Instructor: Dr. Kathy I. Norman, 311 Univ.Hall   email: Use WebCT course mail to email me
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COE 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)

Teacher Performance Expectation (TPE) Competencies
Standards of Quality and Effectiveness for Professional Teacher Preparation Programs
California Commission on Teacher Credentialing
The course objectives, assignments, and assessments have been aligned with the CTC standards for the Multiple Subject Credential. This course is designed to help those seeking a California teaching credential to develop the skills, knowledge and attitudes necessary to assist schools and districts in implementing effective programs for all students. The successful candidate will be able to merge theory and practice in order to realize a comprehensive and extensive educational program for all students. You will be required to formally address the following TPEs in this course: TPE 1A and TPE5. To successfully meet these TPEs, you must respond on TaskStream, attach your evidence, and request feedback from me on TaskStream.

**NOTE: Instructions for TPE 1A and TPE 5 are given in this syllabus under "Assessment of Course Objectives." If you do not post the entries as directed under "Assessment of Course Objectives" and post them by the due dates listed in the Class Schedule, (1) you will not receive credit for the TPE entries; (2) you will receive a 0 for each assignment; and (3) you will not pass the class.

Professionalism/Dispositions
Because this course is part of an accredited program that leads to professional certification, students are expected to demonstrate behavior consistent with a professional career. Lack of professionalism in any of the following areas will alter the final grade.

1. Attend all class meetings. 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. Absences and late arrivals/early departures will affect the final grade. 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.

For this class, if you are absent 1 day, your highest possible grade is a B. If you are absent more than 1 day, your highest possible grade is a C, which means that you will not pass the course. Late arrivals and early departures will affect your final grade. Absences do not change assignment due dates. Late assignments will receive a reduction in points for each day late.

2. Interact professionally and collaborate responsibly with your colleagues and professor. Teacher education is a professional preparation program and students will be expected to adhere to standards of dependability, professionalism, and academic honesty. Prepare carefully for class, and be ready to discuss readings and assignments thoughtfully.

3. Each written assignment is expected to have a clear organizational presentation and be free of grammar, punctuation and spelling errors. There will be a reduction in points for the above mentioned errors.

4. Complete all assignments on time. Late assignments will receive a 20% reduction in points for each day late. Occasionally a student may be asked to revise an assignment.

Students With Disabilities Requiring Reasonable Accommodations
Students 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 TTY (760) 750-4909. Students authorized by DSS to receive reasonable accommodations should meet with their instructor during office hours or, in order to ensure confidentiality, in a more private setting.

CSUSM Academic Honesty Policy
Students will be expected to adhere to standards of academic honesty and integrity, as outlined in the Student Academic Honesty Policy. All written work and oral assignments must be original work. All ideas/materials that are borrowed from other sources must have appropriate references to the original sources. Any quoted material should give credit to the source and be punctuated with quotation marks.

Students are responsible for honest completion of their work including examinations. There will be no tolerance for infractions. If you believe there has been an infraction by someone in the class, please bring it to the instructor's attention. The instructor reserves the right to discipline any student for academic dishonesty in accordance with the general rules and regulations of the university. Disciplinary action may include the lowering of grades and/or the assignment of a failing grade for an exam, assignment, or the class as a whole.

All University Writing Requirement
In keeping with the All-University Writing Requirement, all courses must have a writing component of at least 2,500 words (approximately 10 pages) which can be administered in a variety of ways.

Person-First Language
Use "person-first" language in all written and oral assignments and discussions (e.g., "student with autism" rather than "autistic student").

Course Prerequisites
Course prerequisites include admission to the program, successful completion of the Semester 1 courses, and successful completion of the Beginning Student Teaching experience.

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))

Special Education
Consistent with the intent to offer a seamless teaching credential in the College of Education, this course will demonstrate the collaborative infusion of special education competencies that reflect inclusive educational practices.

Technology
This course infuses technology competencies to prepare our candidates to use technologies, emphasizing their use in both teaching practice and student learning.

Visual and Performing Arts
This course infuses the visual and performing arts in order to prepare our candidates with the skills to integrate the arts in their teaching. The Visual and Performing Arts Content Standards for California Public Schools (http://www.cde.ca.gov/cdepress/standards-pdfs/visual-performing-arts.pdf) describe what every student should know and be able to do in the visual and performing arts, pre-kindergarten through grade 12 in five strands: artistic perception; creative expression; historical and cultural context; aesthetic valuing; and connections, relationships and applications.

GRADING STANDARDS

A = 93-100	B = 83–86	C = 73-76
A– = 90-92	B- = 80-82	C- = 70-72
B+ = 87-89	C+ = 77-79	F = 0-69

It is expected that students will proofread and edit their assignments prior to submission. Students will ensure that the text is error-free (grammar, spelling), and ideas are logically and concisely presented. The assignment's grade will be negatively affected as a result of this oversight. Each assignment will be graded approximately 80% on content and context (detail, logic, synthesis of information, depth of analysis, etc.), and 20% on mechanics. All citations, where appropriate, will use American Psychological Association (APA) format. Consult APA Manual, 5th edition for citation guidance.

Grading will also include a component of "professional demeanor." Students will conduct themselves in ways that are generally expected of those who are entering the education profession. This includes but is not limited to:
- On-time arrival to all class sessions
- Advance preparation of readings and timely submission of assignments
- Respectful participation in all settings (e.g., whole group, small group, in/outside of class)
- Carefully considered, culturally aware approaches to solution-finding

COURSE DESCRIPTION

This course is designed to provide a comprehensive overview of the objectives, skills, concepts, experiments, materials, and methods necessary to teach science to elementary school children. A series of team activities will provide you with first-hand experiences in these areas. This course focuses on instructional methods, techniques, materials, lesson planning, curriculum development, organization and assessment in science. The integration of curricular areas is addressed. Methods of cross-cultural language and academic development will be integrated into the course.

REQUIRED TEXTS

Friedl, A.E. & Koontz, T.Y. (2005). *Teaching Science to Children, An Inquiry Approach, 6th Ed.* NY: McGraw-Hill.

Science Framework for California Public Schools. (2003) Sacramento: California Dept. of Education.

Lamb, R. *Communication Basics: An Overview of Nonviolent Communication.* Center for Nonviolent Communication.

COURSE OBJECTIVES

By the end of this course, students should be able to
1. Demonstrate proficiency with inquiry skills of observing, measuring, inferring, classifying, predicting, verifying predictions, hypothesizing, isolating variables, interpreting data, and experimenting.
2. Identify exemplary materials (curriculum kits, science programs, textbooks, equipment, technology, ancillary materials) appropriate for elementary school children.
3. Demonstrate knowledge and understanding of the California Science Framework, the California Science Content Standards, and the National Science Education Standards.
4. Demonstrate an understanding of the physical, earth and life science concepts included in the K-8 California Science Content Standards, and how to design lessons to teach the concepts.
5. Use the Learning Cycle model of instruction to teach science in a contemporary manner.
6   Use technology in elementary science teaching.
7. Demonstrate confidence in leading and performing investigations designed to teach science concepts, science process skills, and scientific attitudes.
8. Use authentic methods of assessment to evaluate learning of science concepts and processes.
9. Design an elementary science teaching mini-unit.
10. Practice strategies to include all students in science (linguistically and culturally diverse, students with disabilities and other students with special needs).

COURSE TOPICS

Constructivism & The Learning Cycle Model of Teaching
Concept Mapping
Objectives for Student Learning & Science Concept Definitions
Developing Essential Questions
California Science Content Standards
California Science Framework
Teaching English Language Learners in Science
Infusing Writing Activities in Science Lessons
Science Curriculum Kits and State Approved Texts
Science Process Skills and Scientific Attitudes
Current Issues in Science Education
Infusing Technology into Science Teaching
Authentic Assessments in Science
Science Projects, Student Research, Science Fairs
Safety in the Science Class
Inclusion and Teaching Science to Students with Special Needs
Benchmarks and the National Science Education Standards

ASSESSMENT OF COURSE OBJECTIVES

In-Class Work
*   Self-Assessments, Action Plan, Action Plan Implementation (individual)   *Turn in.*   5%
*   Leadership of Hands-on Science Activities (group)   *Post to WebCT (2 places).*   10%
*   Learning Cycle Lesson Drawings and Explanations (individual)   *Turn in.*   5%
*   Group Science Curriculum   *Post to WebCT (2 places).*   10%
*   Individual Science Unit   *Post to WebCT (2 places).*   10%
*   Science Exploratorium Lesson Plan/Presentation (pairs)   *Post to TaskStream.*   10%
*   Essential Questions Quiz (individual)   Turn in.   5%
*   Mock Interview (group and individual)   *Post to WebCT.*   5%

Out-of-Class Assignments
*   Reading Accountabilities (individual)   *Post to WebCT.*   20%
*   Videotaped Lesson and Reflection (individual)   *Post to TaskStream.*   20%

In-Class Work

Self-Assessments, Action Plan, Action Plan Implementation (individual)   5%

Studies regarding characteristics of great teachers reveal that effective teachers are outstanding in three areas:
- Content Knowledge
- Pedagogy
- Affective traits or "Teacher Disposition"

1. **Content knowledge** can be measured through assessments, such as exams or performance assessments. You will complete a practice test to determine your level of content knowledge, as related to what 4th graders are expected to know.

2. **Pedagogy** (or instructional skills and strategies) can be determined by observing your teaching. You can observe it by videotaping yourself and reviewing the video. You can also have others watch you teach or watch the video of you teaching.

3. The **affective** component of teaching is harder to determine or watch. However, it is easily sensed, as it is the "**attitude**" one has. This is also called "**disposition** to teach" and it includes such important skills as listening, collaborating with others, and being respectful.

Where are you?
Where do you want to go?
In this class, you will do a self-evaluation of your current status with regard to **the characteristics of great teachers: content knowledge, pedagogy, and attitude/disposition**. You will be assigned a partner with whom to discuss your self-evaluation and possibly revise your evaluation. In addition, you will develop an Action Plan for each of the 3 areas, review and revise it with your partner, and implement your action plan. Mid-semester you will again do a self-assessment, discuss it with your partner, and revise your action plan. This will be repeated at the end of the semester. By working with a partner, you and your partner can observe each other during the 8 week class and help each other improve in content knowledge, pedagogy, and teacher disposition.

Since attitude and teacher disposition can be difficult to define, a list of behaviors that indicate attitude disposition are below:

- 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: 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.

For Group Leadership of Science Activities, Group Curriculum, and Individual Unit Assignment:
You will upload all 3 to the Assignments Tool <u>AND</u> to the Presentations Tool. (Assignments upload is for grading. Presentations upload is for sharing with others, for class work and teaching with children.) Uploading to the Assignments tool is easy; just follow the online prompts for the Assignment you are uploading. Below is information to help you upload to Presentations area.

Uploading a Student Presentation. You can upload a Student Presentations file from your computer.
1. Go to <u>Presentation</u>s.
2. Select <u>your class</u>. Click <u>Edit Files</u>
3. Select the Assignment for which you are uploading (<u>Group Leadership</u>, <u>Group Curriculum</u>, or <u>Individual Unit</u>).
4. On the right column, under <u>Options: Files</u>, click <u>Upload</u>. The Upload File screen appears.
5. Upload your files:
   a. Next to Filename, click Browse.
   b. Locate and select the file you want to upload. The path and filename of your attachment appears in the Attachments text box.
   c. From the Destination folder drop-down list, select the folder in which to save your file. Save it in the Assignment folder for which you are uploading (Group Leadership, Group Curriculum, or Individual Unit).
   d. Click Upload. The File Options screen appears, and the uploaded file appears as a link under the folder you selected.
   e. If you want to view the contents of a folder, click the folder name.
   f. If you want to view the file, click the magnifying glass to the left of the file name.

You will download the lessons that groups upload to Group Leadership of Hands-On Science Activities, because you will need them for class. You will download Group Curricula and Individual Units, so that everyone can share them and use them in student teaching. Below is information to help you download.

Downloading Files. You can download a file from Student Presentations to your personal computer.
1. From the Presentations screen, locate the group from which you want to download files and in the <u>Files column</u>, click <u>Edit Files</u>. The Folders and Files screen appears.
   a. Locate and select the file that you want to download.
   b. On the right column, under <u>Options: Files</u>, click <u>Download</u>.
   c. Click <u>Download</u>. Your browser's file download screen appears.
   d. Follow the onscreen instructions.

Leadership of Hands-on Science Activities (group)   10%

> **Note: Once your team has a date for a presentation, go to the class calendar and post your team members' names on the date you are presenting a lesson.**
>
> ***The day before each class with a team lesson, go to WebCT and print the lesson for class.**
>
> Students will lead hands-on science lessons during class. The lessons should model inquiry instruction, good questioning skills, and be content-understandable and non-judgmental. The lessons should be based on the CA Science Content Standards. Strategies for English language learners, technology integration, and methods for teaching students with disabilities should be included.
>
> You will work in teams to lead science lessons based on the Learning Cycle Model of Instruction. You will teach these to your classmates. Each lesson will be allocated a maximum of 35 minutes of class time to teach. Your classmates will <u>not</u> role-play elementary students, but will learn the science content and how to teach it. Treat your classmates as teachers, not elementary students.
>
> The lessons should include hands-on lessons, and should emphasize particular science concepts. The Exploration and Application phases of the Learning Cycle require different hands-on science activities using manipulatives. **ALWAYS begin Exploration with students making PREDICTIONS**. Hands-on activities are NOT reading or completing worksheets (though they may require students to read something or complete lab observation sheets). You should take the activities "off of paper" and require students to use the science process skills with science manipulatives. **You need to know and understand the stages of the Learning Cycle, or you will not be given credit for your lesson.**
>
> Be sure you understand the concepts you are emphasizing, and that you can explain them. The lessons should be developmentally appropriate for K-6, and should follow the NSTA Safety Guidelines. Begin the lesson by writing essential questions about the lesson on the board, for students to consider during the lesson. Make sure that you include the 3 stages of the Learning Cycle. Make sure that science content background and applications to everyday life are addressed. You need to **EXPLAIN** Strategies for English language learners and adaptations for students with disabilities.
>
> Prepare a PowerPoint Presentation to use in your lesson. The presentation should include a detailed explanation of the science content, as well as a list and definitions of science concepts important to the lesson. Additionally, include a list of at least 5 web sites (with short descriptions) that address the science topic and concepts through simulations, graphics and movies. You should have links to these web sites and show examples during the lesson.
>
> Science Lesson Handout
> - Prepare a handout which includes the information under Lesson Plan Format
> - Post to WebCT under Assignments (Group Leadership) **and** under Presentations **(2 places),** making sure you include:
>   - team members' names at the top
>   - references at the bottom.
>
> You will videotape your lesson. After teaching it in the class, you should each watch the video and each write a one page reflection. The reflection should include strengths, weaknesses, and recommendations for improvement. Turn in the reflection at the next class session.

IMPORTANT NOTE: At least five days PRIOR to your team's presentation, email your complete lesson plan and your PowerPoint Presentation to the instructor for review. Include the date you will present to the class. After I have approved these, you should post the Lesson Plan on WebCT under Assignments (Group Leadership) and under Presentations. **Be sure to post the Lesson Plan to WebCT at least two days before your presentation day.** After your presentation (by the next class), turn in your **Reflection and your Peer Evaluation Form**.

Lesson Plan Format

Lesson Title: What is the title of your lesson?

Grade Level: What is the grade level?

Student Groupings: How will you group students for instruction?

Materials/Resources/Technology: What does the teacher need? What do the students need?

California Science Content Standard(s): What standards are addressed? Include at least one science area (life science, physical science, or earth science) standard and one investigation standard.

Lesson Objective(s): What do you want students to be able to do?
Write in complete sentences. Use an action verb and explain how students will demonstrate their new knowledge and understanding. "The students will _____."

Science Concept(s): What are you trying to teach? Do not say "The students will ____." (That is an objective, not a concept.)

Essential Question(s): What are your essential question(s) for this concept? What leads to the big idea?

Assessment: How will your students demonstrate that they have met the objective? What evidence demonstrates that they have achieved the objective?

Criteria for Assessment: What criteria will you use to grade the assessment? How will you know if someone has successfully completed the assessment?

Lesson Procedures: Explain the procedures for each. Include what the teacher will do and what the students will do.
The Learning Cycle
   a. Exploration (Begin with students making predictions.)
   b. Concept Invention
   c. Concept Application

Accommodations/Adaptations/Applications:
➢ Strategies for English language learners and explanations (5)
➢ Adaptations for students with disabilities and explanations (5)
➢ Applications to everyday life and explanations (5)

Science Content Background: 1-2 page summary of the content background

Web Sites: 5 interactive relevant web sites with descriptions

Children's Literature Books: Title, author, publisher, year of 5 children's books on the topic

Arts Standards Integration: Explain how you will integrate learning in the Arts.

References: Title, author, publisher, year

RUBRIC FOR HANDS-ON SCIENCE LESSONS

Title of Lesson: _____

Names: _____   _____

   _____   _____

   _____   _____

Activity	Criteria/ Quality of Work	Score
Materials 5pts	Materials were provided so that all students could easily participate - 5 pts. Materials were provided so that some students could easily participate - 3 pts. Materials were provided so that a few students could easily participate - 1 pt. Materials were not provided so that students could easily participate - 0 pt. **(5 points maximum)**	
Essential Questions 5pts	You included 2 essential questions in the lesson, asking about the "big idea." These were not simple knowledge or application questions, but questions relating the lesson to the big idea **(5 points maximum)**	
Assessment & Criteria 5pts	You included an explanation of a performance assessment during which students showed evidence that they achieved the objectives. You also included the criteria to be used for grading the assessment. **(5 points maximum)**	
Concept Exploration 10pts	1) All students participated in a developmentally appropriate hands-on science activity, made observations, and collected data. Predictions were made at beginning 2) Are children provided with hands-on activities (sometimes problem solving) prior to being introduced to the new ideas? 3) Do the exploration activities elicit children ideas relative to those activities? 4) Are the exploration activities clear lead-in's to the introduction of the idea? That is, do the exploration activities provide the experiences children need to meaningfully grasp the new idea when that new idea is presented? 5) Is there a likelihood that the children will come up with the key idea as a consequence of the exploration activities? **(2 points for each of the above)**	
Concept Invention 10pts	1) Students shared their observations, data and explanations. Teacher provided further explanations and terminology, and tied it all together. 2) When the new idea or skill is introduced, does the teacher directly relate the presentation to what children have experienced in the exploration activity? 3) Does the teacher attempt to elicit the key idea from the children before presenting that idea? 4) Is there an attempt by the teacher to check on children's understanding of the newly presented concept or skill? 5) Is there an attempt by the teacher to give children an example of what the concept is not? **(2 points for each of the above)**	

Science Content Background 10 pts	Your team provided a thorough explanation of the science content background in the PP presentation - 10 pts. Your team provided a short explanation of the science content background - 6 pts. Your team provided an incomplete explanation of the science content background - 2 pts. Your team provided a poor explanation of the science content background - 0 pts. **(10 points maximum)**	
Relevant Web Sites 10 pts	Your PP presentation and lesson plan included 5 web sites with descriptions and links to the sites. **(2 points for each)**	
Concept Application 10 pts	1) Are hands-on activities used in the application/elaboration stage? 2) Are there explicit attempts to offer children corrective and confirmatory feedback? 3) Will any new element (refinement) be added to broaden and deepen children's understanding or skill? 4) Can the application/elaboration activities serve as exploration activities for a new idea? **(2.5 points for each)**	
Strategies for English language learners 5 pts	Numerous (5) Strategies for English language learners are explained **(1 pts for each)**	
Applications to real life 5 points	5-6 applications to everyday life are described **(1 points for each)**	
Adaptations for Students with Disabilities 5 points	5 adaptations to meet the needs of students with disabilities are included **(1 points for each)**	
Arts 5pts	You integrated one or more arts standards in a meaningful way – 5 pts. Arts included, but did not include standards – 3 pts. Little relation to the arts – 1 pt.	
Handout 10 pts	Handout included everything listed for lesson plan **(1 points OFF for each missing item)**	
Presentation 5 pts	Your team was ready to present at the beginning of class, had all materials ready and all handouts copied, and stayed within the time allocated. You kept students on-task and did not waste time - 5 pts. Your team accomplished some of the items listed - 3 pts. Your team accomplished few of the items listed - 1 pts. Your team did not accomplish any of the items listed - 0 pts. **(5 points maximum)**	
	TOTAL POINTS/100	

Learning Cycle Lesson Drawings and Explanations (individual)   **10%**

During the 15 minutes following each Team presentation, you will make a drawing illustrating what you learned during the lesson. You will attach an explanation to the drawing, usually about ½-1 page. Be sure to pay attention during the lesson so that you have something to draw and explain!

Group Science Curriculum   **10%**

Instructions will be given in class.
Post to WebCT under Assignments (Group Curriculum) **and** under Presentations **(2 places),** making sure you include:
- o   team members' names at the top and references at the bottom.

Turn in **Peer Evaluation Form** after you post the Curriculum to WebCT.

Individual Science Unit   **10%**

Instructions will be given in class.
Post to WebCT under Assignments (Individual Unit) **and** under Presentations **(2 places),** making sure you include:
- o   your names at the top and references at the bottom.

Science Exploratorium Lesson Plan/Presentation (pairs)   **10%**

Critical Assessment Task (CATs) to be submitted and discussed on TaskStream for TPE 5.

Develop an inquiry activity to teach to elementary students. You may work in pairs on this assignment (pairs, not three, four or five).

You will prepare a hands-on science lesson and poster about a science concept. You will present the lesson at our Elementary School Science Exploratorium. Be sure you understand the concept(s) you are emphasizing, and that you can explain it. The activity should be developmentally appropriate, and should follow the NSTA Safety Guidelines. Prior to teaching the lesson, turn it in to your instructor for review. The lessons should include hands-on lessons, and should emphasize particular science concepts. The Exploration and Application phases of the Learning Cycle must require different hands-on science activities using manipulatives. Hands-on activities are NOT reading or completing worksheets (though they may require students to read something or complete lab observation sheets). You should take the activities "off of paper" and require students to use the science process skills with science manipulatives.) Type a 1 page abbreviated Lesson Plan with your names at the top and REFERENCES at the bottom.

Lesson Plan Format

Lesson Title: What is the title of your lesson?

Lesson Objective(s): What do you want students to be able to do?
Write in complete sentences. Use an action verb and explain how students will demonstrate their new knowledge and understanding. "The students will _____."

Science Concept(s): What are you trying to teach?
Do not say "The students will ____." (That is an objective, not a science concept.)

Essential Question(s): What are your essential question(s) for this concept?

Materials/Resources/Technology: What does the teacher need? What do the students need?

Assessment: How will your students demonstrate that they have met the objective? Is there a clear match between the standards, objectives and the assessment?

Assessment Criteria: What criteria will you use for grading the assessment? How will you know students have successfully completed the assessment?

Lesson Procedures: BRIEFLY explain the procedures for each. Include what the teacher will do and what the students will do.
- ➤   Exploration (Students should first make predictions.)
- ➤   Concept Invention
- ➤   Concept Application

References: Title, author, publisher, year of resources

The Reflection (to turn in after the Exploratorium; answer the following)
- a. How did the children respond? (What did they say and do?)
- b. How do the children's actions and responses demonstrate their level of understanding?
- c. How did you (or can you) improve upon your lesson to facilitate understanding?

After the Exploratorium, you will do a self-assessment by completing the RUBRIC below.
RUBRIC FOR ACTIVITY, POSTER AND PRESENTATION-Science Exploratorium

Score Criteria   Quality of Work

Score	Criteria	Excellent	Acceptable	Unacceptable
_____	Visual Display 10 pts. max	3-sided visual display shows great creativity and is thought-provoking. Graphically demonstrates concept.	3 sided visual display shows creativity and thoughtfulness; has graphics or pictures.	Visual display is present, but required little imagination or creativity.
_____	Timing 10 pts. max	You easily adjusted your teaching to the time allocated. You showed creativity and flexibility.	You adjusted somewhat to the time allotted .You showed some creativity and flexibility.	You did not easily adjust your teaching to the time allocated. You showed little creativity and/or flexibility.
_____	Student Data Sheet 10 pts. max	You had copies of a data sheet for all students.	You had data sheets, but not for all students.	You did not require students to keep data.
_____	Materials 10 pts. max	You have necessary materials for all students to participate in hands-on lesson.	You have necessary materials for some students to participate in hands-on lesson.	You had materials for demonstrations only.
_____	Your Understanding 20 pts. max	It was obvious that you had a complete and thorough understanding of the science content.	You did not have a complete understanding of the science content.	You had misconceptions about the science content.
_____	Your lesson 20 pts. max	Learning Cycle Lesson is (a) hands-on, (b) developmentally appropriate, & (c) feasible for all students.	Two of the 3 characteristics are present.	Teacher does a hands-on activity for students.
_____	Reflection 20 pts. max	You wrote a complete reflection about how children demonstrated understanding, and how you could or did improve.	You wrote some about how children responded, showed understanding, & how you could or did improve.	You wrote little about how children responded, showed understanding, & how you could or did improve.

Total points _____

POST TO TASKSTREAM TPE 5 Student Engagement
Post an <u>explanation</u> of how this assignment meets TPE 5, along with the following as artifact attachments:
1. **Lesson Plan for Exploratorium**
2. **Reflection on Exploratorium teaching**
3. **Self-Assessment Rubric**
4. **Picture(s) of Your Project**

TPE 5: Student Engagement
Candidates for Teaching Credentials clearly communicate instructional objectives to students. They ensure the active and equitable participation of all students. They ensure that students understand what they are to do during instruction and monitor student progress toward academic goals. If students are struggling and off-task, candidates examine why and use strategies to re-engage them. Candidates encourage students to share and examine points of view during lessons. They use community resources, student experiences, and applied learning activities to make instruction relevant. They extend the intellectual quality of student thinking by asking stimulating questions and challenging student ideas. Candidates teach students to respond to and frame meaningful questions.

Instructions for Writing TPE Reflections:
As you write, the goal is (1) to describe your learning as it relates to the TPE, (2) to analyze your completion of the assignment and explain how your completion of the assignment and the artifact attachments are evidence of your learning, and (3) to reflect on the significance of your learning (the "so what?") and where you need to go next related to the TPE. A four paragraph structure will help you develop your response:
- 1st paragraph: Introduction to your response that uses the words of the TPE. DO NOT restate the TPE; instead, introduce your reader to the focus of your response as it relates to the TPE. This is basically an extended thesis statement related to the TPE.
- 2nd paragraph: Explain how your completion of the assignment is evidence of your learning related to the TPE. The key here is "evidence." How does your completion of the assignment and the primary artifact attachment prove that you have learned something specific related to this TPE?
- 3rd paragraph: Explain how the other artifact attachments provide additional evidence of your learning related to the TPE.
- 4th paragraph: Reflect upon and summarize the significance of your learning overall (connected to the TPE) and explain what you still need to learn related to this TPE. This addresses the "so what?" of your learning.

Instructor Response "Codes":
Done - You have provided enough description, analysis of evidence, and reflection to show that you understand the intent of the TPE and can articulate your learning relative to the TPE.
Almost Done - You are close to providing enough description, analysis of evidence and reflection to show your understanding and learning related to the TPE. **Additional editing or minor revision still needed.**
Developing - You have attempted to demonstrate your understanding and learning, but there is not enough description, analysis of evidence, and/or reflection to fully satisfy this assignment. **Significant revision needed.**

Essential Questions Quiz (individual)   5%
The goal of this assignment is to ensure that students pay attention to the relevant grade level content of the lessons presented in class. The quiz will be based on the essential questions stated in your hands-on lesson assignments. These quizzes will be open notes, but not open handout. That means you should take careful notes during each lesson presentation and may not use your lesson handout or book.

Mock Interview (group and individual)   5%
This will occur on the last day of class, and will involve an individual writing prompt and a group interview.

Out-of-Class Assignments

Reading Accountabilities (individual)   **20%**

Grading: Maximum of 5 pts. for each chapter's concepts. 20 CHAPTERS X 5 PTS=100 PTS
For each of chapters 2-21, complete one of the following:
1. Using inspiration or similar software, prepare a concept map (15-25 concepts with linking words), using correct concept mapping procedures taught in class <u>or</u>
2. Type Big Ideas "paper" (1 page) explaining the key science concepts (**sentence form, not outlines**)

Post to WebCT under Assignments/Readings on the dates indicated in the schedule.

Videotaped Lesson and Reflection (individual)   **20%**

Critical Assessment Task (CATs) to be submitted and discussed on TaskStream for TPE 1A.
This assignment requires a 15-20 minute video taping of you teaching a science instructional experience in an elementary classroom setting.

The goals of this assignment are to:
*   Provide practice for preparing a formal lesson that you will teach.
*   Provide you with opportunities to infuse effective practice strategies in their planning and teaching.
*   Provide you with opportunities to reflect on your teaching choices. Students will self and peer review/critique the video taped lessons.

1. **LESSON PLAN**
    Prepare your lesson plan and review it with your Cooperating Teacher.

2. **VIDEOTAPE**
    Videotape yourself teaching a science lesson. You will post 3-4 minutes of video clips to TaskStream. You will also **bring the video to class on a DVD or flashdrive to show on the class computer**. Note: Be sure to test your method to make sure you can show the video on our class computer.

3. **REFLECTING ON YOUR TEACHING LESSON (Your self critique)**
    a. First, review your teaching video to evaluate your performance with regard to the following general competencies. This is for your benefit!
        Planning and subject area competence
        Instructional skills
        Accommodations to insure success of every student
        Evaluation (learner achievement and own skills)
        Classroom organization
        Student behavior
        Personal/professional behavior

    b. **Then, write a self critique, reflecting on the experience in writing by answering the following questions:**
        (1) What worked and why? [What elements of the lesson effectively contributed to student learning?]
        (2) What did not work and why? [What elements of the lesson did not contribute to student learning?]
        (3) If the lesson were taught again, in what specific ways could it be modified to increase its effectiveness?
        (4) Based on the feedback received, what specific plans can be made to increase teacher effectiveness?   (Based on Hanna & Hansen, 1992)

4. **Discussion and Presentation**

Discuss your teaching and the lesson with your Team in our class. Your Team will make a 30-minute presentation to the whole class, describing the lessons in each of your elementary classrooms, and showing the video of some of the video clips.

First, be sure to advise the regular classroom teacher and the principal of the videotaping and its intent:

➢ This is to be a learning experience for you to see yourself in the role of the teacher as your students see you. "In the role of the teacher" requires you to introduce a lesson; deliver directions about how to do something; demonstrate a procedure; ask questions to check student understanding; work with individual, small group, or the entire class; transition between activities; monitor student progress and behavior. You do not have to deliver a lecture for this assignment.

➢ While students *may* be filmed, the intent **_never_** is to focus on the children or their behavior. However, your management and interaction with the students may be part of the critique.

Arrange for a video camera and an operator, if possible. Many elementary schools now have video equipment on site. Classroom teachers or aides or other student teachers may be available to help with the actual filming. The CSUSM student helpdesk has digital cameras for checkout. See course instructor if you have trouble getting a camera.

5. POST TO TASKSTREAM TPE 1A Science
Post an underline explanation of how this assignment meets TPE 1A, along with the following as attachments:
1. **3-4 minutes of video clips of the science lesson**
2. **A complete lesson plan**
3. **Your reflective self critique (written responses to the four questions above)**

TPE 1A: Teaching Science in a Multiple Subject Assignment
Candidates for a Multiple Subject Teaching Credential demonstrate the ability to teach the state-adopted academic content standards for students in science (K-8). They balance the focus of instruction between science information, concepts, and investigations. Their explanations, demonstrations, and class activities serve to illustrate science concepts and principles, scientific investigation, and experimentation. Candidates emphasize the importance of accuracy, precision, and estimation.

Instructions for Writing TPE Reflections:
As you write, the goal is (1) to describe your learning as it relates to the TPE, (2) to analyze your completion of the assignment and explain how your completion of the assignment and the artifact attachments are evidence of your learning, and (3) to reflect on the significance of your learning (the "so what?") and where you need to go next related to the TPE. A four paragraph structure will help you develop your response:
- 1st paragraph: Introduction to your response that uses the words of the TPE. DO NOT restate the TPE; instead, introduce your reader to the focus of your response as it relates to the TPE. This is basically an extended thesis statement related to the TPE.
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- 3rd paragraph: Explain how the other artifact attachments provide additional evidence of your learning related to the TPE.
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Instructor Response "Codes":

Done - You have provided enough description, analysis of evidence, and reflection to show that you understand the intent of the TPE and can articulate your learning relative to the TPE.

Almost Done - You are close to providing enough description, analysis of evidence and reflection to show your understanding and learning related to the TPE. **Additional editing or minor revision still needed.**

Developing - You have attempted to demonstrate your understanding and learning, but there is not enough description, analysis of evidence, and/or reflection to fully satisfy this assignment. **Significant revision needed.**

Cooperative Learning Roles for Science Group Members:

- Materials Manager

- Reporter

- Recorder

- Timekeeper/Taskmaster

- Lead Investigator

Heterogeneous groups are best. The teacher assigns the group and the roles. The roles which are rotated.

Compassionate Communication

We will be including a study of Rachel Lamb's booklet Communication Basics: An Overview of Nonviolent Communication. This booklet is published by the Center for Nonviolent Communication.   In Nonviolent Communication (also called Compassionate Communication), Marshall Rosenberg presents his approach to communication that centers on compassionate connection. Marshall encourages all individuals, and especially educators, to motivate "by a reverence for life." Rosenberg's Compassionate Communication process offers educators the tools to create exceptional learning environments.

Compassionate Communication (also called Nonviolent Communication) will help you:
- Maximize the individual potential of all students
- Improve trust and connection in your classroom community
- Strengthen student interest, retention and connection to their work
- Find cooperation without using demands
- Improve classroom teamwork, efficiency and results

Marshall B. Rosenberg, Ph.D. is the internationally acclaimed author of *Nonviolent Communication: A Language of Life*, and *Speak Peace in a World of Conflict*. He is the founder and educational director of the Center for Nonviolent Communication (CNVC). He travels throughout the world promoting peace by teaching these remarkably effective communication and conflict resolution skills. See www.cnvc.org resources for additional books and resources on how to use compassionate communication in teaching.

PART 1: LANGUAGE STRUCTURE AND FIRST- AND SECOND-LANGUAGE DEVELOPMENT	PART 2: METHODOLOGY OF BILINGUAL, ENGLISH LANGUAGE DEVELOPMENT, AND CONTENT INSTRUCTION	PART 3: CULTURE AND CULTURAL DIVERSITY
I. Language Structure and Use: Universals and Differences (including the structure of English)	**I. Theories and Methods of Bilingual Education**	**I. The Nature of Culture**
A. The sound systems of language (phonology)	**A.** Foundations	**A.** Definitions of culture
B. Word formation (morphology)	**B.** Organizational models: What works for whom?	**B.** Perceptions of culture
C. Syntax	**C.** Instructional strategies	**C.** Intra-group differences (e.g., ethnicity, race, generations, and micro-cultures)
D. Word meaning (semantics)	**II. Theories and Methods for Instruction In and Through English**	**D.** Physical geography and its effects on culture
E. Language in context	**A.** Teacher delivery for <u>both</u> English language development <u>and</u> content instruction	**E.** Cultural congruence
F. Written discourse	**B.** Approaches with a focus on English language development	**II. Manifestations of Culture: Learning About Students**
G. Oral discourse	**C.** Approaches with a focus on content area instruction (specially designed academic instruction delivered in English)	**A.** What teachers should learn about their students
H. Nonverbal communication	**D.** Working with paraprofessionals	**B.** How teachers can learn about their students
I. Language Change		**C.** How teachers can use what they learn about their students (culturally responsive pedagogy)
II. Theories and Factors in First- and Second-Language Development	**III. Language and Content Area Assessment**	**III. Cultural Contact**
A. Historical and current theories and models of language analysis that have implications for second-language development and pedagogy	**A.** Purpose	**A.** Concepts of cultural contact
B. Psychological factors affecting first- and second-language development	**B.** Methods	**B.** Stages of individual cultural contact
C. Socio-cultural factors affecting first- and second-language development	**C.** State mandates	**C.** The dynamics of prejudice
D. Pedagogical factors affecting first- and second-language development	**D.** Limitations of assessment	**D.** Strategies for conflict resolution
E. Political factors affecting first- and second-language development	**E.** Technical concepts	**IV. Cultural Diversity in U.S. and CA.**
		A. Historical perspectives
		B. Demography
		C. Migration and immigration

This form and information submitted is <u>Confidential</u>.

Peer Evaluation Form
To be copied and used for Leadership of Science Activities and Group Science Curriculum

Name: _____ **Date:** _____ **Assignment:** _____

Instructions: Copy front to back, and complete a copy for each group assignment. *Please evaluate the contributions of each member of your group for each group assignment in the course. Be sure to include your own self-assessment when completing this evaluation. <u>Turn in to the instructor immediately after completing the related assignment.</u> Be sure to list the assignment you are completing the evaluation for:*

Scale: 1= Exceptional, 2= Above Avg., 3= Average, 4= Below Avg., 5= Poor

1. How would you rate the performance of your group peers on the assignment checked above in terms of the <u>contributions each member of your group has made to the assignment through the semester</u>?

    <u>Student Name</u>   <u>Rating</u>   <u>Contribution</u>

- You

-

-

-

-

    Comments:

2. How would you rate <u>the performance of each group member in playing the leadership role</u> for his or her particular set of assigned project tasks?

    <u>Student Name</u>   <u>Rating</u>   <u>Leadership</u>

- You

-

-

-

-

    Comments:

This form and information submitted is <u>Confidential</u>.

3. How would you rate <u>the performance of each member of your group in contributing to the overall success</u> of the assigned project?

       <u>Student Name</u>   <u>Rating</u>   <u>Performance</u>

- You

-

-

-

-

Comments:

Ranking: Please <u>rank</u> each member of your group in terms of his or her <u>overall contribution</u> to the project/assignment. You may rank more than 1 person on each level.

Scale: 1= Most significant contributor, 2= Next most significant contributor, etc.

    1.

    2.

    3.

    4.

    5.

Comments:

PCP Rubric: Participation, Collaboration and Professionalism
Students are expected to actively participate, collaborate, and demonstrate professionalism at all times.

	Excellent	Acceptable	Unacceptable	Comments
Attitude Do you show a positive attitude toward class, "the work" and learning?	Always displays a positive attitude. May offer constructive criticism and include alternatives that show initiative.	Sometimes displays a positive attitude. May offer constructive criticism and include alternatives that show initiative.	Seldom has a positive attitude. Often is critical. Does not offer alternative solutions to criticism.	
Participation Do you participate in class discussions productively, sharing your knowledge and understandings?	Attends every class, always on time and well prepared, and never leaves early. Gives closest attention to class activities & speakers.	Attends every class, on time and prepared, and never leaves early. Gives most attention to class activities and speakers.	Is not always ready when class time begins. Doesn't give full attention in class; sometimes talks when others are speaking.	
Professionalism Do you exhibit professional behavior at all times?	Consistently behaves, talks and works in a professional manner, regardless of task/topic.	Most of the time, behaves, talks and works in a professional manner, regardless of task/topic.	Seldom behaves, talks, and works in a professional manner, regardless of task/topic.	
Collaboration Can you monitor and adjust your participation to allow for others' ideas to be heard? Are you supportive of others' ideas and work?	Consistently listens to, shares with, and supports the efforts of others. Tries to keep people working well together.	Most of the time listens to, shares with, and supports the efforts of others, but sometimes is not a good team member.	Rarely listens to, shares with, and supports the efforts of others. Is not always a good team player.	
Contributions Do you contribute to whole class and group work? Do you "do your share"?	Consistently provides useful ideas; always stays focused on the task. Exhibits a lot of effort and valuable contributions.	Most of the time provides useful ideas and stays focused. A satisfactory group member who does what is required.	Rarely provides useful ideas; not always focused. Reluctant to participate. Lets others take charge.	
Disposition toward teaching Do you exhibit a positive disposition towards teaching all students?	Consistently demonstrates concern in learning to teach all children. Always demonstrates strong commitment toward developing (a) an understanding of children, (b) teaching strategies, and (c) knowledge of the CA Standards for the Teaching Profession (CSTP), Teacher Performance Expectations (TPE), and CA Standards.	Most of the time demonstrates concern in learning to teach all children. Often demonstrates commitment toward developing (a) an understanding of children, (b) teaching strategies, and (c) knowledge of the CSTP's, TPE's, and CA Content Standards.	Rarely shows concern in learning to teach all children. Rarely demonstrates commitment toward developing (a) an understanding of children, (b) teaching strategies, and (c) knowledge of the CSTP's, TPE's, and CA Content Standards.	
Leadership Do you interact productively with your peers and show leadership initiative?	Shows strength through leadership in class activities; other students respect you as a leader.	Effectively participates and contributes, but rarely shows leadership qualities.	Does not show leadership in any area of class.	

Turn in copy of PCP rubric with comments at beginning, middle, and end of course.