INSTRUCTOR: David Jelinek, Ph.D.  
djelinek@csus.edu  
www.csus.edu/indiv/j/jelinekd

OFFICE HOURS: By phone appointment and online

TIME and LOCATION:  
Online: www.taskstream.com and www.csus.edu/indiv/j/jelinekd  
Field Component: Jed Smith on selected Thursdays, 9 to 11:50.

ONLINE DETAILS:  
√ Classroom discussions and assignments will be delivered via TaskStream, which is accessed at www.taskstream.com.  
√ There is also a course web site. Go to www.csus.edu/indiv/j/jelinekd and click on EDTE 316.  
√ The course is divided into 6 modules. Each module takes two to three weeks on average to complete.  
√ Each module is introduced through a PowerPoint (PPT) presentation, so you need to have the PPT program or PPT Viewer (a free download available on the course web site). All you have to remember when you open the PPT show is to watch the show in Slide Show (Presentation) mode.  
√ You may access each PPT module by logging onto the TaskStream website and selecting EDTE 316, Science Methods. As a backup the modules will also be on the course website at www.csus.edu/indiv/j/jelinekd  
√ Although you can watch the PPT show online, you may want to download it onto your hard drive. That way you don’t have to rely on the internet the whole time you are viewing it.  
√ The PPT modules replace the traditional classroom lecture.  
√ Just as there is much more to a classroom session than a lecture, so there will be much more to these sessions than a PowerPoint. That’s where the TaskStream course website comes in. You will find a place to post questions, respond to prompts, participate in small and whole group discussions, work on assignments, and get feedback.  
√ You will use TaskStream email to electronically submit assignments. Each assignment is different, but in general you’ll usually submit your assignment as a Microsoft WORD attachment or using one of the templates already on TaskStream. All this will be discussed once we get into the course.

COURSE DESCRIPTION: This class is based on the premise that twenty-first century learners need fresh approaches to learning and doing science. It focuses on helping the classroom teacher uncover big picture concepts through inquiry-based science activities, then planning dynamic science units based on these understandings. Successful candidates will acquire an understanding of big ideas in physical, life, earth and space science; develop inquiry-based science skills; and learn how to plan and teach meaningful units and lessons for K-8 students.

STUDENT LEARNING OUTCOMES: This course is designed for teacher candidates pursuing a Multiple Subject Credential in the CSUS Department of Teacher Education. The course reflects a developmental approach to science instruction congruent with the California Science Framework. These include, but are not limited to:
• Candidate understands state-adopted science academic content standards (TPE Standard 1A.11 Specific Pedagogical Skills for Multiple Subject Teaching Assignments-Science).

• Candidate balances between information, concepts, and investigations (TPE Standard 1A.12 Specific Pedagogical Skills for Multiple Subject Teaching Assignments-Science).

• Candidate emphasizes importance of accuracy, precision, and estimation (TPE Standard 1A.13 Specific Pedagogical Skills for Multiple Subject Teaching Assignments-Science).

• Candidates will explain the nature of science, define its parts, and explain why it is important to teach science in the elementary classroom. (TPE Standard 1A.13 Specific Pedagogical Skills for Multiple Subject Teaching Assignments-Science).

• Candidates will demonstrate that they understand and can apply each of the science process skills in actual elementary school science lesson plans. (TPE Standard 1A.13 Specific Pedagogical Skills for Multiple Subject Teaching Assignments-Science).

• Candidates will demonstrate their ability to plan for science instruction by developing a unit of study that meets the needs of English Learners and Special Populations in the General Education Classroom. (TPE Standard 1A.13 Specific Pedagogical Skills for Multiple Subject Teaching Assignments-Science); (Standard 13 Preparation to Teach English Learners); and (Standard 14 Preparation to Teach).

• Candidates will adapt science lessons for students with special needs and diverse students including English Learners

• Candidates will design performance assessments to appropriately and equitably measure achievement of all students

• Candidates will use multimedia, online communication, web resources and other appropriate technology to enhance the learning of science for a diverse population of students

• Candidates will participate and develop strategies effectively as a member of a cooperative group.

TEXT & LAB:

Teaching the Science Class You Never Had, by David Jelinek, Ph.D., is included electronically at no extra charge with the understanding that you will only download and print one copy for yourself. (This is the PDF version of the textbook that will be published by McGraw-Hill in 2008. All legal copyright issues apply.)

Stop Faking It! Finally Understanding Science So You Can Teach It, by William C. Robertson.

You should select one book from the following series: (a)Light, (b)Sound, (c) Force & Motion, (d)Electricity & Magnetism, (e)Air, Water & Weather; or (f) Energy.

The book should be ordered directly from Amazon, Barnes & Noble, or Borders.

CA Science Content Standards; Science Frameworks. Available free online. Links are provided on the course website.

Lab materials: expect to spend between $10 and $15 in materials for your mini-unit and related activities
ACADEMIC REQUIREMENTS:

1. **Reading preparation & participation in all field components and online class activities each week** (1/3 of course grade)
   - Students are expected to complete all assignments and reading material each week. Weekly online participation is mandatory. Missing 1 week of classes drops overall grade by 10%; missing 2 weeks drops overall grade by 20%. Missing more than 2 weeks causes withdrawal from class.
   - Grading will be based on online and field attendance, class participation, discussion postings (an average of 3 per week) and completing assignments.
   - There is a make-up limit of one (1) in-class assignment, which must be completed within 1 week of the original class session.
   - You should expect to spend the same amount of time you would spend in a face-to-face class, which is 3 hours per class session plus at least that amount again to complete assignments.
   - “Attendance” is based on full participation in all activities, responding to online discussion prompts each week, and participating in small & whole group activities as instructed in the modules.
   - Excused absences are allowed only in extreme cases, and according to university policy.

2. **Signature Assignment (1/3 of course grade)**
   Design a science unit (as a group) that incorporates a knowledge of students, content in a specific science domain, an assessment plan, and an instructional blueprint that incorporates logically sequenced lessons and activities.
   - A unit plan template will be provided specifying required elements in 4 major stages: 1) Student Profiles, 2) Content, 3) Outcomes & Assessment, and 4) Instructional Blueprint. Each stage needs to be fully addressed.
   - Each student is also required to submit one individual lesson plan and a reflection.
   - Detailed instructions and a rubric will be provided.

3. **Field Component (1/3 of course grade)**
   The field component is divided into three parts. Each student is required to participate in all three parts and write a reflection on each part.
   - **Part 1:** Work with others in your class (who have selected the same *Stop Faking It* content area) to design a Unit Plan following the Unit Plan Template provided. The unit should include 5 to 6 hands-on activities that will be taught to fellow classmates and Jed Smith students in rotating stations.
   - **Part 2:** Teach the 5 to 6 activities to the rest of your classmates during the scheduled time; and participate in the units conducted by your other classmates. There will be six units total, taught over 3 class periods.
   - **Part 3:** Teach the unit activities to students at Jed Smith during “Science Day”.

**GRADING SCALE**

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>90%-100%</td>
<td>A</td>
</tr>
<tr>
<td>80%-89%</td>
<td>B</td>
</tr>
<tr>
<td>70%-79%</td>
<td>C</td>
</tr>
<tr>
<td>60%-69%</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F</td>
</tr>
</tbody>
</table>
### Weekly Schedule (subject to change)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics /What to Do</th>
<th>What to Submit/Post</th>
</tr>
</thead>
</table>
| 1    | 9/3 to 9/9    | **Class Overview**  
Student Learning Profiles  
- View Week 1 PowerPoint  
- Read Preface and Chapter 1  
- Complete Student Learning Profiles  
- Respond to online discussion posting | • Online discussion postings  
• Submit Student Learning Profiles to instructor for feedback |
| 2    | 9/10 to 9/16  | **Deciding What to Teach (Content)**  
- View Week 2 PowerPoint  
- Read *Stop Faking It*  
- Read *Teaching Science* Chapter 2  
- Select Mini-Unit for specific discipline & grade level | • Online discussion postings  
• Post response to *Big Ideas* prompt |
| 3    | 9/17 to 9/23  | **How to Teach It**  
Teaching for Analytical, Creative & Practical Thinking  
Inquiry & the 5Es  
- View Week 3 PowerPoint  
- *Stop Faking It*  
- Read *Teaching Science* Chapter 3  
- Complete 5 Es Assignment | • Online discussion postings  
• Submit 5Es & Triarchic Thinking assignment to peer group  
• Give feedback to peer group |
| 4    | 9/24 to 9/30  | **Intro to Unit Designing**  
- View Week 4 PowerPoint  
- Read Chapter 5 (Intro through Stage 2)  
- Complete Stages 1 & 2: Learning Profiles & Enduring Outcomes | • Online discussion postings  
• Submit Stages 1 & 2 drafts to instructor |
| 5    | 10/1 to 10/7  | **Assessment & Learning**  
- View Week 5 PowerPoint  
- Read Chapter 4 and Chapter 5 (Stage 3)  
- Rough out Stage 3 | • Online discussion postings  
• Submit Stage 3 draft to instructor |
| 6    | 10/8 to 10/14 | **Design Your Instructional Blueprint**  
- View Week 6 PowerPoint  
- Read Chapter 5 (Stage 4 & Summary)  
- Complete Your Unit Plan | • Online discussion postings  
• Submit complete Unit Plan to instructor |
| 7    | 10/15 to 10/21| **Making It Work in the Classroom**  
- View Week 7 PowerPoint  
- Read Chapter 7 | • Work with your group, gather all unit materials and work out unit logistics.  
• Try the Discrepant Event out on each other. |
# TEACHER EDUCATION

**CALIFORNIA STATE UNIVERSITY, SACRAMENTO**  
*Elementary Science Methods for the Diverse Classroom EDTE 316*  
*Fall 2007*

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Event</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 8    | 10/22 to 10/26 | **Unit Teaching (October 25th from 9 to 11:50 at Jed Smith):**  
   Unit 1: *Light*  
   Unit 2: *Sound* | • Online discussion postings regarding units (Prompts will be provided) |
| 9    | 10/29 to 11/4  | **Unit Teaching (November 1st from 9 to 11:50 at Jed Smith):**  
   Unit 3: *Force & Motion*  
   Unit 4: *Electricity & Magnetism* | • Online discussion postings regarding units (Prompts will be provided) |
| 10   | 11/5 to 11/11 | **Unit Teaching (November 8th from 9 to 11:50 at Jed Smith):**  
   Unit 5: *Air, Water & Weather*  
   Unit 6: *Energy* | • Online discussion postings regarding units (Prompts will be provided) |
| 11   | 11/12 to 11/18 | *Refine Your Units* | • Work with your group to refine the science unit in preparation for “Science Day”  
                     • Online Q & A with Instructor |
| 12   | 11/19 to 11/23 | Thanksgiving Week – no class this week | • No assignments |
| 13   | 11/26 to 12/2  | *Prepare for “Science Day”* | • Work with your group to refine the science unit in preparation for “Science Day”  
                     • Online Q & A with Instructor |
| 14   | 12/3 to 12/9   | *Science Day at Jed Smith on Thursday, Dec. 6th* | • Online reflection and debrief of “Science Day” |
| 15   | 12/10 to 12/14 | *Wrap up and final reflection* | • Submit final reflection to instructor online. Prompts will be provided. |

Note: This schedule is tentative and is subject to change. Changes will be announced in class or via email.