Term Information

Effective Term

Summer 2016

Previous Value

Summer 2012

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

Remove variable credit hours and make 3 credit hour course. Remove Part 1 from title.

What is the rationale for the proposed change(s)?

Originally this course was converted as part of a 2 course, 4 credit hour series. Through the first year of semesters, faculty realized that it was not feasible given the shortened hours available in semesters, and had this course converted to variable 2-3 so that 5129 could encompass all of the licensure standards in one course. None of the offering campuses are using the second course, and all campuses have been running 5129 as a 3 hour course.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

None. Recent revisions to the Early Childhood major reflected that this is a 3 credit course, and removed the 5130 requirement. 5130 is being withdrawn at this time as well.

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area

Education:Teaching & Learning

Fiscal Unit/Academic Org

School of Teaching & Learning - D1275

College/Academic Group

Education & Human Ecology

Level/Career

Graduate, Undergraduate

Course Number/Catalog

5129

Course Title

Teaching and Learning of Science in Grades Pre K - 3

Previous Value

Teaching and Learning of Science in Grades Pre K - 3, Part I

Transcript Abbreviation

Sci Pre K-3

Previous Value

Sci Pre K-3 Part 1

Course Description

Exploration of contemporary alternatives in early childhood science education and the development of knowledge and skills for teaching and learning in grades Pre K - 3, with a focus on preschool and kindergarten.

Semester Credit Hours/Units

Fixed: 3

Previous Value

Variable: Min 2 Max 3

Offering Information

Length Of Course

14 Week

Flexibly Scheduled Course

Never

Does any section of this course have a distance education component?

No

Grading Basis

Letter Grade

Repeatable

No

Course Components

Laboratory, Lecture

Grade Roster Component

Lecture

Credit Available by Exam

No
Admission Condition Course: No
Off Campus: Never
Campus of Offering: Columbus, Lima, Mansfield, Marion, Newark

Prerequisites and Exclusions
Prerequisites/Corequisites: Prereq: Enrollment in Education major or Master in Education.
Exclusions: Not open to students with credit for 729.

Cross-Listings

Subject/CIP Code
Subject/CIP Code: 13.1210
Subsidy Level: Masters Course
Previous Value: Doctoral Course
Intended Rank: Senior, Masters

Requirement/Elective Designation
Required for this unit's degrees, majors, and/or minors

Course Details
Course goals or learning objectives/outcomes:
- Focus on methods and materials for Pre K-3
- Analyze standards (National Science Education Standards and OH Academic Content Standards)
- Identify types of instructional resources
- Explore evaluation techniques
Content Topic List

- Intentional and incidental learning
- Cognitive development in early childhood
- Learning cycle for preschool and kindergarten
- Observational data gathering and documentation
- Life science: bird behaviors and habitats
- Universal design for learning
- Science process skills
- Physical science: light and shadows
- State and national standards and the development of learning
- Using tools
- Life science: flowers and seeds (life cycles and heredity)
- Earth science: soils and rocks
- Levels of inquiry
- Earth science: weather
- Research-based resources
- Technological design
- Physical science: ramps
- Lesson planning: science for all children

Attachments

- 5129_syllabus_2014.docx
  (Syllabus. Owner: Mercerhill,Jessica Leigh)

Comments

- Subsidy level must match highest intended rank. (by Herness,M Scott on 11/07/2014 09:55 AM)
- approved by EHE Curriculum Committee (by Odum,Sarah A. on 11/06/2014 02:05 PM)
- Approved by UGSC 8-29-14. (by Mercerhill,Jessica Leigh on 09/02/2014 12:31 PM)

Workflow Information

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<th>Date/Time</th>
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<td>Submitted for Approval</td>
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<td>11/06/2014 02:05 PM</td>
<td>College Approval</td>
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<td>11/07/2014 09:55 AM</td>
<td>GradSchool Approval</td>
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<td>Zircher,Andrew Paul Warnick,Bryan R. Achterberg,Cheryl L</td>
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</tbody>
</table>
Teaching and Learning of Science in Grades Pre K-3  
EDUTL 5129 Fall 2014  
3 credit hours  
School of Teaching & Learning  
The Ohio State University

Dr. Margilee P. Hilson  
Early Childhood Science Education  
hilson.4@osu.edu

333 Arps Hall  
1945 N. High St.  
Columbus, OH 43210-1172  
614-439-6203

Description/Rationale:

This course is a part of the Early Childhood Masters of Education Program at The Ohio State University in the School of Teaching & Learning.

Course Goals:

1. Focus on science instructional methods and materials for all learners in grades Pre K-3 using a project-based format.
2. Analyze standards (NSES, NGSS, and Ohio Science Standards)
3. Identify types of instructional resources:
   a. Online: Ohio Resource Center, American Association Advancement of Science
   b. Print: AIMS, FOSS, GEMS, National Geographic, Dorling Kindersley
   c. Community: Ohio Department of Natural Resources, Soil & Water Conservation District, COSI, Columbus Zoo and Aquarium
4. Explore assessment techniques.

Knowledge, Skills, and Dispositions: The goal of this course is to foster long-term and sustained improvement in standards-based science teaching and learning in the schools. In this course preservice teachers will examine the National Science Education Standards, A Framework for K-12 for Science Education: Practices, Crosscutting Concepts and Core Ideas, and the Ohio Academic Content Standards for Science and demonstrate their knowledge of standards documents by engaging in lesson development that exemplifies the national and state standards. Participants will design, implement, reflect critically upon, and modify differentiated lessons that target specific learning outcomes related to science as described in the National Science Education Standards, A Framework for K-12 for Science Education: Practices, Crosscutting Concepts and Core Ideas, and the Ohio State Academic Content Standards for Science. Appropriate uses of educational technology will support inquiry learning strategies.

Preservice teachers who take this course also will become familiar with instructional strategies associated with specific content standards, including scientific inquiry and life, physical, and earth and space sciences. Many of the class activities will serve as model lessons to help children engage with the science content. These activities can easily be adapted for implementation into
early childhood classrooms through grade 3, and they will allow preservice teachers to refine their visions of effective science teaching.

The following NCATE/NSTA Standards are explicitly addressed in this course:

2.0 Nature of Science
The program prepares teachers to engage students in activities to define the values, beliefs and assumptions inherent to the creation of scientific knowledge within the scientific community, and contrast science to other ways of knowing. Nature of science refers to characteristics distinguishing science from other ways of knowing; characteristics distinguishing basic science, applied science and technology; processes and conventions of science as a professional activity; and standards defining acceptable evidence and scientific explanation.

3.0 Inquiry
The program prepares candidates to engage students regularly and effectively in science inquiry and facilitate understanding of the role inquiry plays in the development of scientific knowledge. Inquiry refers to questioning and formulating solvable problems; reflecting on, and constructing, knowledge from data; collaborating and exchanging information while seeking solutions; and developing concepts and relationships from empirical experience.

4.0 Context of Science
The program prepares candidates to relate science to the daily lives and interests of students and to a larger framework of human endeavor and understanding. The context of science refers to relationships among systems of human endeavor including science and technology; relationships among scientific, technological, personal, social and cultural values; and relevance and importance of science to the personal lives of students.

5.0 Skills of Teaching
The program prepares candidates to create a community of diverse student learners who can construct meaning from science experiences and possess a disposition for further inquiry and learning. Skills of Teaching refers to science teaching actions, strategies and methodologies; interactions with students that promote learning and achievement; effective organization of classroom experiences; use of advanced technology to extend and enhance learning; and use of prior conceptions and student interests to promote new learning.

6.0 Curriculum
The program prepares candidates to develop and apply a coherent, focused science curriculum that is consistent with state and national standards for science education and appropriate for addressing the needs, abilities and interests of students. Science curriculum refers to an extended framework of goals, plans, materials, and resources for instruction; and the instructional context, both in and out of school, within which pedagogy is embedded.

7.0 Social Context
The program prepares candidates to relate science to the community and to use human and institutional resources in the community to advance the education of their students in science. The social context of science teaching refers to social and community support network within which occur science teaching and learning; relationship of science teaching and learning to the needs and values of the community; and involvement of people and institutions from the community in the teaching of science.
8.0 Assessment
The program prepares candidates to use a variety of contemporary assessment strategies to evaluate the intellectual, social, and personal development of the learner in all aspects of science. Assessment refers to alignment of goals, instruction and outcomes; measurement and evaluation of student learning in a variety of dimensions; and use of outcome data to guide and change instruction.

9.0 Environment for Learning
The program prepares candidates to design and manage safe and supportive learning environments reflecting high expectations for the success of all students. Learning environments refers to physical spaces within which learning of science occurs; psychological and social environment of the student engaged in learning science; treatment and ethical use of living organisms; and safety in all areas related to science instruction.

10. Professional Practice
The program prepares candidates to participate in the professional community, improving practice through their personal actions, education and development. Professional practice refers to knowledge of, and participation in, the activities of the professional community; ethical behavior consistent with the best interests of students and the community; reflection on professional practices and continuous efforts to ensure the highest quality of science instruction; and willingness to work with students and new colleagues as they enter the profession.

Diversity: The readings and discussions include the National Science Education Standards, which include explicit reference to issues of diversity. The curriculum and experiences will be school-based, student-centered and include the use of differentiated instruction to help teachers respond to the needs of all learners. In a differentiated lesson, assessment and instruction are inseparable. Assessment of student learning is ongoing and diagnostic, and it serves to guide teacher’s day-to-day decisions about student readiness for particular ideas and skills. Thoughtful use of assessment data will allow the teacher to modify content, process or product to accommodate the needs of the student. Some of the course objectives are to create instructional opportunities adapted to needs of diverse learners. In order to meet these objectives, preservice teachers in the class will match instructional strategies and materials to identified students’ learning experiences and needs when they develop lesson plans. Also, they will be required to indicate how they will accommodate students with special needs. Attention to the ADA guidelines for access to technology also will be expected of the preservice teachers.

Technology: Science & Technology is a new strand in the Ohio Content Standards. Pedagogies addressed in the course will include discussion and use of computers, software, digital microscopes, and digital cameras to enhance student learning of science concepts. The curriculum also includes web-based materials, electronic submission of assignments, and e-mail as integral student components. Products from the course may be integrated into students’ electronic portfolios, which is a capstone requirement for the M. Ed program. Students will be encouraged to use the Internet to explore science resources and to access curriculum materials from recommended websites.
**Required Texts**

**Weekly Assignments**

<table>
<thead>
<tr>
<th>Sessions/ Date</th>
<th>Topics</th>
<th>Preparation for next time</th>
</tr>
</thead>
</table>
| 1 Sept 2 | **Introduction and expectations**  
**Pedagogy Discussion**  
Overview of Project –based science  
Why teach science in elementary school  
Goals of science education  
**Inquiry Science Content**  
Observable properties of matter | Read: Chapters 1 & 2 Krajcik & Czerniak |
| 2 Sept 9 | **Pedagogy Discussion**  
Construction of science knowledge  
Science Standards  
**Inquiry Science Content**  
Earth’s Resources: Rocks and minerals | Read: Chapter 3 Krajcik & Czerniak  
NSTA: Position statement about live animals and dissection  
ODNR: Guidelines for using animals in the classroom |
| 3 Sept 16 | **Pedagogy Discussion**  
Driving questions | Read: Chapter 4 Krajcik & Czerniak  
View the Annenberg video # 1 *What is Inquiry and Why Do It?* |
| 4 Sept 23 | **Pedagogy Discussion**  
Helping children ask questions  
Developing scientific investigations  
**Inquiry Science Content**  
Sun, Moon, and stars | Read: Chapter 5 Krajcik & Czerniak  
View Annenberg videos 5 & 6  
*The Inquiry Continues: Collecting Data and Drawing Upon Resources* |
<table>
<thead>
<tr>
<th>Date</th>
<th>Pedagogy Discussion</th>
<th>Inquiry Science Content</th>
<th>Reflection paper due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept 30</td>
<td>Making sense of data Argumentation</td>
<td>Traits of living things: Plants</td>
<td>Bring It All Together: Processing for Meaning During Inquiry</td>
</tr>
<tr>
<td>Oct. 7</td>
<td>Collaboration</td>
<td>Earth’s Resources: soil</td>
<td>Read: Chapter 7 Krajcik &amp; Czerniak</td>
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<tr>
<td>Oct. 14</td>
<td>Teaching strategies</td>
<td>Interactions within habitats over time</td>
<td>Read: View Annenberg video #8 Connecting Other Subjects to Inquiry</td>
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<td></td>
<td>Literacy</td>
<td></td>
<td>Review these sites:</td>
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<td></td>
<td></td>
<td></td>
<td>Concept mapping <a href="http://ecrp.uiuc.edu/v8n2/bibli.html">http://ecrp.uiuc.edu/v8n2/bibli.html</a></td>
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<tr>
<td>Oct. 21</td>
<td>More teaching strategies</td>
<td>Forms of energy: Light</td>
<td>Read: Chapter 8 Krajcik &amp; Czerniak</td>
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<td></td>
<td>Review expectations for project units</td>
<td></td>
<td>View Annenberg video #7 Assessing Inquiry</td>
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<td>10</td>
<td>Pedagogy Discussion</td>
<td></td>
<td>Read:</td>
</tr>
<tr>
<td>Date</td>
<td>Activity</td>
<td>Notes</td>
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<tr>
<td>Nov 4</td>
<td>Classroom management</td>
<td>Chapter 10 Krajcik &amp; Czerniak View Annenberg videos # 3 &amp; 4</td>
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<td></td>
<td><strong>Inquiry Science Content</strong></td>
<td><em>The Process Begins: Launching the Inquiry Investigation</em></td>
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<td></td>
<td>Forms of energy: Sound</td>
<td><em>Focus the Inquiry: Designing the Exploration</em></td>
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<td><strong>Assessment assignment due</strong></td>
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<td>11 Nov. 11</td>
<td>NO CLASS Veteran’s Day</td>
<td>Read: Chapter 11 Krajcik &amp; Czerniak</td>
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<tr>
<td>12 Nov. 18</td>
<td>Pedagogy Discussion</td>
<td>Share your project lessons with a peer for feedback.</td>
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<td></td>
<td>Planning a Project</td>
<td>Make sure your science notebook is ready to turn in for a grade.</td>
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<tr>
<td></td>
<td><strong>Inquiry Science Content</strong></td>
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<td></td>
<td>Force and Motion: Magnets</td>
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<tr>
<td>13 Nov. 25</td>
<td>Pedagogy Discussion</td>
<td>Review disability resources posted in Carmen.</td>
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<td></td>
<td>Community Resources: guest speaker</td>
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<td></td>
<td><strong>Inquiry Science Content</strong></td>
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<td></td>
<td>Physical and Behavioral Traits of Living things</td>
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<td></td>
<td><strong>Final notebook check</strong></td>
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<tr>
<td>14 Dec 2</td>
<td>Pedagogy and Content discussion   Science for all students</td>
<td>Prepare for project unit presentation</td>
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<td></td>
<td><strong>Begin project presentations</strong></td>
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<td></td>
<td><strong>Project units posted on LiveBinders</strong></td>
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<td>15 Dec. 9</td>
<td>Pedagogy and Content discussion   Finish project unit presentations</td>
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<td><strong>Final Exam:</strong> Write in-class reflection about teaching and learning science with young</td>
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EDUTL 5129 Fall 2014

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<th>Assignment</th>
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<td>Effective participation and thoughtful contributions to class</td>
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<tr>
<td>Reflection paper: teaching and learning science</td>
<td>10</td>
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<tr>
<td>Investigation notebook: Entries should show evidence of understanding</td>
<td>15</td>
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<tr>
<td>important concepts and relationships between concepts. Writing should</td>
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<tr>
<td>be clear, insightful, and mechanically sound. When appropriate, sketches,</td>
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<tr>
<td>data tables, graphs, and diagrams should be used.</td>
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<tr>
<td>Literature collection</td>
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<tr>
<td>Assessment assignment</td>
<td>15</td>
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<td>Project-based Inquiry Unit</td>
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<tr>
<td>Final exam: reflection paper</td>
<td>10</td>
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<td>TOTAL</td>
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Grading Scale

- 94-100 A
- 91-93.9 A-
- 88-90.9 B+
- 85-87.9 B
- 82-84.9 B-
- 79-81.9 C+
- 76-78.9 C
- 73-75.9 C-
- 70-72.9 D+
- 65-69.9 D
- <65 E

Important Notices:

- Punctual attendance: There are no “free cuts.” If you expect to be tardy or absent from class, you should contact the instructor in advance (text or email) to discuss the situation. Unanticipated absences or tardiness must be explained in writing shortly after the instance of either. Absenteeism and tardiness will have a pronounced negative effect on course grade, regardless of the number of points earned.
- Effective participation includes being supportive and cooperative in working collaboratively with other members of your group, contributing to class discussions, sharing data and results, and active engagement in activities. Inability to effectively and constructively participate will have a pronounced negative effect on course grades.
As a matter of professional courtesy, **all cell phones must be muted before class starts**. All electronic devices are to be used to increase your productivity in class, not detract from it!

Assignments submitted late decrease in value by 10% per day or part of a day. Please see the instructor if you find yourself getting too far behind to complete multiple assignments on time, in order to make arrangements to complete the course requirements.

Grading will be based on the quality and timely completion of your assignments. Final grades will be determined by the instructor’s best professional judgment and information available at the time grades are submitted.

All written assignments, with the exception of investigation notebooks, are to be word processed, have 1.5 line spacing, formatted with a 12 pt. standard font, and 1 inch margins.

You are expected to maintain standards of professionalism in regard to your academic performance, and you are expected to protect the integrity of your work at all times during the course, whether in the classroom, laboratory, or school setting. You should report any alleged misconduct by another student to the instructor. All acts of dishonesty in any work constitute academic misconduct. The University’s Academic Misconduct Policy will be followed in the event of academic misconduct.

**Academic Misconduct** -- The Ohio State University’s Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: “Any activity that tends to compromise the academic integrity of the University, or subvert the educational process.” Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University’s Code of Student Conduct is never considered an “excuse” for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University’s Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University. For additional information, see the Code of Student Conduct (http://studentaffairs.osu.edu/info_for_students/csc.asp).

**Grievances and Solving Problems** -- According to University Policies, available from the Division of Student Affairs, if you have a problem with this class, “You should seek to resolve a grievance concerning a grade or academic practice by speaking first with the instructor or professor: Then, if necessary, with the department chairperson, college dean, and provost, in that order. Specific procedures are outlined in Faculty Rule 3335-7-23, which is available from the Office of Student Life, 208 Ohio Union.” “Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant’s department.”

EDUTL 5129 Fall 2014
Statement on Diversity -- The College of Education and Human Ecology affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Off-Campus Field Experiences – There are NO off-campus requirements for this course.

Technology is a required and fully relevant tool both for engaging in and learning the content of this course and for participant application of course learning in elementary classrooms. You are expected to check your OSU email account periodically. All class correspondence will be sent to your OSU email address. Many email programs allow users to forward mail automatically from another account. Do not email your instructors from non-OSU accounts.

ODS Statement -- Any student who feels s/he may need an accommodation based on the impact of a disability should contact one of the instructors privately to discuss specific needs. The Office of Disability Services is relied upon for assistance in verifying the need for accommodations and developing accommodation strategies. Please contact the Office for Disability Services at 614-292-3307 (V) or 614-292-0901 (TDD) in room 150 Pomerene Hall to coordinate reasonable accommodations; [http://www.ods.ohio-state.edu/](http://www.ods.ohio-state.edu/). You are expected to follow Americans with Disabilities Act Guidelines for access to technology.

Suggested Reading List/Bibliography:

Standards
Ohio Department of Education. (2011). *Ohio revised science standards and model curriculum grades k through eight*. Columbus, OH: State Board of Education. [http://education.ohio.gov/Topics/Academic-Content-Standards/Science](http://education.ohio.gov/Topics/Academic-Content-Standards/Science)

References
EDUTL 5129 Fall 2014
Common Core Standards: http://www.corestandards.org
EDUTL 5129 Assignment Details Fall 2014

1. Reflection paper: 3-5 pages, consider the goals of science education and how children construct science knowledge (chapters 1 & 2 in your textbook). Examine your thinking about how you learned science in elementary school and what you would do differently in your own classroom now. DUE: Sept. 23

2. Investigation Notebook: this will be completed during class each night. You will need to have a three ring binder, dividers, graph paper, paper, and colored pencils. The purpose of the notebook is for you to learn how literacy skills can be incorporated into science instruction. There will be a mid-semester notebook check in which you will turn in your notebook for formative assessment, but no grade. A scoring rubric is included below. DUE: check #1 Oct.7, final check Nov. 25

3. Literature collection: compile an annotated list of at least 25 children’s literature books to support your project-based lesson unit. DUE: Oct. 21

4. Assessment: chose one domain from any grade level except preschool. Write one performance task and one assessment item for four of the eight science and engineering practices. See Table 8.1 on page 247 of the textbook for examples. DUE: November 4

5. Inquiry unit: you will need to create a project-based inquiry learning unit encompassing all of the standards for one domain and one grade level. These project plans need to be posted on www.livebinders.com and be assigned “public access“; alternatively the project may be “private” but you will have to email the access code to everyone in the class. Prior to submission, you are required to have your completed unit reviewed by a classroom peer using the scoring rubric. Each person must submit a completed rubric to the Carmen drop.
You and your partner will give a 15 minute overview of your project unit during the last week of the semester or after the final exam. **You are to complete this project with a partner.** Please review the scoring rubric on the next page. Both partners will receive the same grade. **DUE: Dec. 2**

6. Final exam: in class reflection paper, topic prompts to be announced **Dec.11-17**

**Scoring Rubric for Project Unit Plan: 25 points possible**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Points Possible</th>
<th>Points Awarded</th>
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</thead>
<tbody>
<tr>
<td><strong>Project unit introduction includes:</strong></td>
<td></td>
<td></td>
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<tr>
<td>• ODE science standards addressed</td>
<td>8 points</td>
<td></td>
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<tr>
<td>• Driving question</td>
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<td>• Performance tasks are listed for each guided lesson</td>
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<tr>
<td>• List and explanation of main teaching strategies used throughout the unit</td>
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<tr>
<td><strong>The instruction is rigorous and standards-based.</strong></td>
<td>10 points</td>
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<tr>
<td>• Students are likely to master the content based upon the instructional opportunity.</td>
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</tr>
<tr>
<td>• Instruction is inquiry-based and necessitates student data collection: include possible data recording formats</td>
<td></td>
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<tr>
<td>• Formative and summative assessment procedures are explained</td>
<td></td>
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<tr>
<td>• Potential student questions are included</td>
<td></td>
<td></td>
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<tr>
<td>Lessons reflect a commitment to equity and diversity issues in meeting the needs of diverse learners</td>
<td></td>
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<tr>
<td><strong>Mechanics: lessons include</strong></td>
<td>2 points</td>
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<tr>
<td>• Project is accessible on <a href="http://www.livebinders.com">www.livebinders.com</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No spelling or grammatical errors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Full citations for all websites, books, or articles in APA format</td>
<td></td>
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<tr>
<td><strong>Internal consistency: the learning outcomes are based on the stated standard, the standards are supported by the instruction, and the instruction is assessed by the evaluation.</strong></td>
<td>5 points</td>
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<td><strong>TOTAL</strong></td>
<td>25 points</td>
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Comments:

**Elements of Investigation Notebook**

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<th>Features</th>
<th>Midterm check: October 7</th>
<th>Final check November 25</th>
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EDUTL 5129 Fall 2014
<table>
<thead>
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<td>Team partner’s names</td>
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<td>Data as: technical drawings,</td>
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<td>photos, specimens</td>
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<td>Data as: graphs, charts,</td>
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<td>diagrams</td>
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<td>Predictions</td>
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<td>Reflections, revisions in</td>
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<td>Use of color to indicate</td>
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<td>(highlighters, colored pens,</td>
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<td>etc.)</td>
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Comments: