

**CALIFORNIA STATE UNIVERSITY, SAN MARCOS
COLLEGE OF EDUCATION**

Fall 2004 CRN 41994

Thursdays: 5:30-8:15 in Alvin Dunn Elementary School

EDST 611 – Advanced Methods in Science: Life Science

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College of Education Mission Statement

The mission of the College of Education Community is to collaboratively transform public education by preparing thoughtful educators and advancing professional practices. We are committed to diversity, educational equity, and social justice, exemplified through reflective teaching, life-long learning, innovative research and on-going service. Our practices demonstrate a commitment to student-centered education, diversity, collaboration, professionalism, and shared governance.

(Adopted by COE Governance Community, October, 1997).

COURSE DESCRIPTION

In this course, we will investigate several models of teaching and apply them to the science classroom. This course will also focus on expanding the students' breath of science through discussions, experiments, and teachings in life and environmental science. It is the goal of the instructor to make connectivity between the major areas of science. By the end of the class, students should have a stronger knowledge base in the life and environmental sciences and be able to implement several designed lessons in their respective classrooms.

Required Course Materials and Texts

1. National Science Teachers Association Student Membership: <http://www.NSTA.org> (\$30) with the appropriate grade level journal subscription.
2. California Science Education Standards – Free from state Education Department website
3. *Classroom Access – You will need to have access to various grade levels life science textbooks used by a given school.

COE Attendance Policy

Due to the dynamic and interactive nature of courses in the College of Education, all students are expected to attend all classes and participate actively. At a minimum, students must attend more than 80% of class time, or s/he may not receive a passing grade for the course at the discretion of the instructor. Individual instructors may adopt more stringent attendance requirements. Should the student have extenuating circumstances, s/he should contact the instructor as soon as possible. In this course, the instructor has adopted this additional policy: If you miss or are late or leave early for two or more class sessions, you cannot receive a grade of A or A-; if you miss three class sessions, you cannot receive a grade of B+ or B. If you have extenuating circumstances, you should contact the instructor as soon as possible.

Plagiarism and Cheating

Please be sure to read and understand the university policy on plagiarism and cheating, as it will be strictly enforced. Academic dishonesty will not be tolerated and will result in a failing grade for this course and will be reported to the University.

Authorization to Teach English Learners

This credential program has been specifically designed to prepare teachers for the diversity of languages often encountered in California public school classrooms. The authorization to teach English learners is met through the infusion of content and experiences within the credential program, as well as additional coursework. Students successfully completing this program receive a credential with authorization to teach English learners. (Approved by CCTC in SB 2042 Program Standards, August 02).

Disabled Student Services

Students with disabilities who require academic accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disabled Student Services (DSS). This office is located in Craven Hall 5205, and can be contacted by phone at (760) 750-4905, or TDD (760) 750-4909. Students authorized by DSS to receive accommodations should meet with me during my office hours or in a more private setting in order to ensure your confidentiality.

National Board for Professional Teaching Standards (NBPTS)

All courses within the CSUSM masters program are intended to provide a comprehensive professional development experience. Teachers pursuing National Board Certification will find the COE assessment process, including requirements for portfolio completion, particularly helpful. Regardless of whether or not National Board Certification is sought and achieved, by the time teachers complete the program they will have made and documented significant accomplishments, which will be reflected in their practice.

The National Board for Professional Teaching Standards' (NBPTS) five core propositions that are reflected in the COE masters program course syllabi. The concepts in the five propositions are the heart of the National Board's perspective on what teachers should know and be able to do. They help frame the core experiences and activities that enable teachers to demonstrate a high level of knowledge, skills, dispositions, and commitments described by these propositions. They provide the foundation for all standards and assessment. These propositions are: 1) Teachers are committed to students and their learning; 2) Teachers know the subjects they teach and how to teach those subjects to students; 3) Teachers are responsible for managing and monitoring student learning; 4) Teachers think systematically about their practice and learn from experience; and 5) Teachers are members of learning communities.

CSUSM masters students will be supported in meeting the National Board's high and rigorous standards through the completion of assignments for program courses. Through their portfolios that provide evidence of teaching practice, through student work samples, through videotapes of classroom interaction, and through written commentaries that document and reflect their actions. These sources of evidence serve as a lens to what teachers do and how they think about their practice.

The EDST 611 course activities focus on content knowledge as well as age-appropriate and content-appropriate strategies that teachers may use for teaching life science subject matter. Students will demonstrate their knowledge by responding to topics, assignments and readings that address critical issues of change and through the development of professional growth planning and reflective thinking. Course objectives that align with (NBPTS) indicate that all students will show evidence of the following:

- A commitment to students and their learning.
- Knowledge of the subjects they teach and how to teach them.
- The demonstration of management and monitoring of student learning.
- Thinking systematically about their practice and learning from experience.
- Involvement as members of learning communities.

Assessment

Course Assignments/Assessments

All assignments, requirements, due dates and scoring rubrics will be available through WebCT. Students will check the calendar and assignment sections regularly for updates.

1. Student Dispositions – 50 points

You will do a self-assessment using the teacher dispositions and write a one-two page rationale. You should give a rationale for the points you gave yourself in each area of the rubric and provide examples for each area. Your professors will also do an assessment using this rubric based on the following dispositions:

- **General classroom attendance, promptness, and participation:** is on time, respects time boundaries (breaks, etc.), regularly attends class, and actively participates.
- **Attention to classroom discussion protocols** (per Epstein’s Five Stage Rocket): respects time limitations, recognizes and respects the perspectives of fellow classmates, gives wait time, listens actively, uses non-interruptive skills, mediates disagreements by working to understand others’ perspectives and finding common ground, genuinely encourages all to participate.
- **Social and cooperative skills (as illustrated in cooperative projects):** assumes responsibility of one’s roles, is open to consensus and mediation, effectively communicates ideas, attends group meetings, is dependable, respects others’ ideas, expects quality work from self and colleagues, manages time effectively, uses organizational skills and leadership skills, is assertive but not aggressive, uses reflection as a means of evaluation, motivates and offers positive reinforcement to others.
- **Attention to assignments:** meets time deadlines, produces quality products, responds cooperatively to constructive criticism, uses rubrics or other stipulated criteria to shape an assignment, prioritizes tasks and performs/supervises several tasks at once.
- **General classroom demeanor:** is professional, creative, kind, sensitive, respectful, has a sense of humor, is supportive of fellow classmates and instructors; recognizes others’ perspectives as valid and works to include all “voices” in the classroom; is aware of and responsive to issues and behaviors that might marginalize colleagues in the classroom.
- **Flexibility:** is responsive when reasonable adjustments to the syllabus, curriculum, schedule, and school site assignments become necessary (common to the educational arena); can work through frustrations by problem-solving with others and not letting emotional responses dominate or impair thinking; “bounces” back easily; can work calmly under stress.
- **Openness to, and enthusiasm for learning:** can engage with a variety of educational ideas with an open mind and a sense of exploration; demonstrates passion for and metacognition of learning across the curriculum and within discipline areas; takes advantage of learning opportunities and seeks out additional opportunities for learning.

2. Science Teaching Resources–50pts

(At least one exceptional and appropriate to your grade level) made available to others in the class to establish a resource booklet by grade level appropriateness. These resources could be for the teacher or for their students. Focus will be on one of the resources below in each of the first five weeks. Students will present/explain their resource and include them in the resource booklet.

- a) internet
- b) field
- c) people
- d) books/computer software etc

3. Discussion Questions – 50 points

Each student will be required to submit a discussion question for the class based on the readings assigned from NSTA journals. The question should be submitted to the WebCT class postings under the heading identified for discussion questions by noon on the day of the class when such readings are due and also bring a copy of the question to class. The discussion question should be an open-ended question that provides opportunity for discussion and calls for diverse responses. In addition it should reflect that you read the assigned readings. The dates when the questions are due are reflected in the course schedule. Examples of such questions will be available on WebCT.

4. Content Standards Review & mini lesson Presentations – 150 points

In this two part assignment, you will develop a deep understanding of specific grade life science content standards and how to teach the content using specific strategy. Working in pairs you will review the assigned grade level content that the teacher needs to know before teaching the topic. Using a PowerPoint presentation, you will share this content with your classmates as well a possible teaching strategy. In the second part of the assignment, you will teach

a mini lesson that utilizes the strategy to your classmates. **In this presentation besides the elements mentioned above you will incorporate the other elements of good lesson development modeled in the instructor presentation: use of multiple strategies (ala Joyce and Weil); varied and authentic assessments; and best practices mini-strategies.**

5. Interviewing/Teaching Tasks – 200 points

One of the most fundamental principles of teaching is to understand the capabilities and prior knowledge of the target learner: “Where are your learners at, and how far can you expect to go with them”. In this three-part assignment, you will first plan to conduct an interview with a school student to gather an understanding of the student’s prior knowledge of a given fundamental concept in life science. Once you have designed your interview, and after you have received feedback from your instructor, you will then conduct your interview. You will use your interview to identify your student’s conceptions of the concept. You will then design a brief 5-E format lesson to remediate some aspect of your student’s alternate or incomplete conceptions. Finally, after receiving feedback on your lesson plan, you will present your lesson to the student and analyze its effectiveness. By taking part in this process, you will be gaining important practical experience in developing questioning and teaching strategies, skills that are the hallmark of exemplary teaching!

Grading Procedures And Assignments

Grading is calculated based the following percentage points:

94 - 100 = A	80 - 83 = B-	70 - 73 = C-
90 - 93 = A-	77 - 79 = C+	60 - 69 = D
87 - 89 = B+	74 - 76 = C	below 60 = F
84 - 86 = B		

Web Site Resources:

CSUSM Library: <http://library.csusm.edu/>

WebCT: <http://courses.csusm.edu>

TaskStream: <http://www.taskstream.com>

National Science Teachers Association (NSTA): www.nsta.org

Eisenhower National Clearing House: www.enc.org

National Board for Professional Teaching Standards: <http://www.nbpts.org/>

California Science Education Standards: <http://www.cde.ca.gov/re/pn/fd/documents/sci-stnd.pdf>

Assignment Summary

Student Dispositions –	50 points
Teaching Resources –	50
Discussion Questions –	50
Lesson Presentations –	150
Interviewing Tasks –	200

TOTAL points: 500