



SACRAMENTO  
STATE

# Course Change Proposal Form A



<b>Academic Group (College):</b> Natural Sciences and Mathematics	<b>Academic Organization (Department):</b> Biological Sciences	<b>Date:</b> 11/16/08
<b>Type of Course Proposal:</b> New <input checked="" type="checkbox"/> Change <input type="checkbox"/> Deletion <input type="checkbox"/>	<b>Department Chair:</b> Rose Leigh Vines	<b>Submitted by:</b> Ruth Ballard
<b>Does this course fulfill a requirement for single-subject or multiple subject credential students?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>For Catalog Copy:</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <b>CCE (Extension):</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Semester Effective:</b> Fall <input checked="" type="checkbox"/> Spring <input type="checkbox"/> , 2009

<b>This course replaces experimental course Subject Area (prefix) and Catalog Nbr (course number):</b>	
<b>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.</b>	Yes <input type="checkbox"/> No <input type="checkbox"/>

**Change from:**

<b>Subject Area (prefix) &amp; Catalog Nbr (course no.):</b>	<b>Title:</b>	<b>Units:</b>
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**Change to:**

<b>Subject Area (prefix) &amp; Catalog Nbr (course no.):</b> BIO 151	<b>Title:</b> Advanced Laboratory Techniques in Forensic Biology	<b>Units:</b> 2
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**JUSTIFICATION:**

Crime labs in California require incoming entry-level forensic biologists to have a B.S. degree in biological sciences or a related discipline, to have taken a list of required courses, and to pass an extensive background check. However, graduates applying for these positions are at a serious disadvantage unless they also have internship or research experience in forensic biology. Unfortunately, there are very few such opportunities in Northern California. The two public crime labs located in Sacramento (Sacramento County Laboratory of Forensic Services and the California Department of Justice, Sacramento), are too overloaded with casework to take on more than a couple of interns in their DNA/serology units each year, and usually require that their interns be enrolled in a graduate program. In the past, I have worked with undergraduate students in my own research laboratory as BIO 199 students, but I am unable to accommodate the very large demand among Sacramento State students for forensic biology research experiences. BIO 151 is designed to address this need by providing students with advanced research and training in forensic biology, including an independent mentored research experience in which they must address an unsolved problem in the field. Completion of the course will enable Sacramento State students to compete much more effectively for jobs in federal, state, and local crime laboratories upon graduation and will build their scientific literacy and competency.

**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)

<b>BIO 151. Advanced Laboratory Techniques in Forensic Biology. Laboratory exercises focusing on current research problems and skills in forensic serology, DNA typing, and court testimony. Topics will include DNA mixture and low copy number interpretation, advanced techniques in serological testing, research ethics, as well as skills for effective communication in the courtroom. Topics may also include Y-STR typing, animal and plant DNA identification and typing, microbial forensics, somatic mosaicism, ELISA specificity and sensitivity testing, and other current areas of active inquiry. Designed to prepare students for entry level positions as DNA analysts in federal, state, and local crime laboratories. Laboratory six hours. Fee course. Prerequisite: BIO 150 or instructor permission. Units: 2.0</b>	
<b>Note:</b>	
<b>Prerequisite:</b> Enforced at Registration: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<b>Corequisite:</b> Enforced at Registration: Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
<b>Graded: Letter <input checked="" type="checkbox"/> Credit/No Credit <input type="checkbox"/></b>	<b>Instructor Approval Required? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
<b>Course Classification (e.g., lecture, lab, seminar, discussion):</b> Lab C16	<b>Title for CMS (not more than 30 characters):</b> Adv Lab Techniques in Forensic Bio
<b>Cross Listed?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>If yes, do they meet together and fulfill the same requirement, and what is the other course.</b>

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

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

**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) Design and execute an independent research project in forensic biology from hypothesis development through data analysis; (2) Articulate some of the important unsolved problems in forensic biology; (3) Think critically about how to approach difficult case work problems in forensic biology; (4) Effectively communicate their research findings to others (in both oral and written form); (5) Interview effectively for positions as DNA analysts at federal, state, and local crime laboratories.

\*\*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:

Research progress reports, in-class oral presentations, journal-ready manuscript (final project report), mock testimony.

For whom is this course being developed?

Majors in the Dept X 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 X

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 X No \_\_\_

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

Indicate which department or programs will be affected by the proposed course (if any). Biological Sciences

*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

Department Chair: <i>Rae Leigh Vines</i>	<i>11/18/08</i>
College Dean or Associate Dean: <i>Laurel Heffner</i>	<i>12/9/08</i>
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