

Instructor	Dr. Jennifer Dechaine	Email	dechaine@cwu.edu
Office Location		Office Hours	
Phone			
Classroom*		Meeting time	T Th 10-11:50am

*We have in-class field practicums in 5th grade at Valley View Elementary School on Thursdays May 21 and May 28.

Course Description This 4-credit course is part of the elementary education major or minor, to be taken by students already admitted to the education program. The course includes techniques, selection of materials, and appropriate subject matter to teach science in grades K-8.

Prerequisites Enrollment is subject to being fully admitted to the Teacher Ed. Program.

Course Rationale This course is designed to offer students the experience necessary to become an effective science teacher in the elementary schools. This course follows the CWU motto “By Teaching, We Learn” by focusing on practicing, discussing, and reflecting on science teaching. Course activities are designed to help students learn the process of science, as well as how to facilitate children’s learning using scientific inquiry in the elementary classroom. Near the end of the course, students have the opportunity to practice what they have learned by teaching science to local elementary school children.

Course Materials:

- 1) Canvas and LiveText accounts
- 2) National Science Teachers Association Student membership (details in class on how to get this at a low cost)

Learning Performance Evaluation: To accommodate different learning styles in this course, we will use inquiry-based science projects, small group collaborative learning, and reflective writing. A practicum experience teaching public school children will help to develop your teaching skills. Both formative and summative performance-based assessments will be used to determine your grade.

<i>Assignment</i>	<i>Points</i>
Science Autobiography (LiveText)	100
Science Journal/In-class Activities	100
UFO Poster (LiveText)	75
Science Inquiry Unit Plan and Kit (LiveText and In-class)	125
Science Inquiry Lesson Plan(s) in Kit (LiveText)	150
Autobiography Reflection (LiveText)	75
Teaching Self Evaluation (LiveText)	100
Evaluation of Teaching Practicum	75
Final Portfolio (LiveText)	150
Participation (Including completion of InTeGrate assessments)	50
Total	1000

Final Grades for the course will be calculated as follows:

		A	92 - 100%	A-	90 - 91%
B+	88 - 89%	B	82 - 87%	B-	80 - 81%
C+	78 - 79%	C	72 - 77%	C-	70 - 71%
D+	68 - 69%	D	62 - 67%	D-	60 - 61%
		F	<60%		

Grading Policies in Brief: Any late assignment will be penalized by a reduction of points equal to 10% of the total score for each class day it is late. After 1 week, an assignment will no longer be accepted. Exceptions may be made for extenuating circumstances we discuss in advance. See me in advance if you know you will miss class. If you turn in an assignment that is not your own work, you will receive a zero for that assignment. It is acceptable to use outside resources to help you complete assignments in this class; when you use outside sources, please document them.

InTeGrate: Our class is participating in the InTeGrate project (<http://serc.carleton.edu/integrate/index.html>), which supports the teaching of geoscience (earth science to teachers) in the context of societal issues. One of the goals of the project is to develop relevant earth science curriculum for preservice teachers that improves content knowledge and helps teachers better integrate earth science into their own classrooms. This is a national educational research project, and you will be asked to complete surveys and test questions for the project research. You will learn more about this project over the quarter. Please talk with me if you have questions or want to know more about the project. This is an exciting time to be a preservice teacher and participate in real educational research.

Course Objectives: The objectives of this course are based on the National Science Education Standards for Teachers of science, the WA Science Education Standards, and the CWU Center for Teaching and Learning standards. This course will give you considerable opportunity to develop knowledge and skills that address these objectives and corresponding standards.

Objective 1: Experience science practices (e.g., inquiry) and develop science knowledge, skills, and values

Objective 2: Facilitate and guide inquiry experiences for elementary (K-8) learners

Objective 3: Design learning environments that support science practices, collaboration, and content integration

Objective 4: Assess and evaluate diverse student learning and teaching effectiveness

Objective 5: Engage in continual professional growth

Specific Learning Outcomes and Assessments

By the end of the course you should be able to:

Outcomes	Assessment	Standards
Develop and teach a science lesson to elementary students using the <i>learning cycle</i> method	Practicum Lesson, Teaching Practicum	NSES A, B, E, F CTL 1.1-1.5 WA Comp 3.1-3.7, 4.1-4.3, 4.5-4.9
Demonstrate understanding of the scientific method by <ul style="list-style-type: none"> Appropriately using <i>hypothesis, prediction, results, discussion, and conclusion</i>; Developing a <i>testable</i> scientific question, performing a simple test using the scientific method; and interpreting results based on evidence 	Portfolio, UFO, Science Notebook	NSES A CTL 1.1-1.5 WA Comp 1.5.4, 1.5.5
Appropriately assess student learning by <ul style="list-style-type: none"> Developing and appropriately applying assessments that measure student learning outcomes relative to standards 	Kit Unit and Lessons, Teaching Practicum	NSES C, D CTL 1.2-1.5 WA Comp 5.1-5.6
Use safe practices when teaching science by <ul style="list-style-type: none"> Being aware of safety when developing, presenting, and participating in science activities; Communicating appropriate safety precautions to students before they perform a science activity 	Kit Unit and Lessons, Teaching Practicum	NSES D, E WA Comp 1.5.8, 3.7, 4.8
Adapt existing curricula and resources to age-appropriate lessons using <i>best teaching practices</i> by <ul style="list-style-type: none"> Researching curricula and resources related to specific national and benchmarks and adapting these materials to specific learning needs 	Kit Unit and Lessons and Lesson, Portfolio	NSES A, B CTL 1.1-1.4 WA Comp 4.5, 4.7
Demonstrate effective questioning skills to guide students in hands-on exploration by <ul style="list-style-type: none"> Leading students from observations to experimental results to conclusions based on logic and evidence 	Teaching Practicum, Kit Unit and Lessons, Science Notebook	NSES A, B, D, E CTL 1.2-1.4 WA Comp 4.6, 1.5.4, 1.5.5
Integrate science lessons with other subjects by <ul style="list-style-type: none"> Developing a lesson that shows effective integration of science with other subjects 	Kit Unit and Lessons, Portfolio	NSES A, E WA Comp 4.5
Show working knowledge of the NGSS <ul style="list-style-type: none"> Aligning curricular materials to specific benchmarks 	Kit Unit and Lessons	NSES A, D CTL 1.1-1.3 WA Comp 4.5

Class Policies

Create high expectations for yourself. This course will take a lot of work from both you and me. If you have low learning expectations for this course, that is what you will achieve. Success in this course will require open-mindedness and effort (about two hours of study/work time for each hour of class). Depending on your background, educational theories and working with children, you may need to spend more or less time studying. Please budget your time to accommodate the workload. By working together, we can accomplish significant and meaningful learning.

Show enthusiasm. Science is fun and exciting. Modeling enthusiasm for science will teach your students to appreciate and enjoy science. It is important to be enthusiastic so that students will be inspired to learn science as well as other subjects.

Be responsible. (also noted above) Any late assignment will be penalized by a reduction of points equal to 10% of the total score for each class day it is late. Exceptions may be made for extenuating circumstances we discuss in advance. See me in advance if you know you will miss class.

Use common sense. (also noted above) If you turn in an assignment that is not your own work, you will receive a zero for that assignment. It is acceptable to use outside resources to help you complete any assignment except exams. When you use outside sources, please document them.

Seek help. If something is unclear, don't be afraid to ask questions. Chances are someone else in the class has the same question. Don't wait until it's too late to ask for help. Take advantage of office hours. We can provide learning tools, but ultimately, you are responsible for using them.

Course Management and Assessment: Canvas and LiveText: This course uses Canvas and LiveText (<http://www.livetext.com>) online learning tools. Canvas makes the course syllabus, notes, assignments and important announcements available 24 hours a day, 7 days a week. It is *your responsibility* to check Canvas regularly so that you are aware of any course changes. LiveText will be used to construct your course projects including your lesson and unit plans. To use LiveText you will need to access it via the web. The portfolio you create in this class will also be an artifact in your elementary education major portfolio. Admission to and continuation in the Teacher education program requires you to purchase LiveText. You must present "proof of purchase" to the Certification Office, Black 228 once you have purchased LiveText.

Disability Reasonable Accommodation Statement: Students with disabilities who wish to set up academic adjustments in this class should turn in a copy of their "Confirmation of Eligibility for Academic Adjustments" from the Disability Services Office as soon as possible so we can discuss how the approved adjustments will be implemented in this class. Students without this form should contact Disability Support Services at 509-963-2171 (TDD: 509-963-2143)

Academic Dishonesty: Central Washington University holds its students to the highest standards of academic integrity and honesty. Academic dishonesty of any kind is not tolerated and may result in failure of the assignment, and/or course, and/or expulsion from the university. Plagiarism on written assignments will result in a zero for the assignment and may result in further disciplinary action through the university. What constitutes academic dishonesty is clearly defined by the CWU Student Code #106-120-027, <http://www.cwu.edu/~saem/index.php?page=student-conduct-code>

Bibliography

American Association for the Advancement of Science (1993). Benchmarks for Science Literacy. New York: Oxford University Press.
National Research Council (1996). National Science Education Standards. Washington, D.C.: National Academy Press.
Office of Superintendent of Public Instruction (2009). K-12 Science Standards.