



SACRAMENTO
STATE

Course Change Proposal Form A



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| Academic Group (College): Natural Sciences and Mathematics | Academic Organization (Department): Physics and Astronomy | Date: Nov 03, 2008 |
| Type of Course Proposal: New <input checked="" type="checkbox"/> Change <input type="checkbox"/> Deletion <input type="checkbox"/> | Department Chair: Gary H. Shoemaker | Submitted by: Vera Margoniner |
| Does this course fulfill a requirement for single-subject or multiple subject credential students? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | For Catalog Copy: Yes <input type="checkbox"/> No <input type="checkbox"/> CCE (Extension): Yes <input type="checkbox"/> No <input type="checkbox"/> | Semester Effective: Fall <input checked="" type="checkbox"/> Spring <input type="checkbox"/> , 2009 |

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| This course replaces experimental course Subject Area (prefix) and Catalog Nbr (course number): | |
| If changing an existing course, should new version be considered a repeat of the original version? If so, the same Course ID will be maintained. If not, a new Course ID will be assigned. Note: In PeopleSoft terminology, the Course ID is the unique system identifier, not the Catalog Nbr. | Yes <input type="checkbox"/> No <input type="checkbox"/> |

Change from:

| | | |
|--------------------------------------------------------------|---------------|---------------|
| Subject Area (prefix) & Catalog Nbr (course no.): | Title: | Units: |
| | | |

Change to:

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|--------------------------------------------------------------------------|------------------------------------------------|----------------------------|
| Subject Area (prefix) & Catalog Nbr (course no.): PHYS 197 | Title: Laboratory Teaching Assistant | Units: 1.0 – 2.0 |
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JUSTIFICATION:

This course is being developed as part of the new *Teacher Preparation Concentration* program, and will be part of six units of upper division electives required for this concentration.

An important challenge for students who want to become physics teachers is the process of certification, or credentialing by the State of California. The single subject credentialing in physics requires that candidates pass three subtests of the California Subject Examination for Teachers (CSET): two in general science and one in physics. Following this academic course work and exams, candidates must then complete a teacher education-credentialing program. The process can add up to one and a half years to the education of physics majors who wish to become teachers in California's schools.

Because of the time commitment required of students seeking a teaching credential, it is important for students to have the opportunity to gain professional experience early in their matriculation toward the BA degree to confirm the appropriateness of their career choice. In addition, professional experiences reinforce the knowledge that students acquire in university classrooms and help them integrate their knowledge in much the same way as in a "capstone" course. An important component of the *Teacher Preparation Concentration* program is therefore a set of teaching-related activities which, subject to the approval of the department, may be started as early as the third year of study and continued thereafter anytime during matriculation toward the degree.

The proposed course will give the student the opportunity, under close supervision of a faculty mentor, to experience the preparation and teaching of a lower-division laboratory course. The number of units assigned will depend upon the duties agreed upon by the student and in accordance with the standards for equating unit credit with anticipated number of hours worked. A well-written notebook describing the experiments done during the semester, and containing a critical review of each lab will be used by the faculty mentor to assign a letter grade.

NEW COURSE DESCRIPTION: (Not to exceed 80 words, and language should conform to catalog copy. See <http://www.csus.edu/umannual/acad.htm> - Guidelines for Catalog Course Description

PHYS 197. Laboratory Teaching Assistant. Student will be a supervised laboratory teaching assistant for one of the following courses: PHYS002, 005A-B, 010, 011A-B-C, 107 or ASTR006. The student will meet weekly with the faculty teaching this class, and with their supervisor/mentor to help prepare and teach the laboratory.
Prerequisites: Completion of all math and physics lower division courses required for the B.A. in Physics. Consent from the *Teacher Preparation Concentration* Coordinator. **Graded:** Graded Student. **Units:** 1.0-2.0.

Note:

Prerequisite: Completion of all math and physics lower division course work required for the B.A. in Physics. Completion of the same course in which the student will take this class with a grade higher than B and/or consent from the *Teacher Preparation Concentration* program Coordinator.

Enforced at Registration: Yes ___ No

Corequisite: *

Enforced at Registration: Yes ___ No

Graded: Letter Credit/No Credit ___

Instructor Approval Required? Yes No ___

Course Classification (e.g., lecture, lab, seminar, discussion):

S2(S36)

Title for CMS (not more than 30 characters)

Laboratory Assistant

Cross Listed?

Yes ___ No

If yes, do they meet together and fulfill the same requirement, and what is the other course.

How Many Times Can This Course be Taken for Credit? 2

Can the course be taken for Credit more than once during the same term? Yes ___ No

FOR NEW COURSE PROPOSALS OR SUBSTANTIVE CHANGES ONLY:

Description of the Expected Learning Outcomes: Describe outcomes using the following format: "Students will be able to: 1), 2), etc." See the example at <http://www.csus.edu/acaf/example.htm>

Students will be able to:

- 1) Prepare and present a previously developed curriculum of laboratory instruction.
- 2) Evaluate assignments and judge them for content and accuracy.
- 3) Suggest improvements and discuss revisions of instruction and assignments with mentor.
- 4) Reflect on his/her effectiveness in engaging diverse learners and developing rapport with diverse students
- 5) Tutor students in a real-time classroom situation, and assist them with problem-solving strategies.
- 6) Develop a sense for the right amount of assistance to be given to students working in a laboratory activity.
- 7) Help students work effectively in groups.
- 8) Integrate their previous knowledge of physics in a teaching context.
- 9) Use sound pedagogy and in the teaching of physics in the classroom and in all other instructional interactions with students. (Principles of pedagogy will be reviewed and discussed with the student by the mentor.)
- 10) Assess student learning, and measure teaching effectiveness.
- 11) Organize and manage classroom records and materials.

**Attach a list of the required/recommended course readings and activities [Note: it is understood that these are updated and modified as needed by the instructor(s).] This attachment should be forwarded only to your Dean's office, not Academic Affairs.

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above:

The faculty teaching this class will meet with the student for:

- One to two hours per week to review the student's notebook (see below).

The mentor/supervisor will meet with the student for:

- One to two hours per week to review the upcoming laboratory assignment and go over the details and equipment with the student.
- Three hours per week during instruction.
- One to two hours per week to discuss the overall effectiveness of instruction; and interactions among peers and between students and instructors. Mentor and student will also review laboratory reports and other work submitted by students in the course. (The laboratory assistant will generally be responsible for grading student work subject to close review by the faculty mentor.)

The final letter grade will be based on two components. The first component of assessment will be a well-written notebook where the student will be required to: (1) keep a thorough description of each laboratory activity; (2) keep record of his/her weekly discussions with mentor; and (3) write a critical review of laboratory activity. The notebook will be reviewed on weekly meetings with the faculty teaching the course. The notebook grade will be 50% of the final grade.

The second component of assessment will account for the remaining 50% of the grade and will be based on observations of the student in class. Near the middle of the semester the faculty teaching this course will observe the student helping their lower-division laboratory students during one full period of instruction. Faculty teaching this class and mentor/supervisor will independently evaluate the student's performance by answering to pre-established questions such as: *Does the student engage with the diverse population of lower-division students or just with a few? Does he/she promote interaction among peers? Is he/she knowledgeable and comfortable with the lab equipment and/or experiment? If a group has a problem setting an experiment, can the student generally make the appropriate decision of when to help the group find the mistake, and when to fix the problem and allow them to proceed? Does the student help his lower-division students understand the big picture or main concepts of the experiment? Is he/she clear and thorough in his/her explanations?*

The two faculty members will then meet with the student, review the evaluation and suggest areas for improvement. A written recommendation will be made to the student.

Near the end of the semester the same evaluation will be repeated. Both faculty members will discuss the student's performance in class and assess the improvement from the first evaluation. The grade will be given by the faculty teaching this class and will be based only on this second teaching evaluation.

Grades will be assigned according to standard percentages (90-100%=A; 80-90%=B...). This course is not available for audit.

For whom is this course being developed?

Majors in the Dept Majors of other Depts ___ Minors in the Dept ___ General Education ___ Other ___

Is this course required in a degree program (major, minor, graduate degree, certificate)? Yes ___ No

If yes, identify program(s):

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer facilities, faculty, etc.)? Yes ___ No

If yes, attach a description of resources needed and verify that resources are available.


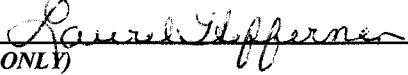
Indicate which department or programs will be affected by the proposed course (if any). _____ None _____

The Department Chair's signature below indicates that affected programs have been sent a copy of this proposal form.

Approvals: If proposed change, new course or deletion is approved, sign and date below. If not approved, forward without signing to the next reviewing authority, and attach an explanatory memorandum to the original copy.

Signatures:

Date

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|-------------------------------------------------------------------------------------------------------------------|---------|
| Department Chair:  | 11/3/08 |
| College Dean or Associate Dean:  | 12/9/08 |
| CPSP (for school personnel courses ONLY) | |
| Associate Vice President and Dean for Academic Programs | |

Distribution: Academic Affairs (original), Department Chair and College Dean. Dean's office to send original after approval to Academic Affairs, at mail zip 6016. An electronic copy must also be sent.

9/10/2008