

**CALIFORNIA STATE UNIVERSITY, EAST BAY**

Designation Code: 2008-09 **CAPR 06**

Date Submitted: November 6, 2008

TO: The Academic Senate  
FROM: Committee on Academic Planning & Review (CAPR)  
SUBJECT: MA in Biological Sciences  
PURPOSE: For Action by the Academic Senate  
ACTION  
REQUESTED: That the Academic Senate Approve the MA in Biological Sciences

At the CAPR meeting of November 6<sup>th</sup>, the committee members voted unanimously to approve the MA in Biological Sciences for placement on the Academic Plan. The program review date will be 2014-15, to coincide with the review date of the other Biology programs

Program submission documents can be found on the CAPR Sharepoint site within the November 6th workspace at:

<https://sharepoint.csueastbay.edu/sites/AcademicSenate/capr/CAPR%20Meeting/default.aspx?InstanceID=20081106>

See also 08-09 CIC 7

## Program Type

√ New Program

### 1. Program Identification

- a. Campus: **East Bay**
- b. Full and exact degree designation and title (e.g. Master of Science in Genetic Counseling, Bachelor of Arts with a Major in History): **Master of Arts in Biological Science**
- c. Date the Board of Trustees approved adding this program projection to the campus Academic Plan:
- d. Term and academic year of intended implementation (e.g. Fall 2007): **Fall 2009**
- e. Name of the department(s), division, or other unit of the campus that would offer the proposed degree major program. Please identify the unit that will have primary responsibility: **Department of Biological Sciences, College of Science**
- f. Name, title, and rank of the individual(s) primarily responsible for drafting the proposed degree major program: **Susan Opp, Professor and Graduate Coordinator, Department of Biological Sciences**
- g. Statement from the appropriate campus administrative authority that the addition of this program supports the campus mission and will not impede the successful operation and growth of existing academic programs. (CPEC “**Appropriateness to Institutional and Segmental Mission**”) (see attached)
- h. Any other campus approval documents that may apply (e.g. curriculum committee approvals): (see attached)
- i. Please specify whether this proposed program is subject to WASC Substantive Change review: **N/A**
- j. Optional: Proposed Classification of Instructional Programs ([CIP Code](#)) and CSU Degree [Program Code](#) :  
**Program Code: 04011**  
**(CIP) Code: 26.0101**

### 3. Program Overview and Rationale

a. Rationale, including a brief description of the program, its purpose and strengths, fit with institutional mission, and a justification for offering the program at this time. The rationale may explain the relationship among the program philosophy, design, target population, and any distinctive pedagogical methods. (CPEC “**Appropriateness to Institutional and Segmental Mission**”)

**The plan is to add a new degree program, Master of Arts (M.A.) in Biological Science, to the department’s current Master of Science (M.S.) graduate program in Biological Science. The M.S. program in Biological Science currently has Plan A (University Thesis), Plan B (Departmental Thesis), and Plan C (Comprehensive Examination) tracks available to students. As a culminating experience, Plan A students complete a traditional research thesis and take an oral examination, Plan B students complete a non-research thesis with an oral examination, while students in the Plan C are required to pass a written comprehensive examination in biological sciences offered at the end of spring quarter. The Plan A, Plan B, and Plan C M.S. tracks each require 45 units of**

coursework, with at least half of those units consisting of graduate coursework. In addition, graduate students in all M.S. tracks are required to complete a minimum of one, and maximum of two, graduate seminar(s) in Biological Sciences. The goal of the formation of the Plan C option was to provide students with an additional route to completion of the M.S. degree that would allow more students into our Master's program, thereby increasing enrollment in upper-division and graduate courses, while ensuring our graduate students received a graduate education with sufficient depth and breadth to facilitate entry into professional programs, advancement in the workplace, and education commensurate with other graduate programs. While these goals have been met, faculty in Biological Sciences, as well as graduate students in our program, have found the existence of three different Plans within the M.S. to be unnecessarily complex, leading to confusion. Thus, the basic rationale behind this proposal is to develop a separate Master of Arts degree program that will clearly differentiate the comprehensive examination graduate program from the research thesis program (which will remain as the Master of Science in Biological Science degree program).

b. Proposed catalog description, including program description, degree requirements, and admission requirements. For master's degrees, please also include catalog copy describing the culminating experience requirement(s).

The M.A. degree program in the Department of Biological Sciences is open to graduates of accredited institutions who have a four-year baccalaureate degree in any field of the biological sciences and who have achieved a GPA of at least 2.75 in all undergraduate work and an average of 3.00 in all biological science courses taken as an upper division student. Normally, all applicants should have completed undergraduate courses equivalent to those required of all biological science majors at Cal State East Bay. In addition to filing the university application and fee, students must make application to the Department of Biological Sciences for admission to graduate standing in the M.A. degree program. Application forms are available through the department office or by accessing the Biology Department website. In addition to the GPA requirements for admission, the department requires that the following be sent directly to the Department of Biological Sciences: departmental application, GRE scores of the General Test, and three letters of reference. Applicants must have taken basic courses in biological and physical sciences and mathematics/statistics; areas omitted, if any, will be treated as course deficiencies and must be completed by the time of classification. No action will be taken by the department until the application file is complete; this is the applicant's responsibility. All students admitted to the program will be admitted as "Conditionally Classified Graduate" students.

A "Conditionally Classified Graduate" student must become a fully "Classified Graduate" student in the program ~~by completing the following (as specified for each student in his/her acceptance letter within four quarters, i.e., one year, in the program) by doing the following:~~

- ~~1. Satisfy the University Writing Skills Requirement~~
- ~~2. Complete basic course deficiencies.~~
- ~~3. Specify area of proposed course and comprehensive exam specialization in writing to the Biological Sciences Department.~~ as set forth in 1, 2, and 3 below, if applicable, within four quarters of acceptance into the Master's program or the "Conditional Classification" will expire and the student will be placed in "Unclassified Post-baccalaureate" status. It is the responsibility of the student to make sure these requirements are met within the specified time limits.

1. Specify the area of proposed course and comprehensive exam specialization in writing to the Department of Biological Sciences. Examples of areas of specialization are available from the department or Graduate Coordinator.

2. Complete basic course deficiencies. If the student lacks basic courses in biological or physical sciences, or mathematics/statistics, these courses must be completed by the end of the fourth quarter following admission to the program.

3. University Writing Skills Requirement. The University Writing Skills Requirement must be satisfied. (See Graduate and Post-baccalaureate Studies chapter at the beginning of the graduate section of this catalog.)

## **Advanced Candidacy**

To become “Advanced to Candidacy” the student must ~~do the following~~ have:

1. attained “Classified Graduate” standing

~~1. Meet with faculty advisor in specified area of concentration to plan for comprehensive examination.~~

~~2. Completed at least 12 quarter units of satisfactory coursework beyond the baccalaureate degree suitable for inclusion in the M.A. program in Biological Science as approved by the student's faculty advisor-graduate advisory committee. At least 3 quarter units of graduate level coursework in residence at Cal State East Bay must be included. (The student You must maintain a 3.00 GPA in the degree coursework to remain in good standing.)~~

~~3. met with a faculty advisor in the student's area of course and comprehensive examination specialization to plan for the comprehensive examination.~~

~~3~~ 4. Sign up registered for 2 units of BIOL 6901 Comprehensive Examination Preparation in the spring quarter of the year in which the comprehensive examination is to be completed.

## **4. Curriculum**

a. Goals for the (1) program and (2) [student learning outcomes](#). Program goals are very broad statements about what the program is intended to achieve, including what kinds of graduates will be produced. Student learning outcomes are more specific statements that are related to the program goals but that more narrowly identify what students will know and be able to do upon successful completion of the program.

**(1) Program goals: To provide intensive, Master's level training in the Biological Sciences via coursework, and, to provide a Master of Arts distinction for demonstrated mastery via passing performance on an intensive, written comprehensive examination.**

**(2) Student Learning Outcomes: Students graduating with the M.A. in Biological Science from Cal State East Bay will be able to: (a) use the scientific method to examine questions about the natural world; specifically, they will be able to formulate testable biological hypotheses, analyze empirical data, and synthesize the results of the analysis; (describe the design and results of an observational or experimental analysis in a well-organized manner using the scientific paper format; (c) communicate orally and in written form the analysis of primary scientific literature and judge the value of the information presented in relation to particular biological questions and orally present the study in an effective manner; (d) demonstrate in written form advanced knowledge about a particular field of Biological Science.**

b. Plans for assessing program goals and student learning outcomes. Some planners find it helpful to develop matrices in which student learning outcomes and required courses are mapped, indicating where

content related to the learning outcomes is introduced, reinforced, and practiced at an advanced level in required courses. (CPEC “Maintenance and Improvement of Quality”)

**Formative assessment and evaluation:** The initial number of students participating in this proposed M.A. program is expected to be small. As a result, it will not be realistic, or useful, to apply any broad-based analysis. Instead, students will be assessed quarterly in their classroom performance relative to the minimum expectation of maintaining a B average. Students with unsatisfactory, or borderline grade performance will be required to meet with the Graduate Coordinator for assessment and planning advice. Although individual course selection is open (see below), the department’s graduate program is relatively small so many students end up taking the same courses. In these cases, the performance of an individual student will be compared with others in the M.A. program, and also with others in the M.S. program.

**Summative assessment and evaluation:** Evaluation of the individual student’s overall performance and thus the overall success of the program goals will come primarily from the scoring of written, comprehensive examinations by a committee of three faculty specialists in the area of concentration chosen by the student. If there is more than one student in a particular area of concentration, then examination performance will be scored by comparative assessment. Program goals will also be assessed via anecdotal data collected from students in exit interviews, and by a survey instrument.

c. Total number of units required for the major: **45 quarter units.**

d. Include a justification for any baccalaureate program that requires more than 120-semester units or 180-quarter units. **N/A**

e. If any formal options, concentrations, or special emphases are planned under the proposed major, identify and explain fully. Optional: You may propose a CSU degree program code and CIP code for each concentration that you would like to report separately from the major program, if the option is approximately equivalent to a degree currently listed on the CSU application-booklet degree program table. If you do not find an appropriate CSU degree program code at:

[http://www.calstate.edu/app/documents/HEGIS-CIP2000\\_102406.xls](http://www.calstate.edu/app/documents/HEGIS-CIP2000_102406.xls) , you can search CIP 2000 at <http://nces.ed.gov/pubs2002/cip2000/> to help identify the code that best matches the proposed curriculum.

**No formal options, concentrations, or special emphases are planned for the initiation of this proposed M.A. program.**

f. A list of all courses *required* for the major, specifying catalog number, *title*, units of credit, and prerequisites or co-requisites (ensuring that there are no “hidden” prerequisites that would drive the total units required to graduate beyond the total reported in 4c above).

**The Master of Arts in Biological Science (M.A. by Comprehensive Examination): total 45 quarter units:**

A minimum of 21 units (and up to 43 quarter units) shall be selected by the individual student from graduate (6000-level) courses listed in the current CSUEB catalog and offered by the department. These courses must be in the student’s specified area of concentration and be approved by the faculty advisor. This excludes BIOL 6898 Cooperative Education, BIOL 6900 Independent Study and BIOL 6910 University Thesis. This must include at least one, but not more than two, graduate seminar(s) in Biological Sciences (BIOL 6801, 6811, 6821, 6831, and/or 6841).

BIOL 6901 Comprehensive Examination Preparation (2 units); taken in spring quarter in the final year of the program.

Upper division 4000-level courses, no more than a total of 22 units, may be selected by the individual student with approval from the faculty advisor from courses listed in the current CSUEB catalog and offered by the department. This excludes BIOL 4900 Independent Study.

Successful completion of comprehensive written examination in Biological Sciences.

g. List of *elective* courses that can be used to satisfy requirements for the major, specifying catalog number, title, units of credit, and prerequisites or co-requisites. Include proposed catalog descriptions of all new courses. For graduate program proposals, identify whether each course is a graduate or undergraduate offering.

Note: With regard to Sections 4f and 4g, a proposed program should take advantage of courses already offered in other departments when subject matter would have considerable overlapping content.

**Upper division 4000-level courses (0-22 units) acceptable for the B.S. General Option in Biological Science (excludes BIOL 4900 Independent Study)**

**Graduate (6000-level) courses (21-43 units) including at least one, but not more than two, graduate seminar(s) in Biological Sciences (BIOL 6801, 6811, 6821, 6831 and/or 6841). This excludes BIOL 6898 Cooperative Education, BIOL 6900 Independent Study, and BIOL 6910 University Thesis.**

h. List of any new courses that are: (1) needed to initiate the program and (2) needed during the first two years after implementation. Only include proposed catalog descriptions for new courses. For graduate program proposals, identify whether each course is a graduate-level or undergraduate-level offering.

**No new courses are needed to initiate the program or during the first two years after implementation.**

i. Attach a proposed course-offering plan for the first three years of program implementation, indicating, where possible, likely faculty teaching assignments.

**For issues of practicality, this can only be presented for the proposed first year of implementation. Student enrollment demand, if sufficient, could lead to expanded course offerings.**

**Fall 09: 4150 Mammalian Physiology (Symmons), 4411 Medical Microbiology I (Dixon), 4430 Immunology (Nieto), 4485 PCR, DNA Sequencing and Fragment Analysis (Baysdorfer); 4490 Bioinformatics (Staff); 4513 Animal Senses (Murray); 4518 Animal Behavior (Wildy); 4830 Seminar in Forensic Research (Baysdorfer); 6151 Cell and Molecular Biology I (Stone); 6513 Animal Senses (Murray); 6801 Graduate Seminar--Ecology (Kitting); 6821 Graduate Seminar in Cell and Molecular Biology (Curr)**

**Winter 10: 4160 Medical Physiology (Symmons); 4340 Environmental Microbiology (Lauzon); 4351 Biological Conservation (Wildy); 4412 Medical Microbiology II (Dixon); 4510 Neurobiology (Murray); 4516 Environmental Animal Physiology (Inouye); 6141 Advanced Molecular Techniques (Gallegos); 6152 Cell and Molecular Biology II (Stone); 6340 Environmental Microbiology (Lauzon); 6351 Biological Conservation (Wildy); 6160 Community and Ecosystem Ecology (Kitting); 6516 Environmental Animal Physiology (Inouye); 6811 Graduate Seminar--Physiology (Murray)**

**Spring 10: 4200 Plant Taxonomy (Stone); 4310 Insect Systematics and Identification (Opp); 4430 Immunology (Staff); 4431 Immunology Lab (Staff); 4450 Cell Culture Techniques (Benson); 4455 Molecular Cell Biology (Baysdorfer); 4456 Molecular Techniques (Baysdorfer); 4565 Ornithology (Inouye); 6147 Functional Genomics (Baysdorfer); 6821 Graduate Seminar in Cell and Molecular Biology (Gailey); 6841 Graduate Seminar in Neuroscience (Murray)**

j. For master's degree proposals, include evidence that program requirements conform to the minimum requirements for the culminating experience, as specified in [Section 40510](#) of [Title 5 of the California Code of Regulations](#).

**The Master of Arts in Biological Science will require passing performance on an intensive,**

**written comprehensive examination (which shall conform to the criteria as specified in Section 40510 of Title 5 of the California Code of Regulations).**

k. Admission criteria, including prerequisite coursework.

**Admission requires graduation from an accredited institution with a four-year baccalaureate degree in any field of the biological sciences, and achievement of a GPA of at least 2.75 in all undergraduate work and an average of 3.0 in all biological science courses taken as an upper division student. In addition to the GPA requirements, an applicant must forward a departmental application, GRE scores of the General Test, and three letters of reference to the department. Applicants must have taken basic courses in biological and physical sciences and mathematics/statistics; areas omitted, if any, will be treated as course deficiencies and must be completed by the time of classification.**

l. Criteria for student continuation in the program.

**A student must achieve “Classified Graduate” status within 4 quarters of entry in the program by completing the following: (1) Satisfy the University Writing Skills Requirement; (2) Complete any basic course deficiencies; (3) Specify area of proposed course and comprehensive exam specialization in writing to department.**

**A student must achieve “Advanced to Candidacy” status by accomplishing the following: (1) Meet with faculty advisor in specified area of concentration for comprehensive examination; (2) Complete at least 12 quarter units of satisfactory coursework beyond the baccalaureate degree suitable for inclusion in the M.A. program in Biological Science as approved by the student's faculty advisor. (3) Sign up for 2 units of BIOL 6901 Comprehensive Examination Preparation in the spring quarter of the year in which comprehensive examination is to be completed.**

m. For undergraduate programs, planned provisions for articulation of the proposed major with community college programs: N/A

n. If there is a [Lower-Division Transfer Pattern](http://www.calstate.edu/AcadAff/ldtp.shtml) (LDTP) for this major, indicate the relationship between the LDTP and the requirements presented in this proposal. Information on LDTP is available at: <http://www.calstate.edu/AcadAff/ldtp.shtml> N/A

o. Advising “roadmaps” that have been developed for the major.

**Given the built-in flexibility for courses an individual student will take, it is not possible to present a basic “roadmap” for negotiating the M.A. degree program. This includes working towards the degree part-time. Rather, individual students will work closely with advisory faculty in course selection and assessment of proper progress through the degree plan.**

p. Provision for meeting accreditation requirements, if applicable, and anticipated date of accreditation request (including the WASC Substantive Change process).

#### **Accreditation Note:**

##### *Master’s degree program proposals*

If subject to accreditation, establishment of a master’s degree program should be preceded by national professional accreditation of the corresponding bachelor’s degree major program.

(Accreditation note finished on next page.)

##### *Fast-track proposals*

Fast-track proposals cannot be subject to specialized accreditation by an agency that is a member of the Association of Specialized and Professional Accreditors unless the proposed program is already offered

as an authorized option or concentration that is accredited by an appropriate specialized accrediting agency. N/A

## **5. Need for the Proposed Degree Major Program**

**(CPEC “Societal Need,” “Number of Existing Programs in the Field,” and “Advancement of the Field”)**

a. List of other California State University campuses currently offering or projecting the proposed degree major program; list of neighboring institutions, public and private, currently offering the proposed degree major program.

**CSU campuses: M.A. in Biological Science offered at San Jose State University and Humboldt State University.**

**Neighboring institutions: M.A. in Integrative Biology offered at University of California, Berkeley**

b. Differences between the proposed program and programs listed in Section 5a above.

**San Jose State University: No difference. SJSU has an M.A. degree with a comprehensive examination and an M.S. degree with a research thesis, just as proposed here.**

**Humboldt State University: M.A. degree has a research thesis as the culminating experience.**

**U.C. Berkeley: students receive the M.A. degree from completing either a research thesis or by passing a comprehensive examination.**

c. List of other curricula currently offered by the campus that are closely related to the proposed program.

**At CSUEB, 16 Master’s programs include a comprehensive examination track, including four graduate programs in the College of Science (Chemistry, Math, Computer Science, and Statistics). While none of the graduate programs currently in the College of Science offer an M.A. degree, such a degree is not unusual in Science in general, nor in Biological Science specifically (see institutions above). In addition, three other CSUs offer Master’s degrees in Biology that have a comprehensive examination track (San Jose State University, Cal State San Bernardino, and Cal State Bakersfield). One of these, San Jose State University, offers their comprehensive examination track as an M.A. in Biology, just as proposed here for CSUEB. Thus, this proposal to offer a comprehensive examination as the culminating experience for a Master’s degree, and, to call that Master’s degree a “Master of Arts” is neither new to Biology in the CSU system, nor to Biology at other institutions.**

d. Community participation, if any, in the planning process. This may include prospective employers of graduates.

**No community participation in the planning process.**

e. Applicable workforce demand projections and other relevant data.

**Students completing this M.A. program would gain valuable current, in-depth coursework in a subject area of the biological sciences enabling them to attain job advancement (e.g., K-12 teachers, biotech industry, environmental consulting), teaching opportunities in community colleges, and enhanced standing for professional school applications (e.g., medical, dental and pharmacy school). These are all job categories with high workforce demand projections. Not so quantifiable, the department considers this a valuable educational experience for personal advancement, in general.**

f. If the program was proposed to meet society's need for the advancement of knowledge, please specify the need and explain how the program meets that need: N/A

**Note: Data Sources for Demonstrating Evidence of Need**

APP Resources Web <http://www.calstate.edu/app/resources.shtml>

[US Department of Labor, Bureau of Labor Statistics](#)

[California Labor Market Information](#)

[Labor Forecast](#)

**6. Student Demand (CPEC "Student Demand")**

a. Compelling evidence of student interest in enrolling in the proposed program. Types of evidence vary and may include national, statewide, and professional employment forecasts and surveys; petitions; lists of related associate degree programs at feeder community colleges; reports from community college transfer centers; and enrollments from feeder baccalaureate programs, for example.

**This M.A. program is proposed to replace the current Plan C (comprehensive examination) that officially begins Fall 2008. The department already has five M.S. students who have expressed a desire to complete the Plan C, and this is before the program has officially started or even been announced. Based on this level of "word-of-mouth" interest, as well as the existence of a similar M.A. in Biological Science offered at nearby San Jose State University, the department is confident that the demand for the new program will be high.**

b. Issues of access considered when planning this program: **No issues of access perceived.**

c. For master's degree proposals, the number of declared undergraduate majors and the degree production over the preceding three years for the corresponding baccalaureate program, if there is one.

**Over the last three years, the number of declared undergraduate Biology majors has averaged approximately 500/yr, and the Bachelor's degree production is approximately 100/yr.**

d. Professional uses of the proposed degree program.

**Job advancement for K-12 teachers, biotech industry, environmental consulting. Enhanced teaching opportunities in community colleges and enhanced competitive placement in professional school applications (e.g., medical, dental and pharmacy school).**

e. The expected number of majors in the year of initiation and three years and five years thereafter. The expected number of graduates in the year of initiation, and three years and five years thereafter.

**Expected number of majors: Y1 = 5; Y3 = 10; Y5 = 12.**

**Expected number of graduates: Y1 = 3; Y3 = 5; Y5 = 10.**

**7. Existing Support Resources for the Proposed Degree Major Program (CPEC "Total Costs of the Program")**

**Note:** Sections 7 and 8 should be prepared in consultation with the campus administrators responsible for faculty staffing and instructional facilities allocation and planning. A statement from the responsible administrator(s) should be attached to the proposal assuring that such consultation has taken place.

a. Faculty who would teach in the program, indicating rank, appointment status, highest degree earned, date and field of highest degree, professional experience, and affiliations with other campus programs. For master's degrees, include faculty publications or curriculum vitae.

**Note: For all proposed graduate degree programs, a minimum of five full-time faculty members with the appropriate terminal degree should be on the program staff.**

(Code Memo EP&R 85-20)

**Department of Biological Sciences Faculty:**

*Professors*

**Christoph W. Baysdorfer, Ph.D. (1984) University of California, Berkeley, Comparative Biochemistry**

**Donald A. Gailey (Chair), Ph.D. (1982) University of California, Los Angeles, Genetics**

**Michael S. Hedrick, Ph.D. (1991) University of British Columbia, Neurobiology**

**Christopher L. Kitting, Ph.D. (1979) Stanford University, Marine Science**

**Carol R. Lauzon, Ph.D. (1991) University of Vermont, Microbiology**

**Maria C. Nieto, Ph.D. (1991) University of California, Berkeley, Immunology**

**Susan B. Opp, Ph.D. (1988) University of Massachusetts, Entomology**

*Associate Professors*

**Caron Y. Inouye, Ph.D. (1999) University of California, Los Angeles, Physiology**

**Erica L. Wildy, Ph.D. (2001) Oregon State University, Zoology**

*Assistant Professors*

**Kenneth Curr, Ph.D. (2003) Albert Einstein College of Medicine, Virology**

**Maria E. Gallegos, Ph.D. (1998) University of Wisconsin, Madison, Cellular and Molecular Biology**

**James Murray, Ph.D. (1994) University of Washington, Neurobiology**

**Claudia Uhde-Stone, Doctor of Natural Science (1998) University of Bielefeld, Germany**

**NOTE: CVs attached.**

b. Space and facilities that would be used in support of the proposed program.

**The space and facilities will be the exact space and facilities used for the delivery of the current M.S. in Biological Science program. No alternative arrangements will be necessary.**

c. A report provided by the campus Library, detailing resources available to support the program (discussion of subject areas, volume counts, periodical holdings, etc. are appropriate).

**No additional or new library resources will be required to support the proposed program. The program will utilize the exact same library resources that are currently in existence for support of the M.S. in Biological Science program. Given this fact, no detailed Library resources report is deemed necessary.**

d. Existing academic technology, equipment, and other specialized materials currently available.

**“Smart Room” lecture rooms and halls for PowerPoint/online presentations. Biology curriculum focuses on hands-on laboratory experiences with appropriate equipment and instrumentation to support curricular needs of Cell & Molecular Biology, Ecology & Conservation Biology, Microbiology, Biomedical Laboratory Sciences, Forensics, and Physiology.**

**8. Additional Support Resources Required  
(CPEC “Total Costs of the Program”)**

Note: If additional support resources will be needed to implement and maintain the program, a statement by the responsible administrator(s) should be attached to the proposal assuring that such resources will be provided.

- a. Any special characteristics of the additional faculty or staff support positions needed to implement the proposed program. **None needed.**
- b. The amount of additional lecture and/or laboratory space required to initiate and to sustain the program over the next five years. Indicate any additional special facilities that will be required. If the space is under construction, what is the projected occupancy date? If the space is planned, indicate campus-wide priority of the facility, capital outlay program priority, and projected date of occupancy. **None.**
- c. A report written in consultation with the campus librarian, indicating any additional library resources needed. Indicate the commitment of the campus either to purchase or borrow through interlibrary loan these additional resources. **Additional library resources not required.**
- d. Additional academic technology, equipment, or specialized materials that will be (1) needed to implement the program and (2) needed during the first two years after initiation. Indicate the source of funds and priority to secure these resource needs. **None required, either for implementation, or for first two years after initiation of program.**

**CATALOG COPY:** Added text indicated by underline (underline); deleted text indicated by strikethrough (~~strikethrough~~).

### **M.A. in Biological Science**

A "Conditionally Classified Graduate" student must become a fully "Classified Graduate" student in the program ~~by completing the following (as specified for each student in his/her acceptance letter within four quarters, i.e., one year, in the program) by doing the following:~~

- ~~1. Satisfy the University Writing Skills Requirement~~
- ~~2. Complete basic course deficiencies.~~
- ~~3. Specify area of proposed course and comprehensive exam specialization in writing to the Biological Sciences Department. as set forth in 1, 2, and 3 below, if applicable, within four quarters of acceptance into the Master's program or the "Conditional Classification" will expire and the student will be placed in "Unclassified Post-baccalaureate" status. It is the responsibility of the student to make sure these requirements are met within the specified time limits.~~

1. Specify the area of proposed course and comprehensive exam specialization in writing to the Department of Biological Sciences. Examples of areas of specialization are available from the department or Graduate Coordinator.

2. Complete basic course deficiencies. If the student lacks basic courses in biological or physical sciences, or mathematics/statistics, these courses must be completed by the end of the fourth quarter following admission to the program.

3. University Writing Skills Requirement. The University Writing Skills Requirement must be satisfied. (See Graduate and Post-baccalaureate Studies chapter at the beginning of the graduate section of this catalog.)

## Advanced Candidacy

~~To become “Advanced to Candidacy” t~~  
The student must ~~do the following~~ have:

1. attained “Classified Graduate” standing

~~1. Meet with faculty advisor in specified area of concentration to plan for comprehensive examination.~~

2. ~~Completed~~ completed at least 12 quarter units of satisfactory ~~coursework~~ coursework beyond the baccalaureate degree suitable for inclusion in the M.A. program in Biological Science as approved by the ~~student's faculty advisor~~ graduate advisory committee. At least 3 quarter units of graduate level coursework in residence at Cal State East Bay must be included. (~~The student~~ You must maintain a 3.00 GPA in the degree coursework to remain in good standing.)

3. met with a faculty advisor in the student’s area of course and comprehensive examination specialization to plan for the comprehensive examination.

~~3~~ 4. Sign up registered for 2 units of BIOL 6901 Comprehensive Examination Preparation in the spring quarter of the year in which the comprehensive examination is to be completed.

## **Curricular Requirements**

A total of 45 quarter units is required beyond the baccalaureate with a GPA of 3.0 or above and no grade lower than “C” in courses included in the program, and with specific requirements as follows:

1. Graduate courses in Biology (21–43 units) in area of specialization as approved by the student’s graduate advisor; included must be at least one, but not more than two, graduate seminars in the area of special concentration. (May not include units of Cooperative Education (BIOL 6898), Independent Study (BIOL 6900), or University Thesis (BIOL 6910).)
2. Upper division undergraduate Biology majors courses, (0–22 units) taken as a graduate student and approved by the advisory committee as appropriate to the student’s objective.
3. BIOL 6901 Comprehensive Examination Preparation (2 units); taken in spring quarter in the final year of the program.
4. Successful completion of comprehensive written examination in area of specialization in Biological Sciences.

## **Granting the Degree**

Upon successful completion of the above requirements, the department will recommend that the candidate be granted the M.A. degree.