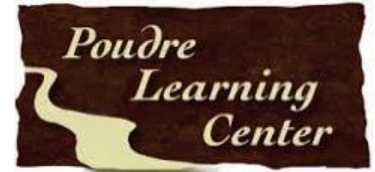


**COLLEGE OF NATURAL & HEALTH SCIENCES  
COURSE SYLLABUS**



**Bond Science Institute for Elementary Teachers**  
Poudre Learning Center



**Instructor:** Amy Nicholl  
**Phone:** 970-310-9956  
**Email:** or [anic@comcast.net](mailto:anic@comcast.net)

**Course Number and Prefix:** ESCI 575 CRN 24485

**Title:** Elementary Bond Science Institute Extended Session

**Instructor:** Amy Nicholl

**Co-Requisites/Prerequisites** – Attended Bond Summer Institute for Elementary

Teachers in the summer of 2023. Students must apply through online application described in course announcement provided through UNC Extended Campus.

**Credit:** 1 semester hours

**Location:** Poudre Learning Center – 8313 West F Street, Greeley, CO 80631

**Course Description**

Participants will meet monthly during the 2023-2024 school year to strengthen their science pedagogy and content. This course is the second step in developing teacher leaders in the area of science by continuing their growth as classroom leaders as well as increase their leadership abilities in the area of science. Participants will deepen their understanding of inquiry based teaching, science content, and build an understanding of the new Colorado Content Standards and the Next Generation Science Standards.

Dates for the sessions will be: October 19, Nov. 9, Dec. 7, Jan 11, Feb. 15, March 7 and April 11.

There will be a total 15 contact hours for the participants to meet the one semester hour credit requirements.

**Resources that will be referenced during the workshop:**

1. *National Science Education Standards*, [http://www.nap.edu/openbook.php?record\\_id=4962](http://www.nap.edu/openbook.php?record_id=4962)
1. *Inquiry and the National Science Education Standards*, [http://www.nap.edu/catalog.php?record\\_id=9596#toc](http://www.nap.edu/catalog.php?record_id=9596#toc)
2. *Next Generation Science Standards, NGSS* <http://www.nextgenscience.org/>
3. *Project 2061 Benchmarks for Science Literacy*, <http://www.aaas.org/>
4. *Colorado Department of Education*, [http://www.cde.state.co.us/index\\_home.htm](http://www.cde.state.co.us/index_home.htm).

Connect to this site particularly for information on:

- Performance based standards for educators
- K-12 science standards
- K-12 grade level expectations for science
- [http://www.cde.state.co.us/sites/default/files/documents/coscience/document/s/science\\_standards\\_adopded\\_2009.pdf](http://www.cde.state.co.us/sites/default/files/documents/coscience/document/s/science_standards_adopded_2009.pdf)

#### 5. *Articles provided by the instructor*

**Course Objectives:** Develop a deeper knowledge of science instruction, objectives, learning, curriculum, safety, technology, and assessment for teaching science grades K-8.

- To examine science as "a way of knowing" through dialog and experiencing scientific inquiry via activities, reading, and discussion.
- To develop an understanding of how people learn in the context of scientific discovery and current brain research.
- To provide models for conducting inquiry-based investigations.
- To provide models of instruction for integrating science with other content areas.
- To provide content necessary to enable teacher licensure students to address K-12 Colorado Academic Standards (CAS) and an awareness of the Next Generation Science Standards.

#### **Course Requirements**

- Participation in all sessions (20% of course).
- Students will maintain a science notebook with materials and notes gained from the course (20% of course).
- Students will create a lesson plan for their students based on standards and information gained from the course (60% of course).

#### ↑ **Method of Evaluation** (letter graded)

A- 90% and up

B- 80-89.9%

C- 70-79.9%

D- 60-69.9%

F- Below 60%

#### **Student Learning Outcomes:**

By the end of the workshop, **participants will be able to:**

- Design a model 5-E science lesson plan to be used in their classrooms during the 2018-2019 school year.
- Identify key elements of the Next Generation Science Standards, CAS, and the new version of Colorado Academic Standards.

**Outline of Course Content** *Dr. Wendy Adams and Amy Nicholl will lead the participants into the following topics through immersion in STEM lessons, models, and outdoor experiences:*

- Deepening content knowledge in the areas of physical, life and earth sciences
- Immersion into NGSS Science and Engineering Practices
- Developing STEM lessons based on NGSS (2017, The Three Dimensions of Science Learning, <https://www.nextgenscience.org/> ) and the 5E Learning Cycle (R. Bybee and others, 2006, The BSCS 5E Instructional Model: Origins, Effectiveness, and Applications-Executive Summary, Biological Sciences Curriculum Study, Colorado Springs, CO).

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#### ↑ **Method of Evaluation** (letter graded)

*E-* 90% and up

*F-* 80-89.9%

*G-* 70-79.9%

*H-* 60-69.9%

*F-* Below 60%

**Disability Support Services** - Any student requesting disability accommodation for this class must inform the instructor giving appropriate notice. Students are encouraged to contact Disability Support Services at (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner. (Updated per DSS 8-24-09)

**Honor Code** - All members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: Honesty, Trust, Respect, Fairness, and

Responsibility. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, staff, administration, and trustees strengthens the integrity and value of our academic climate.

*UNC's Policies - UNC's policies and recommendations for academic misconduct will be followed. For additional information, please see the Student Code of Conduct at the Dean of Student's website <http://www.unco.edu/dos/Conduct/codeofconduct.html>. In the case of academic appeals, university procedures will be followed. For information on academic appeals, see <http://www.unco.edu/regrec/Current%20Students/AcademicAppeals.html>.*