic and research advisors; oversight by Program Director	December 2003, scheduled for 2010-11
Oral & Craniofacial Sciences PhD	Yes	<a href="http://dentistry.ucsf.edu/ocsci/bms.htm">http://dentistry.ucsf.edu/ocsci/bms.htm</a>	Qualifying examination, written dissertation.	Quals: 4 faculty, Dissertation: 3 faculty	Complete core courses in 2 yrs; 3 lab rotations; journal club; take quals by end of Fall quarter 3 <sup>rd</sup> yr; submit dissertation.	An annual review of student progress report goes to the OCS Steering Committee; peer counseling by 'big sibling' student advisors; Curriculum Committee report to OCS Steering Committee, which provides program oversight.	December 2003, scheduled for 2010-11

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Pharmaceutical Sciences & Pharmacogenomics PhD	Yes	<a href="http://bts.ucsf.edu/psp/g/students/currentstudents/academics/index.html">http://bts.ucsf.edu/psp/g/students/currentstudents/academics/index.html</a>	Two-part qualifying exam (written & oral); 1 Q TA, research training; written dissertation & exit seminar.	Quals: 4 faculty, Dissertation: 3 faculty.	Elective units done and coursework complete before quals, orals by Fall 3 <sup>rd</sup> yr; submit dissertation.	Executive committee provides oversight of program as whole, meets 1x/quarter; curriculum committee meets 2x/yr; dissertation comm. Mtg each year with student until graduate.	November 2008
Physical Therapy, Entry Level DPT	Yes	<a href="http://ptrehab.medschool.ucsf.edu/Education/DPT/DPT%20Student%20Reqs.aspx">http://ptrehab.medschool.ucsf.edu/Education/DPT/DPT%20Student%20Reqs.aspx</a>	Mentored clinical research and practice, comprehensive examination, passage of national licensing examination.	Clinical preceptors, core faculty, national board.	Student completes all didactic and clinical coursework, and meets performance requirements; passes comprehensive exam and national licensing exam.	Student progress is reviewed annually by faculty and Program Directors at SFSU and UCSF; course and programmatic changes then made if needed.	March 2010
Physical Therapy, Post-Professional DPT	Yes	<a href="http://ptrehab.medschool.ucsf.edu/Education/DPT/PostProfDPT.aspx">http://ptrehab.medschool.ucsf.edu/Education/DPT/PostProfDPT.aspx</a> and <a href="http://ptrehab.medschool.ucsf.edu/Education/DPT/Post%20Professional%20DPT%20Program%20flyer%202010.pdf">http://ptrehab.medschool.ucsf.edu/Education/DPT/Post%20Professional%20DPT%20Program%20flyer%202010.pdf</a>	Development of a case report or evidence-based review of a clinical question, with preparation of a manuscript-style document that could be presented at Grand Rounds or a professional meeting.	Program faculty.	Oral presentation of case report and evidence-based literature search to peers, faculty, and at public Spring Symposium.	Student progress is reviewed annually by faculty and Program Directors at SFSU and UCSF; course and programmatic changes then made if needed.	March 2010



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Physical Therapy, DPTSc	Yes	<a href="http://ptrehab.medschool.ucsf.edu/Education/DPTSc/DPTSc.aspx">http://ptrehab.medschool.ucsf.edu/Education/DPTSc/DPTSc.aspx</a> and <a href="http://www.ptrehab.medschool.ucsf.edu/education/DPTSc/DPTSc%20Program%20Flyer%207-06.pdf">http://www.ptrehab.medschool.ucsf.edu/education/DPTSc/DPTSc%20Program%20Flyer%207-06.pdf</a>	Qualifying examination; written dissertation, thesis defense.	Quals: 4 faculty, 1 outside program; Dissertation: 3 faculty.	Complete coursework, 3 rotations, take qualifying exams after 12-15 months; submit dissertation.	Student progress is reviewed annually by faculty and Program Directors at SFSU and UCSF; course and programmatic changes then made if needed.	March 2010
Sociology PhD	Yes	<a href="http://nurseweb.ucsf.edu/public/stuhdbk.pdf">http://nurseweb.ucsf.edu/public/stuhdbk.pdf</a>	At the completion of each core course year (2), written qualifying examinations are administered for each required core course (3 per year); Third Area Qualifying Examination; written dissertation; dissertation defense.	Quals: 4 faculty, 1 outside Dept.; Dissertation: 3 faculty	Complete coursework; pass both core qualifying exams; complete Third Area Examination; write dissertation and defend it.	Student progress is reviewed annually by faculty and Program Directors .Graduate Program Council provides oversight with input from faculty mentors and students.	April 2006

<sup>1</sup> The four TETRAD programs share an admissions process: students interested a TETRAD program apply to all four programs together, are accepted into all four initially, and then commit to a particular program at the end of their first year of study. All TETRAD programs are also members of PIBS (see below).

<sup>2</sup> PIBS is the Herbert W. Boyer Program in Biological Sciences, which consists of several jointly-administered programs. See ‘Courses’ and ‘Educational Responsibilities of PIBS’ at [http://pibs.ucsf.edu/pibs/g1/2708-DSY.html#dsy2708-DSY Educational%20Responsibilities%20of%20PIBSfor](http://pibs.ucsf.edu/pibs/g1/2708-DSY.html#dsy2708-DSY_Educational%20Responsibilities%20of%20PIBSfor) more detail.

<sup>3</sup> iQCB (Integrative Program in Quantitative Biology) has a common core curriculum drawn from the offerings of the constituent programs and provides overarching governance for those programs.