Master of Science in Science Education

Graduate Student Guide

2012-2013

California State University, Bakersfield
# Table of Contents

1. INTRODUCTION...................................................................................................................3
2. PROGRAM DESCRIPTION......................................................................................................4
3. GRADUATE PROGRAM PERSONNEL ...........................................................................5
4. APPLICATION PROCESS AND PROGRAM REQUIREMENTS ...........................................6
5. ADMISSION REQUIREMENTS..........................................................................................7
6. GRADUATE STUDENT CLASSIFICATIONS ....................................................................7
   - Unclassified Post Baccalaureate Status
   - Classified Graduate Status
   - Conditionally Classified Graduate Status
   - Advancement to Candidate Status
7. COURSE REQUIREMENTS & COURSE DESCRIPTIONS ...................................................10
8. ADDITIONAL ACADEMIC INFORMATION .................................................................12
   - Mentoring
   - Academic Course Load
   - Continued Enrollment
   - Concentration Outline
   - Academic Continuation
   - Project & Committee Structure
   - Commencement
9. FINANCIAL ASSISTANCE..................................................................................................14
10. TIMELINE AND GRADUATE CHECKLIST ....................................................................15
11. APPENDICES.................................................................................................................18
   - CSUB Science Education Program Project Committee Membership Record
   - Application for Admission to Classified Status: Credential Track
   - Application for Admission to Classified Status: Research Track
   - Application for Advancement to Candidacy: Credential Track
   - Application for Advancement to Candidacy: Research Track
   - Program of study: Credential Track
   - Program of study: Research Track
Greetings prospective and entering graduate students,

The faculty developed this handbook to introduce our Master of Science program in Science Education. If you are considering CSUB as a possible choice for graduate school, our handbook will give you some insight into our goals, curriculum, and strengths. If you are already admitted to our program, the handbook will inform you of our policies, procedures, and requirements. In any event, our handbook will be a useful tool toward determining your graduate school and professional objectives.

Dirk Baron  
Professor in Geology and Coordinator, Research Track

Carl Kloock  
Associate Professor in Biology and Coordinator, Credential Track
2. PROGRAM DESCRIPTION

Program Co-Coordinators:  
Dr. Dirk Baron (Research Track) & Dr Carl Kloock (Credential Track)

Office:  
Science Building II, 333  
Science Building I, 147

Telephone:  
(661) 654-3044  
(661) 654-3021

e-mail:  
dbaron@csub.edu  
ckloock@csub.edu

Website:  
Under Construction

Graduate Faculty:  
D. Baron, A. Gebauer, D. Gove, J. Hughes, R. Hughes, C. Kloock

The School of Natural Sciences, Mathematics and Engineering offers a graduate program leading to a Master of Science in Science Education degree with two separate tracks. The Research track is intended for individuals holding a California Teaching Credential in the sciences and/or Mathematics and with significant teaching experience who want to gain experience in a research environment to advance their teaching skills. The Credential track is intended for working professionals in the Science fields who want to earn a California Teaching Credential in science so that they can use their practical experience to help teach California's next generation of scientists.

Some of the special features of our program include:

- Close, individual guidance by highly skilled faculty
- Incorporation of science pedagogy and teaching experience
- Summer, late afternoon and evening course offerings, making the program accessible for persons who work during the day
- Close partnerships with the private and public sector, including local school districts and the Kern County Superintendent of Schools. With appropriate approval, students will be able to conduct research off campus in partnership with a school or informal educational institution.

Engaging in science and/or Science-education research is integral to the program, particularly in the Research track. While both Science and Science education research are available to candidates in the Research track, candidates in the Credential track will be limited to smaller problems in the field of science education due to their larger coursework requirements. The Research track involves 45 Units, with a mix of Coursework and a written project, while the Credential Track includes 90 units of mostly coursework, with a 2 unit project in science education as the culminating activity of the program. Students in both tracks are expected to focus on the intersection between teaching and research, and work on ways to bring authentic research experiences to their students.

The MS in Science education is a cross-departmental program interested in developing broadly trained science teachers who can bring the excitement of research and practical applications of mathematics and science to their students.
3. GRADUATE PROGRAM PERSONNEL

ASSOCIATE VICE PRESIDENT FOR ACADEMIC PROGRAMS — oversees all CSUB graduate programs; approves or disallows petitions to change or to grant waivers to the University and Department Graduate Degree Requirements as published in the CSUB Catalog.

DEAN OF NATURAL SCIENCES, MATHEMATICS AND ENGINEERING — provides input to faculty and students concerning the degree program.

SCIENCE EDUCATION GRADUATE COORDINATORS — reviews admissions files and notify students of departmental admissions decisions, advise incoming students, coordinate graduate activities of the Department of Science Education, and serve as liaisons to other graduate programs and the Graduate Student Center.

GRADUATE COMMITTEE CHAIR — oversees the acceptance, program establishment, progress, and completion processes as the advisor to a project student; resolves problems between students and faculty and students and University regulations; serves as final quality control on projects.

GRADUATE COMMITTEE — three-person committee (including Graduate Committee Chair) selected by the graduate student that oversees progress and completion processes.

GRADUATE FACULTY IN THE MS IN SCIENCE EDUCATION PROGRAM*

<table>
<thead>
<tr>
<th>NAME</th>
<th>Department</th>
<th>Research Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Dirk Baron</td>
<td>Geology</td>
<td>aqueous geochemistry and hydrogeology</td>
</tr>
<tr>
<td>Dr. Andreas Gebauer</td>
<td>Chemistry</td>
<td>synthesis, study, and application of a variety of new macrocyclic compounds</td>
</tr>
<tr>
<td>Dr. Dave Gove</td>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>Dr Jacqueline Hughes</td>
<td>Teacher Education</td>
<td>Effective practices for teaching in urban schoolings; clinical practice in teacher preparation and professional development; teaching for social justice.</td>
</tr>
<tr>
<td>Dr. Ron Hughes</td>
<td>STEM Affinity Group</td>
<td>Science Education</td>
</tr>
<tr>
<td>Dr. Carl Kloock</td>
<td>Biology</td>
<td>Behavioral Ecology, Arachnology, Science Education</td>
</tr>
</tbody>
</table>

*see the individual faculty websites for additional information about faculty and their research interests.
4. APPLICATION PROCESS AND PROGRAM REQUIREMENTS

Application for the Master of Science in Science Education

To apply the Master of Science Degree in Science Education, please visit www.csumentor.com to initiate the application process. Be sure to complete both parts A and B of the application. Part B serves as the departmental application. Some details to help you with specific items in part B are provided below

- Under enrollment plans:
  - Main campus/Off campus center: Select Bakersfield Campus
  - Major/Program objective: Select either Science education—Credential (MS or Science Education—research (MS).
  - Option emphasis or concentration: either credential or Research

- Degree/Credential Objective
  - Degree objective: MS
  - Education credential objective:
    i. For credential track, select "will apply at a later time" and under Credential objective select "Single subject instruction"
    ii. For research track select "not interested in a credential" (you must already hold a credential to qualify)

- Other information:
  - Submit Official transcripts from all colleges and universities attended, even if you have more than four. List only up to the four most recent on the application.
  - Submit Score reports for the GRE General Test. The CSUB code for GRE reporting is 4110. International students must also submit TOEFL scores.
  - Personal statement (~ 1 page, single spaced) describing your interest in and commitment to teaching science; if you wish to be considered for the Robert Noyce fellowship (Credential track only) Please indicate this in the first sentence of your personal statement
  - Résumé containing personal, professional and academic information; Two (2) letters of recommendation from persons familiar with your potential for graduate study.
  - We also require all applicants to complete an admissions survey available at www.csub.edu/scienceEd/apsurvey.

Application deadlines (first cohort of the credential track begins Fall 2012):

Fall Quarter:
  - Fall 2012: Applications accepted until all available positions filled;
  - Fall 2013 and beyond: March 15

Winter Quarter: September 15

Spring Quarter: January 15

Send all accessory departmental application materials (transcripts, letters etc.) to:

Graduate Admissions
c/o Renee Rugnao
Office of Graduate Studies
California State University, Bakersfield
9001 Stockdale Highway
Bakersfield, CA 93311-1022

If you have any questions, please contact the appropriate Science Education Graduate Coordinator: Dr. Baron, (Research track, dbaron@csub.edu) or Dr. Kloock (credential track ckloock@csub.edu).
5. ADMISSIONS REQUIREMENTS FOR THE MASTER OF SCIENCE IN SCIENCE EDUCATION

Credential Track
1. BS or BA in a science field with GPA ≥ 3.0
2. Report results from GRE General test
3. Report results from GRE subject test in discipline of interest being sought (Biology, Chemistry, or Physics). Please note that because there is no GRE subject test in Geology, students pursuing Geology as a concentration are exempt from this requirement (but still must submit results from general test)
4. Science Breadth Preparation:
   a. At least one year of introductory college major's level coursework in 2 of the 4 science areas (Biology, Chemistry, Geology, Physics). AND A commitment to complete the equivalent of one year of introductory major's level coursework in any remaining science areas. Note that these units will not count toward the Master's degree.
   OR
   b. Passage of both CSET General Science exams (exams 118 and 119).

Research Track (Please note that we are unable to accept Candidates for this track in Academic year 2012/13 – contact Dr. Dirk Baron for more information)
1. BS or BA in Mathematics or a science field with GPA ≥ 3.0
2. Report results from GRE General test
3. Report results from GRE subject test in discipline of interest being sought (Biology, Chemistry, or Physics). Please note that because there is no GRE subject test in Geology, students pursuing Geology as a concentration are exempt from this requirement (but still must submit results from general test)
4. Hold a valid Single-subject California Teaching Credential in Mathematics or Science
5. Have at least 2 years of teaching experience in a middle or high school mathematics or science classroom.

6. GRADUATE STUDENT CLASSIFICATIONS

Conditionally Classified Graduate Status (Either track)-
To be enrolled as a conditionally classified Graduate Student, the basic admission requirements for the Masters of Science in Science Education (above) must be met. Most candidates for the Credential track are expected to be admitted as conditionally classified Graduate Students. Acceptance will only be granted if space is available for the student in the program.
Classified Graduate Student (Credential Track)-
Acceptance as a Classified Graduate Student allows the student to begin Phase III
credential coursework and begin work on Higher-level credential coursework. To become a
Classified graduate Student Candidates must, in addition to meeting the admission requirements
of the Master of Science in Science Education, meet State mandated Criteria for teaching in the
California. The following evidence must be submitted to the department of Teacher Education:
1. Current TB test,
2. Valid Fingerprint Clearance
3. Current Liability Insurance,
4. Passage of California Basic Education Skills Test (CBEST)
5. Passage of both of the California Subject Exams for Teachers (CSET) General Science
   exams (exam #118 & 119)

Classified Graduate Student (Research Track)
Acceptance as a classified graduate student allows students to participate in research
activities. To attain classified status students must:
1. An acceptable baccalaureate degree from an accredited institution.
2. An undergraduate GPA of at least 3.0 in the last 90 quarter (60 semester) units of course
   work, or Graduate Records Examination scores of 1000 or greater (verbal and
   quantitative; see above information on the new GRE scoring system), or an approved
   petition to the Graduate Committee waiving this requirement by proposing other
   evidence of adequate prior academic preparation.
3. Acceptance into an academic advising relationship with a departmental faculty member.
4. Acceptance will only be granted if space is available for the student in the program.

Advancement to Candidate Status - Acceptance as a candidate indicates that the student has
completed significant units within the approved Plan of Study and that there is a reasonable
expectation that the student will complete all remaining requirements within one year. Students
must advance to candidate status to participate in the culminating project in science education
(Science 680). Classified Graduate Students will be advanced to Candidate Status when they
have met the following criteria:

Advancement to Candidate Status: Credential track
1. Completion of all requirements for classified status.
2. Completion of at least 55 quarter units of courses applicable to the Master of Science
   Degree in Science Education: Credential track with a grade of “B-” or better and graduate
   GPA of at least 3.0.
3. Achieve Subject Matter competency in a Science discipline by passing a single
   disciplinary CSET exam (120 or 121 or 122 or 123) in addition to previously passed
   exams 118 & 119 required for classified status
4. Obtain approval of the project research topic by the student’s Graduate Committee.
Advancement to Candidate Status (Research track)-

1. Completion of at least 30 quarter units of courses applicable to the Master of Science in Science education: Research track with a grade of “B-” or better and graduate GPA of at least 3.0.
2. Obtain approval of the project research topic by the student’s Graduate Committee.
3. Obtain certification by the student’s advisor that there is a reasonable expectation that the student will satisfactorily complete the degree requirements within one year.

Admission to Candidate Status must be attained within two calendar years after acceptance as a Classified Graduate Student.

All requirements and graduation are to be completed within five calendar years after initial acceptance as either a Classified or a Conditionally Classified Graduate Student. The five-year time limit can be extended by petition to and approval from the Graduate Committee.

Completion of all requirements for the Master of Science in Science Education requires satisfactory completion of all courses in an approved Plan of Study with a minimum 3.0 GPA and satisfactory completion of a project in science education, as determined by the Candidates Graduate Committee. Additionally, students must have received at least a C in a course in order for the course to count toward their required graduate courses and students must have taken at least 50% of their course units at the 500- or 600- level.
7. Course Requirements for the Master of Science in Science Education

Research Track (45 units):
- Science 550A - Summer Institute 1 – Research Track (10 units)
- Science 354A – The Nature of Science and Technology in a Modern Society (5 units)
- EDCI 532 – Concepts of Science Education (3 units) Prerequisite: Teaching Credential
- EDCI 537 – The Nature of Science and Implications for Science Teaching (3 units)
- Science 477 – Special Topics (5 units) Participation in year-round professional development activities organized by the Kern High School District and other districts.
- Science 550B – Summer Institute 2 – Research Track (10 units)
- Science 680 – Project in Science Education (9 units)

Credential Track (90 units):
- Course Descriptors: EDCI=Curriculum and Instruction; EDSE= Secondary Education;
  EDTE=Teacher Education; SCI=Science

Science depth Coursework (20 Units)
- 20 Units of approved Upper division or Graduate level Science coursework*

Credential Coursework (51 Units)
- EDSE 531 Classroom Management for Single Subject Teachers (4 units)
- EDSE 532 Strategies and Methods of Teaching (4 units)
- EDSE 533 Reading Across the Curriculum (4 units)
- EDSE 534 Educational Psychology (4 units)
- EDSE 535 Assessment for Single Subject Teachers (4 units)
- EDSE 592 Secondary Intern Teaching I (5 units)
- EDSE 593 Secondary Intern Teaching II (5 units)
- EDSP 301 Teaching Exceptional Learners (3 units)
- EDTE 300 Early Field Experience in Education (3 units)
- EDTE 401 TPA 1 Subject Specific Pedagogy (1 units)
- EDTE 402 TPA 2 Designing Instruction (1 units)
- EDTE 403 TPA 3 Assessing Learning (1 units)
- EDTE 404 TPA 4 Culminating Activity (2 units)
- EDTE 410 Teaching English Learners (4 units)
- EDTE 415 Technology for Educators (3 units)
- EDTE 416 Socio-Cultural Foundations of Education (3 units)

Science Education Coursework Beyond the Credential (14 units)
- EDCI 532 Concepts of Science Education (3)
- EDCI 533 Special Problems in Science Education (3)
- EDCI 535 Science Laboratory Experiences with Children (5)
- EDCI 537 The Nature of Science and its implications for Science Teaching (3)

Summer Institute (3 units)
- SCI 500 Applying Research Skills to Teaching (3 units, New Course)

Culminating Project (2 Units)
- SCI 680, Project in Science Education (2 units, New Course)
*Selection of elective courses must be approved by the Student's committee, but must be major's level courses in the sciences (i.e. BIOL, CHEM, GEOL, PHYS). Limited substitutions of courses can be made with approval of the graduate committee.

**Graduate students must also pass the Graduation Writing Assessment Requirement (GWAR).** There are several options for meeting this requirement. The most common are provided below. See [http://www.csu.edu/testing/gwar.shtml](http://www.csu.edu/testing/gwar.shtml) for a full list of means of satisfying GWAR.

You will be exempt from the GWAR if you meet any of the four criteria below:

You graduated from a CSU or UC since 1980.
You have achieved any of following test scores, provided the test was taken since 1980:
- CBEST 41 or higher on the writing portion of the CBEST
- GMAT 4.5 or higher on the writing portion of the GMAT
- GRE 4.5 or higher on the analytic writing portion of the GRE General Test
- GWAR 8 or higher

**COURSE DESCRIPTIONS: Courses specific to the Master in Science Education degree**

**Science 500 (3 units)** Applying Research Skills to Teaching. In-depth discussion between practicing teachers actively engaged in scientific research and beginning science teachers regarding the research process and strategies for engaging grade 6-12 students in authentic research processes in the context of classroom and laboratory settings. The focus will be on the practical application of research skills to instructional design, and will include designing lessons with a research-skill focus. 3 units discussion. Prerequisite: EDSE 535 or Teaching credential.

**Science 550A (10 units)** 10-week Summer Institute in Year 1 consisting of 3.125 hours per day, four days per week (mornings) participation in authentic research projects either at CSUB or with appropriate community partners and 1.25 hours per day, four days per week (afternoons) of reflection and instruction in pedagogy, science content, and leadership skills. 5 units laboratory, 5 units lecture.

**Science 550B (10 units)** 10-week Summer Institute in Year 2 consisting of 3.125 hours per day, four days per week (mornings) work on incorporating research experiences, inquiry-based learning, and instruction on the Nature of Science in K-12 classrooms. 1.25 hours per day, four days per week (afternoons) of reflection and instruction in pedagogy, science content, and leadership skills. 5 units laboratory, 5 units lecture.

**Science 680 (2-9 units)** Project in Science Education. Students complete a project in the field of science education that requires an appropriateness of topic, theory and methods applicable to the nature of the degree, conducted under supervision of the graduate advisor and committee.

For Science and Education courses please see the 2011-2013 academic catalog under the appropriate course descriptors.
8. ADDITIONAL ACADEMIC INFORMATION

MENTORING
It is our belief that the quality of a student's graduate experience is, in large measure, a reflection of mentoring. Too often, especially in graduate programs that have large faculty-student ratios, students do not receive adequate faculty supervision. In our program, each student is carefully mentored throughout his/her tenure at CSUB. No student will be without an adviser at any time in his/her course of study. Our aim is to include our graduate students in the “every-day life” of the department: offering teaching opportunities, inviting participation in faculty research programs, and welcoming involvement in departmental social events.

Upon acceptance into our program, a student will be advised by a faculty advisor/committee chair. The student should consult with their advisor/Committee Chair to select two other committee members and complete a COMMITTEE MEMBERSHIP & CONCENTRATION OUTLINE form.

ACADEMIC COURSE LOAD
Eight quarter units of graduate course work per academic term is considered the minimum full-time graduate unit load. Typical enrollment is 8-16 units per term and 19 quarter units per term is the maximum unit load.

CONTINUED ENROLLMENT
Graduate students must maintain continuous enrollment in the graduate program. An unauthorized leave of absence of more than 2 consecutive quarters (i.e. the student is not enrolled in any courses or continuing enrollment units) requires that a student reapply to the Science Education graduate program and reapply to the university (including payment of the non-refundable application fee). Graduate courses that a student completed prior to their leave of absence from the program will be reassessed and will not be automatically accepted for credit in the graduate program upon reapplication. Applicants will be required to meet all program and university admissions requirements at the time of reapplication and, if accepted, will be accepted under the catalog and graduate handbook of their renewed admissions year.

CONCENTRATION OUTLINE
Each graduate student must file a signed COMMITTEE MEMBERSHIP & CONCENTRATION OUTLINE form that will detail the approved courses for the Master of Science degree. The COMMITTEE MEMBERSHIP & CONCENTRATION OUTLINE form must be completed before the student advances to candidacy.

The requirements for the Master’s Degree in Science Education (Research track) include 45 units of committee-approved graduate work, at least 50% of which must be at the 500/600-level. Additional courses (prerequisites and/or deficiencies) of study may be required, but are not counted as part of the 45 units of committee approved course work. The program of study should be developed in consultation with the chair of the student’s graduate committee with a focus on gaining depth of knowledge in a particular discipline. The formal program of study must be submitted for approval to the student’s graduate committee before the end of the second quarter after admission to the program.
The requirements for the Master’s Degree in Science Education (Credential track) include 90 units of committee-approved graduate work, at least 50% of which must be at the 500/600-level. Additional courses (prerequisites and/or deficiencies) of study may be required, but are not counted as part of the 90 units of approved course work. The formal program of study must be submitted for approval to the Graduate Coordinator before the end of the third quarter after admission to the program.

**ACADEMIC CONTINUATION**
Graduate students must maintain an overall GPA of 3.0 and earn at least a C (2.0) in all courses, except those graded credit/no credit. Students who are conditionally classified because of GPA deficiencies may not earn less than a B (3.0) in the courses on their approved CONCENTRATION OUTLINE. Any student whose overall GPA falls below 3.0 for two consecutive quarters, or who receives more than three grades of C (2.0) or lower in any graduate course, will be placed on academic probation and/or dismissed from the program.

**Project & Committee Structure**
Research leading to the project will be the culminating experience for each student in the Master's program. The project will be a substantial product of original empirical research carried out under the close supervision of the student’s Committee Chair and two additional committee members.

It is expected that the student and his/her committee chair will work closely together to identify elective courses and possible research topics for a project. Together the chair and student will select and ask two additional members to serve on the graduate committee. A minimum of two Committee members must be tenured/tenure-track faculty members in Mathematics, Science, or education at CSUB. Upon approval of the Committee Chair, a faculty member from another department or a professional member from the community with appropriate experience and preparation or a faculty member from another university with pertinent background to the research topic and the appropriate terminal degree (Ph.D.) may sit on the committee as the third member.

A student must obtain the written consent of each member who will serve on the project committee (see Appendix for COMMITTEE MEMBERSHIP & CONCENTRATION OUTLINE form).

In some cases a student will rely primarily on the Committee Chair for project development; in other cases the committee members will be consulted more substantively. It is the student's responsibility to keep all committee members informed of his/her progress and to ask their Committee Chair for guidance in determining the appropriate level of involvement for the committee members. Students are encouraged to meet with their committee at least twice per year to discuss progress.

Information regarding Project guidelines and submission procedures are maintained by CSUB’s Walter Stiern Library. See [www.csub.edu/library/MasterProjectApp.pdf](http://www.csub.edu/library/MasterProjectApp.pdf)

**COMMENCEMENT**
Students will be allowed to participate in the graduation ceremony if, and only if, the student's project has been completed and approved by their graduate committee and they will have completed all coursework requirements by the end of that term. **Students should therefore not**
make plans for participating in the graduation ceremony until it becomes evident that the project will indeed be completed and passed on time!

In addition, students are reminded that they need to apply to the University for Graduation. More information on university graduation application deadlines can be found at: http://www.csub.edu/admissions/graduation/. Note: the application for graduation is due to the university well before the expected quarter of graduation, generally at the beginning of the quarter before the quarter of graduation (i.e. applications for spring graduation are due at the beginning of the winter quarter). Students should make sure that they are checking these deadlines and that they submit their application to the university on time.

9. FINANCIAL ASSISTANCE

Graduate Equity Fellowship: Graduate Equity Fellowships are renewable for a maximum of six academic terms, pending available monies and satisfactory performance in one's graduate program. The fellowships are based upon financial aid eligibility. Fellows are expected to be full-time graduate students and to complete their degree requirements within the one- or two-year time frame of their respective Master's program. Applicants are also encouraged to pursue advanced degrees (PhD, etc.) upon completion of study at CSUB, an issue worth consideration in the development of the Personal Statement. Fellows may be expected to participate in some special activities during the academic year. Although renewable, students must reapply for the fellowship in spring term for the next academic year.

Graduate Student Tuition Fee Waiver (GSTFW) Program: A minimal number of graduate student tuition fee waivers are available each year. The goals of the GSTFW program include 1) increasing the number of CSUB graduate students who would otherwise not attend without financial assistance; 2) to provide student assistant support to graduate programs that have demonstrated notable enrollment growth; and, 3) to assist graduate programs to recruit students from underrepresented groups. Nominations by faculty are requested toward the end of spring quarter.

Graduate Assumption Program of Loans for Education (Graduate APLE): Once a Graduate APLE participant has obtained a graduate degree, the California Student Aid Commission (Commission) may assume a total of $6000 in outstanding educational loans in return for a cumulative total of three consecutive full-time years of eligible teaching service at one or more colleges or universities in California. Check the Financial Aid Home Page for additional information and programs.

Graduate Research Assistantships: Inquire with project advisor regarding availability.

Math & Science Partnership Scholarship:

Robert Noyce Teaching Fellowship: Graduate students in the Credential track of the MS in Science Education may qualify for the Robert Noyce Fellowship program, which provides $20,000 over two years in scholarship funds, as well as $10,000/year of "salary supplements" for up to four years of teaching in a high needs school district following completion of the program. (for a total of $60,000 available per student) Please note that these funds must be repaid if the candidate chooses not to teach in an appropriate school district.
10. TIMELINE AND GRADUATE CHECKLIST

Listed below are some of the steps that need to be completed during each year of your tenure in the MS Science Education program. Additional information about some of these steps is included below the checklist for each year.

Year 1

1) **Both tracks:** If required, pass the writing proficiency examination (GWAR). (see p 11 for details).

2) **Both tracks:** Complete any course deficiencies, testing requirements, paperwork submissions or other requirements needed to attain classified graduate student status if admission was granted as a conditionally classified graduate student (Deficiency courses do not count toward completion of units for the MS Science Education program). Admission to Classified Status must be accomplished within two calendar years after acceptance as a Conditionally Classified Graduate Student. Once deficiencies have been remedied, students should submit an APPLICATION FOR ADMISSION TO CLASSIFIED STATUS to the Science Education Graduate Coordinators.

3) **Both tracks:** Establish your formal Program of Study by completing an appropriate CONCENTRATION OUTLINE form in consultation with your advisor. Most courses that you take before you establish a formal Program of Study (in your Concentration Outline) may be put on this program and count toward your degree completion credits, up to a total of 15 units (Research Track) or 30 units (Credential Track).

4) **Both tracks:** Project: students should meet with their Project Committee and present a project research proposal (orally and in writing) by the end of their first year. Students should work with their Graduate Committee Chair to develop an approved draft of the project proposal which will then be circulated among the other members of the Committee for comments. Students must complete any and all revisions suggested by the Committee before being accepted as a candidate.

5) **Credential Track:** Pass the CBEST General test if acceptance into the program was granted without passing test scores. Check CSUB Testing office (http://www.csub.edu/testing/index.shtml) for dates.

6) **Credential Track:** Pass General Science CSET Exams (118 & 119). A single depth science exam (120-123) may be delayed, but must be completed to advance to candidate status. Check CSUB Testing office (http://www.csub.edu/testing/index.shtml) for dates.

7) **Credential Track:** Submit to the department of Teacher Education documentation of Current TB test, CBEST passage, valid fingerprint clearance, Liability Insurance and CSET passage of at least exams 118 & 119.
Year 2-4

1) ______ Both Tracks: Complete graduate course work as outlined in the student’s approved Concentration Outline. At least 50% of all graduate coursework must be at the 500- or 600- level.

2) ______ Credential track: Pass one of the depth science CSET exams (120-123).

3) ______ Both Tracks: File for advancement to Candidacy by completing the APPLICATION FOR ADVANCEMENT TO CANDIDACY. Admission to candidate status must be attained within two calendar years after acceptance as a Classified Graduate Student and when there is a reasonable expectation that a student will satisfactorily complete the MS Science Education program within one year.

   Credential Track: students may file for advancement to candidacy after they have: 1) attained Classified Graduate Student status; 2) completed 55 units of graduate course work as outlined in their approved Program of study with a GPA of at least 3.0, with no courses with a grade lower than ‘C’; 3) passed three CSET science exams: 118, 119 and one of (120 or 121 or 122, or 123); 4) developed an approved project proposal.

   Research track: students may file for advancement to candidacy after they have: 1) attained Classified Graduate Student status in the program; 2) completed 30 units of graduate course work as outlined in their approved Program of Study with no less than a C in any course, and have a GPA of at least 3.0. 3) developed an approved project proposal.

Year 5

______ Both Tracks: All requirements and graduation are expected to be completed within five calendar years (most students will graduate within 2 to 3 years of being admitted as a Classified Graduate Student). The five-year time limit can be extended by petition to and approval from the Science education Graduate Committee.

Year of Graduation

1) ______ Both Tracks: Apply to the University for Graduation. Note, the application for graduation is due to the university well before the expected quarter of graduation (generally 5-6 months). Students should make sure that they are checking these deadlines and that they submit their application into the university on time. For graduation application instructions see http://www.csub.edu/admissions/graduation/.

2) ______ Research track: Students must submit their project to the library before graduation. Please note that the process is involved, and students are encouraged to begin the process early to ensure timely submission. Information regarding project guidelines and the submission procedure are maintained by CSUB’s Walter Stiern Library and may be accessed at: www.csub.edu/library/MasterThesisApp.pdf.
Two-Year Sample Schedule – Credential Track: Please note that this is a suggestion only, and other sequences are possible; consult with your advisor.

<table>
<thead>
<tr>
<th>Year one: Prerequisite coursework</th>
<th>Fall (prereqs)</th>
<th>Winter (Stage I)</th>
<th>Spring (Stage II)</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci Depth (5)</td>
<td>Sci Depth (5)</td>
<td>Sci Depth (5)</td>
<td>SCI 500 (3)</td>
<td></td>
</tr>
<tr>
<td>EDTE 300 (3)</td>
<td>EDTE 415 (3)</td>
<td>EDSE 533 (4)</td>
<td>EDTE 403 (1)³</td>
<td></td>
</tr>
<tr>
<td>EDSP 301 (3)</td>
<td>EDSE 531 (4)</td>
<td>EDSE 534 (4)</td>
<td>EDTE 404 (2)³</td>
<td></td>
</tr>
<tr>
<td>EDTE 410 (4)</td>
<td>EDSE 532 (4)</td>
<td>EDSE 535 (4)</td>
<td>Classified</td>
<td></td>
</tr>
<tr>
<td>EDTE 416 (3)</td>
<td>EDTE 401 (1)</td>
<td>EDTE 402 (1)</td>
<td>Status³</td>
<td></td>
</tr>
<tr>
<td>Units</td>
<td>18</td>
<td>17</td>
<td>18</td>
<td>6</td>
</tr>
</tbody>
</table>

Year 2: Finish Credential and Intern teaching

<table>
<thead>
<tr>
<th>Year 2: Finish Credential and Intern teaching</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sci. Depth (5)</td>
<td>EDCI 537 (3)</td>
<td>SCI 680 (2)</td>
<td></td>
</tr>
<tr>
<td>EDSE 592 (5)¹</td>
<td>EDCI 532 (3)</td>
<td>EDCI 535 (5)</td>
<td></td>
</tr>
<tr>
<td>+teaching</td>
<td>+teaching</td>
<td>+teaching</td>
<td></td>
</tr>
<tr>
<td>Units</td>
<td>10</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

¹To participate in Stage III Credential coursework (EDSE 403, 404, 592 & 593) candidates must reach classified status by submitting the evidence of the following to the Department of Teacher Education. It is highly recommended that these tasks be accomplished by spring quarter of your first year in the program.

- Current TB test,
- Valid Fingerprint Clearance
- Current Liability Insurance,
- Passage of CBEST Exam
- Subject Matter Certification (CSET Exams 118 & 119)

Reminder: One of CSET exam 120-123 is required to attain candidate status.

Two-Year Schedule - Research Track

Year 1
Summer – Science 550 A – Summer Institute 1 (various science, math, and education faculty)
Fall - Science 354 - Science and Society (Tom Meyer)
Winter - EDCI 532 – Concepts of Science Education (Ron Hughes)
Spring - EDCI 537 – The Nature of Science and implications for Science Teaching (Ron Hughes)
Spring - Science 477 – Special Topics (5 units) Participation in year-round professional development activities organized by the Kern High School District and other districts.

Year 2
Summer - Science 550B – Summer Institute 2 (various science, math, and education faculty)
Fall, Winter, Spring Science 680 – Capstone Project (3x3 units) Students enroll in three units each quarter and will receive an “RP” grade until the project is complete.
APPENDICES

Additional forms and concentration outlines
# CSUB Science Education Program Graduate Committee Membership Record

<table>
<thead>
<tr>
<th>(Graduate student Name)</th>
<th>(Graduate student CSUB ID #)</th>
<th>(Date)</th>
</tr>
</thead>
</table>

(Proposed Project Topic)

I agree to serve as a member of the committee for the above mentioned graduate student and project topic.

<table>
<thead>
<tr>
<th>(Committee member name)</th>
<th>(Committee member signature)</th>
<th>(Date)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>(Committee member name)</th>
<th>(Committee member signature)</th>
<th>(Date)</th>
</tr>
</thead>
</table>

I agree to serve as the chair of the project committee for the above mentioned graduate student and I approve the two faculty members who have signed above as committee members.

<table>
<thead>
<tr>
<th>(Committee Chair name)</th>
<th>(Committee chair signature)</th>
<th>(Date)</th>
</tr>
</thead>
</table>

The Graduate Committee approves the project committee for the above mentioned graduate student.

<table>
<thead>
<tr>
<th>(Graduate Coordinator name)</th>
<th>(Graduate Coordinator signature)</th>
<th>(Date)</th>
</tr>
</thead>
</table>

When completed, this form should be returned to the appropriate graduate coordinator, and placed in the Science Education Program files, in the student's folder. Copies should be sent to the student, other committee members and the former advisor if applicable. If there are changes in committee composition, the advisor should complete a new form.
APPLICATION FOR ADMISSION TO CLASSIFIED STATUS (CREDENTIAL TRACK)

(Graduate student Name)   (Graduate student CSUB ID #)   (Date)

STAGE 1: CONDITIONALLY CLASSIFIED STATUS

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors degree field:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA ≥3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science breadth:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year in each of ≥2 fields?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSET exams passed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>118 and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>119</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STAGE 2: CLASSIFIED STATUS (CREDENTIAL PROGRAM ADMISSION)

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBEST passed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current TB test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valid fingerprint clearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current liability insurance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject matter certification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSET exams passed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>118</td>
<td></td>
<td></td>
</tr>
<tr>
<td>119</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Requirements for Admission to Classified Graduate Status:

_______ All of the above criteria have been met

Below list any remaining barriers to admission as a classified student

The Science Education Graduate Coordinator has examined the above criteria and affirms that the Graduate student listed above has now met these criteria. The student is approved for admission as a Classified Graduate Student.

(Graduate Coordinator name)   (Graduate Coordinator signature)   (Date)
APPLICATION FOR ADMISSION TO CLASSIFIED STATUS (RESEARCH TRACK)

(Graduate student Name)   (Graduate student CSUB ID #)   (Date)

REQUIREMENTS

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>COMPLETED</th>
<th>NOTES &amp; EXAM DATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors degree field:</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>GPA ≥3.0</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Valid California Mathematics or Science Single-Subject Teaching Credential</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>2 or more years of teaching experience in Mathematics or Science</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Graduate committee membership form completed</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

Requirements for Admission to Classified Graduate Status:

______ All of the above criteria have been met

Below list any remaining barriers to admission as a classified student

The Science Education Graduate Coordinator has examined the above criteria and affirms that the Graduate student listed above has now met these criteria. The student is approved for admission as a Classified Graduate Student.

(Graduate Coordinator name)   (Graduate Coordinator signature)   (Date)
APPLICATION FOR ADVANCEMENT TO CANDIDACY IN SCIENCE EDUCATION
(CREDENTIAL TRACK)

PART I

STUDENT NAME: ________________________________________________
ID #: __________________

PART II

The student has demonstrated a satisfactory level of scholastic competence by meeting the
criteria established for this program of study.

The student has completed _________ units with a _______ grade point average.

All requirements for Classified Status have been met.

A concentration outline has been completed and approved. A copy is attached.

Three GRE exams have been successfully completed

Exam 118 ______
Exam 119 ______
Exam 120 or 121 or 122 or 123 ______

The following members comprise the student’s project graduate committee:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Position</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
</tr>
</tbody>
</table>

The program requires that the student complete a project proposal before advancement to
candidacy can occur. The student completed this requirement on ________________(date).

The project is tentatively entitled:

_________________________________________________________________

SIGNATURES

STUDENT __________________________________________ Date ______

COMMITTEE CHAIR _____________________________________ Date ______

GRADUATE COORDINATOR ________________________________ Date ______

PROCEDURES

A graduate student who has been granted classified standing is normally advanced to candidacy by his/her Committee Chair. Essentially, the
chair is providing an affirmative recommendation of eligibility to continue with the program, attesting to the student’s demonstration of a
satisfactory level of scholastic competence.

Along with the Committee Chair recommendation, students must prepare and submit an approved Committee Membership & Concentration
Outline form. The Committee Chair must complete and submit this form along with an approved study plan to the Office of Admissions &
Records to record the information requested for advancement to candidacy.
APPLICATION FOR ADVANCEMENT TO CANDIDACY IN SCIENCE EDUCATION
(RESEARCH TRACK)

PART I

STUDENT NAME: ________________________________

ID #: __________________

PART II

The student has demonstrated a satisfactory level of scholastic competence by meeting the criteria established for this program of study.

The student has completed _______ units with a _______ grade point average.

All requirements for Classified Status have been met.

A concentration outline has been completed and approved. A copy is attached.

The following members comprise the student’s project graduate committee:

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The program requires that the student complete a project proposal before advancement to candidacy can occur. The student completed this requirement on ________________ (date).

The project is tentatively entitled:

____________________

SIGNATURES

STUDENT ________________________________ Date ______

COMMITTEE CHAIR ________________________________ Date ______

GRADUATE COORDINATOR __________________________ Date ______

PROCEDURES

A graduate student who has been granted classified standing is normally advanced to candidacy by his/her Committee Chair. Essentially, the chair is providing an affirmative recommendation of eligibility to continue with the program, attesting to the student’s demonstration of a satisfactory level of scholastic competence.

Along with the Committee Chair recommendation, students must prepare and submit an approved Committee Membership & Concentration Outline form. The Committee Chair must complete and submit this form along with an approved study plan to the Office of Admissions & Records to record the information requested for advancement to candidacy.
PROGRAM OF STUDY, MS IN SCIENCE EDUCATION, (CREDENTIAL TRACK).

STUDENT NAME (LAST, FIRST): ____________________________ ID # ________________
ADDRESS: ____________________________ PHONE # ____________________________

GRADUATION REQUIREMENTS

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TERM</th>
<th>GRADE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPPER DIVISION/GRADUATE-LEVEL SCIENCE COURSEWORK (20 units)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COURSE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COURSE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COURSE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COURSE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COURSE (if needed):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| SCIENCE EDUCATION COURSEWORK (17 units) | | | |
| EDCI 532 | 3 | |
| EDCI 533 | 3 | |
| EDCI 535 | 5 | |
| EDCI 532 | 3 | |
| SCI 500 | 3 | |

| CREDENTIAL COURSEWORK (51 units) | | | |
| EDSE 531 | 4 | |
| EDSE 532 | 4 | |
| EDSE 533 | 4 | |
| EDSE 534 | 4 | |
| EDSE 535 | 4 | |
| EDSE 592 | 5 | |
| EDSE 593 | 5 | |
| EDSP 301 | 3 | |
| EDTE 300 | 3 | |
| EDTE 401 | 1 | |
| EDTE 402 | 1 | |
| EDTE 403 | 1 | |
| EDTE 404 | 2 | |
| EDTE 410 | 4 | |
| EDTE 415 | 3 | |
| EDTE 416 | 3 | |

| PROJECT IN SCIENCE EDUCATION (2 units) | | | |
| SCI 680 | 2 | |

PROJECT TITLE: ____________________________ TOTAL UNITS: _________
GPA: ____________________________

APPROVALS: ____________________________ PRINTED | SIGNED | DATE
ADVISOR: ____________________________
GRADUATE COORDINATOR: ____________________________

25
PROGRAM OF STUDY, MS IN SCIENCE EDUCATION, **(RESEARCH TRACK)**.

STUDENT NAME (LAST, FIRST):  
ADDRESS:  
ID #  
PHONE #  

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TERM</th>
<th>GRADE</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDCI 532</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>EDCI 537</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SCI 354</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>SCI 477</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>SCI 550 A</td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>SCI 550B</td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>SCI 680 (may be taken multiple time to achieve 9 units total)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PROJECT TITLE:  
TOTAL UNITS:  
GPA:  

APPROVALS:  
PRINTED SIGNED DATE  
ADVISOR  
GRADUATE COORDINATOR  

26