Course Description
Examines theories of cognitive development framework to understand how young children acquire science skills, concepts and abilities.

Course role in the program/major:
This course is part of the Bachelor of Arts in Early Childhood Education

Prerequisites
No prerequisites for this course

Field Experience Observation
This course requires a field experience observation component. You will be required to spend a minimum of 6 clock hours observing in a live classroom during this course (over the next 8 weeks). The focus of your observation will be specific to the content of the course and the concepts from the course objectives. Further details regarding what you will be looking for in your observation will be provided in the assignment description in Weekly Materials.

You will need to arrange your own field experience observation by contacting a school district in your area and request permission to observe one of their teachers. The various field experience observations throughout your program must take place in diverse settings and grade levels.

- For Elementary Education majors, each of your field experiences must be in a different grade level.
- For Early Childhood majors, half of your field experiences must be in Pre-K and the other half must be in K-3.
- For Secondary Education majors, each of your field experiences must be at a different grade level within the grades and subject area you are planning to be certified to teach.

You should also plan that your field experiences take place at different types of school settings, including schools with a higher ELL population, schools in various socioeconomic areas, and/or Title 1 schools.

You should have your fingerprint clearance card (or other types of clearances that your state requires if outside of Arizona) before you complete any field experience observations. If you cannot acquire your clearance before you need to complete a field experience observation, you will need to contact the school district in which you would like to observe in order to determine what types of identification or other documents they need in order for you to observe there.

You will submit two pieces of evidence after completing your field experience observation, both of which will be included as part of your course grade. A documentation form will be provided for you. This form must be completed in its entirety and be signed/dated by the teacher you observed. You will need to scan this form and submit it in Blackboard during this course. You will also be completing some type of assignment regarding what you have learned from your field experience. Specific details for this assignment will be provided in the Weekly Materials in Blackboard.

If you are an Elementary Education or Early Childhood major, your field experience documentation and corresponding assignment will also need to be uploaded to your LiveText portfolio. A completed LiveText portfolio is a requirement for graduation in those majors.

Field Experience is mandatory. Students who do not complete their field experience and submit the required documentation are subject to failing this course. An NC will only be issued if all requirements of the Ottawa University NC policy are met. Otherwise, students who do not complete their field experience requirement and submit the provided documentation will earn an F for the course and will have to retake the course at another time.
**Required Text and Other Materials:**

LiveText is an electronic portfolio system required by Ottawa University for all Undergraduate Elementary and Early Childhood Education majors ONLY. The electronic portfolio provides a way for Education majors to collect and share evidence that program outcomes are being met. Please note that a five year subscription is required for Undergraduate Elementary and Early Childhood Education majors ONLY and can be purchased at www.livetext.com

**Course Objectives**

<table>
<thead>
<tr>
<th>Goal/Objective</th>
<th>Teaching Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Demonstrate</strong> knowledge of basic concepts in physical, life, and earth science.</td>
<td>APTS: 1-1, 2</td>
</tr>
<tr>
<td></td>
<td>AZ ECE: S1, Concept 4</td>
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<tr>
<td></td>
<td>NAEYC: 1, 2-G, 2-K, 4</td>
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<tr>
<td>2. <strong>Apply</strong> knowledge of scientific processes (e.g., observing, hypothesizing, experimenting).</td>
<td>APTS: 3-9, 1, 2</td>
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<tr>
<td></td>
<td>AZ ECE: S1, Concept 1</td>
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<tr>
<td></td>
<td>NAEYC: 1, 2-G, 2-K, 4</td>
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<tr>
<td>3. <strong>Recognize</strong> the roles of exploration, active engagement, inquiry, and questioning in building knowledge related to science</td>
<td>APTS: 3-3, 3-10</td>
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<tr>
<td></td>
<td>AZ ECE: S1, Concept 2</td>
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<tr>
<td></td>
<td>NAEYC: 1, 2-G, 2-K, 4</td>
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<tr>
<td>4. <strong>Demonstrate</strong> knowledge of strategies for encouraging children to develop positive attitudes toward science</td>
<td>APTS: 3-10</td>
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<td></td>
<td>AZ ECE: S1, Concept 1</td>
</tr>
<tr>
<td></td>
<td>NAEYC: 1, 2-G, 2-K, 4</td>
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<tr>
<td>5. <strong>Demonstrate</strong> knowledge of strategies for encouraging the use of science concepts and skills in everyday life</td>
<td>APTS: S3-14</td>
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<td></td>
<td>AZ ECE: S1, Concept 4</td>
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<tr>
<td></td>
<td>NAEYC: 1, 2-G, 2-K, 4</td>
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**Course Assignment Descriptions:**

You will have several opportunities to demonstrate your knowledge and understanding of the principles taught in this course. The primary means of evaluating your work will be through practical application of the material. In the event that you have difficulty completing any of the assignments for this course, please contact your instructor immediately. Please refer to the **Course Materials** section of the cyberclassroom for complete details regarding the activities and assignments for this course. The following is merely a summary.

**Discussion Participation**

**Initial Substantive Posts:** Submit an initial response to each of the prompts provided each week by your instructor. Your initial post should be substantive (approximately ½ of a page in length) and must be posted by midnight, Central Time by Wednesday of each week. In your substantive post you are encouraged to use references (you may use your textbook); show evidence of critical thinking as it
Required Replies: You must reply to at least two different peers per prompt. Your replies should build on the concept discussed, offer a question to consider, or add a differing perspective, etc. Rather than responding with, "Good post," explain why the post is "good" (why it is important, useful, insightful, etc.). Or, if you disagree, respectfully share your alternative perspective. Just saying "I agree" or "Good idea" is not sufficient for the posts you would like graded.

Posting Guidelines: Overall, postings must be submitted on at least two separate days of the week. It is strongly recommended you visit the discussion forum throughout the week to read and respond to your peers’ postings. You are encouraged to post more than the required number of replies.

Please refer to the Policies section in Blackboard for further Discussion Participation details.

Assignments

Week 1

<table>
<thead>
<tr>
<th>Readings</th>
<th>• Chapter 1: An Integrated Affective Approach to Science Learning</th>
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</table>
| Discussion | • Initial post to each prompt due by midnight, CT on Wednesday  
• At least two replies to peers for each prompt due by midnight, CT on Sunday |
| Assignment(s) | Assignment: Learning Centers  
Pick one of these science topics: weather, seasons, senses, mammals, or nature. Compose a description of 4 learning centers/stations that you could use in your classroom when studying this topic. Make sure you include a detailed description (3-4 paragraphs) of each center and how they can be integrated across the curriculum and not just a part of the science center. Include the intelligence(s) it reaches, what materials would be needed, what students would do at the station, how you would encourage discussion and exploration at the station, and how this would make their learning meaningful. Use the template in the course materials to guide your thoughts..  
Due: Sunday at Midnight, CT  
Points Possible: 25  
Assignment Preparation: Field Experience  
This week, begin to set up your field experience observation. You will need to submit your reflection and your observation by the end of week 7. Review the criteria in the weekly materials lesson. |

Week 2

| Readings | • Chapter 2: Science Participants: Children, Teachers, Families, and Communities  
• Chapter 3: Guiding Science Learning and Assessments in the Early Years |
|----------|------------------------------------------------------------------|
| Discussion | • Initial post to each prompt due by midnight, CT on Wednesday  
• At least two replies to peers for each prompt due by midnight, CT on Sunday |
| Assignment(s) | Assignment: Science Newsletter |
Using Word, create a science monthly newsletter that you would send home with your students. Pick a science topic that you might explore in your own classroom such as: animals, weather, plants, light, sound, rocks and minerals, magnetism, nature, etc. Create a newsletter that showcases a month of activities, projects, cross curricular activities, links, home extension activities, questioning activities, field trips, etc. Provide information for parents that would enable them to get involved in your curriculum. Additionally, address how you will bring the parents and community into your curriculum for this topic. Explain a field trip, virtual field trip, guest speaker, or other activity you would use to involve the parents or community. Include any websites, places to visit, extension activities, etc. that you find.

Your newsletter should be 2-3 pages long, styled in a format that would be suitable to send home with your students. Be creative! Include graphics, links and color.

Due: Sunday, midnight CT
Points Possible: 25

<table>
<thead>
<tr>
<th>Week 3</th>
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<tbody>
<tr>
<td><strong>Readings</strong></td>
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</table>
| • Review Chapter 3  
| • Chapter 4: Plants |
| **Discussion** | 
| • Initial post to each prompt due by midnight, CT on Wednesday  
| • At least two replies to peers for each prompt due by midnight, CT on Sunday |
| **Assignment(s)** | 
| **Assignment: Plants Unit Plan** |

This week, you are going to start a science binder of unit plans that you could teach in your classroom. A unit is a series of lesson that focus on a concept. This week's focus will be plants. Choose a grade/age level to gear your plan to, and design four lesson plans around that level. Use the provided template to organize your unit. Include:

1. The objective for your unit  
2. The prerequisite skills the students will need.  
3. The standards your lessons will align to.  
4. An introduction lesson: How are you going to introduce the concept to your class and motivate their learning? What materials will you need?  
5. A basic plan for the unit including what big ideas you want to teach (include at least 4)  
6. A list of centers that you will use throughout the unit and across all areas of the curriculum.  
7. Any additional field trips, guest speakers, virtual field trips, newsletters, etc. you might use during your unit.

Due: Sunday at Midnight, CT  
Points Possible: 50

You will submit the entire science binder of unit plans to your Live Text Portfolio in week 8. This will be your signature assignment for this course.

<table>
<thead>
<tr>
<th>Week 4</th>
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<tbody>
<tr>
<td><strong>Readings</strong></td>
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<tr>
<td>• Chapter 5: Animals</td>
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<tr>
<td><strong>Discussion</strong></td>
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</tbody>
</table>
| • Initial post to each prompt due by midnight, CT on Wednesday  
| • At least two replies to peers for each prompt due by midnight, CT on Sunday |
### Assignment(s)

**Assignment: Animals Unit Plan**

This week, you are going to continue your science binder. This week’s focus will be animals. Choose a grade/age level to gear your plan to, and design four lesson plans around that level. Use the provided template to organize your unit.

This is a very broad topic so take one animal or one big idea from the reading and just write the plan for that idea. You may just want to plan a unit for individual concepts in the text such as, *What is an insect?* or *How do animals make shelters to rear their young?*

Include:

1. The objective for your unit
2. The prerequisite skills the students will need.
3. The standards your lessons will align to.
4. An introduction lesson: How are you going to introduce the concept to your class and motivate their learning? What materials will you need?
5. A basic plan for the unit including what big ideas you want to teach (include at least 4)
6. A list of centers that you will use throughout the unit and across all areas of the curriculum.
7. Any additional field trips, guest speakers, virtual field trips, newsletters, etc. you might use during your unit.

Due: Sunday at Midnight, CT  
Points Possible: 50

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### Week 5

**Readings**

- Chapter 8: Water

**Discussion**

- Initial post to each prompt due by midnight, CT on Wednesday  
- At least two replies to peers for each prompt due by midnight, CT on Sunday

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**Assignment(s)**

**Assignment: Water Unit Plan**

This week, you are going to continue your science binder.

This week’s focus will be water. Choose a grade/age level to gear your plan to, and design four lesson plans around that level. Use the provided template to organize your unit.

Include:

1. The objective for your unit
2. The prerequisite skills the students will need.
3. The standards your lessons will align to.
4. An introduction lesson: How are you going to introduce the concept to your class and motivate their learning? What materials will you need?
5. A basic plan for the unit including what big ideas you want to teach (include at least 4)
6. A list of centers that you will use throughout the unit and across all areas of the curriculum.
7. Any additional field trips, guest speakers, virtual field trips, newsletters, etc. you might use during your unit.

Due: Sunday at Midnight, CT  
Points Possible: 50

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### Week 6
<table>
<thead>
<tr>
<th>Readings</th>
<th>• Chapter 11: Magnets</th>
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</thead>
</table>
| Discussion        | • Initial post to each prompt due by midnight, CT on Wednesday  
|                   | • At least two replies to peers for each prompt due by midnight, CT on Sunday |
| Assignment(s)     | Assignment: Magnets Unit Plan       |

This week, you are going to continue your science binder. This week's focus will be magnetism. Choose a grade/age level to gear your plan to, and design four lesson plans around that level. Use the provided template to organize your unit.

Include:

1. The objective for your unit
2. The prerequisite skills the students will need.
3. The standards your lessons will align to.
4. An introduction lesson: How are you going to introduce the concept to your class and motivate their learning? What materials will you need?
5. A basic plan for the unit including what big ideas you want to teach (include at least 4)
6. A list of centers that you will use throughout the unit and across all areas of the curriculum.
7. Any additional field trips, guest speakers, virtual field trips, newsletters, etc. you might use during your unit.

Due: Sunday at Midnight, CT  
Points Possible: 50

<table>
<thead>
<tr>
<th>Week 7</th>
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<tbody>
<tr>
<td>Readings</td>
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</tbody>
</table>
| Discussion                    | • Initial post to each prompt due by midnight, CT on Wednesday  
|                               | • At least two replies to peers for each prompt due by midnight, CT on Sunday |
| Assignment(s)                 | Assignment: Submit Field Experience Reflection and Observation This week, submit your field experience reflection and observation form. To submit your assignment, click on the assignments tab on the course menu. |

Points Possible: 300 (150 for each)

Due: Sunday, midnight CT

**Assignment: Simple Machines Unit Plan**

This week, you are going to continue your science binder. This week's focus will be simple machines. Choose a grade/age level to gear your plan to, and design four lesson plans around that level. Use the provided template to organize your unit.

Include:

1. The objective for your unit
2. The prerequisite skills the students will need.
3. The standards your lessons will align to.
4. An introduction lesson: How are you going to introduce the concept to your class and motivate their learning? What materials will you need?
5. A basic plan for the unit including what big ideas you want to teach (include at least 4)
6. A list of centers that you will use throughout the unit and across all areas of the curriculum.
7. Any additional field trips, guest speakers, virtual field trips, newsletters, etc. you might use during your unit.

Due: Sunday, midnight CT
Week 8

Readings
• Chapter 16 Our Environment

Discussion
• Initial post to each prompt due by midnight, CT on Wednesday
• At least two replies to peers for each prompt due by midnight, CT on Saturday

Assignment(s)
Assignment: Environment Unit Plan

This week, you are going to continue your science binder.

This week's focus will be the environment. Choose a grade/age level to gear your plan to, and design four lesson plans around that level. Use the provided template to organize your unit.

Include:

8. The objective for your unit
9. The prerequisite skills the students will need.
10. The standards your lessons will align to.
11. An introduction lesson: How are you going to introduce the concept to your class and motivate their learning? What materials will you need?
12. A basic plan for the unit including what big ideas you want to teach (include at least 4)
13. A list of centers that you will use throughout the unit and across all areas of the curriculum.
14. Any additional field trips, guest speakers, virtual field trips, newsletters, etc. you might use during your unit.

Additionally, make any corrections and refine your unit based on your instructor's feedback. Submit your entire science unit to Live Text as your signature assignment.

Due: Saturday at Midnight, CT
Points Possible: 50

* All online weeks run from Monday to Sunday, except the last week, which ends on Saturday.
** All assignments are due at midnight Central Time. (All submissions to the Blackboard system are date/time stamped in Central Time).

Assignments At-A-Glance

<table>
<thead>
<tr>
<th>Assignment/Activity</th>
<th>Qty.</th>
<th>Points Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeks 1-8: Discussion*</td>
<td>-</td>
<td>20 per week</td>
</tr>
<tr>
<td>Week 1: Learning Centers</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Week 2: Science Newsletter</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Week 3: Plants Unit Plan</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Week 4: Animals Unit Plan</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Week 5: Water Unit Plan</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Week 6: Magnets Unit Plan</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Week 7: Simple Machines Unit Plan</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Week 7: Field Experience Reflection Form</td>
<td>1</td>
<td>150</td>
</tr>
<tr>
<td>Week 7: Observation Form</td>
<td>1</td>
<td>150</td>
</tr>
<tr>
<td>Week 8: Environment Unit Plan</td>
<td>1</td>
<td>50</td>
</tr>
</tbody>
</table>
TOTAL POINTS

810

*Please refer to the Policies menu for more information about requirements for Discussions.

***It is highly recommended that you save all of your work from this course on your own computer or flash drive. The capstone course you take at the end of your program may require you to have access to this work for culminating assignments and/or reflections.

Grading Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 to 100%</td>
<td>729-810</td>
</tr>
<tr>
<td>B</td>
<td>80 to 89%</td>
<td>647-729</td>
</tr>
<tr>
<td>C</td>
<td>70 to 79%</td>
<td>565-646</td>
</tr>
<tr>
<td>D</td>
<td>60 to 69%</td>
<td>483-564</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60%</td>
<td>&lt;482</td>
</tr>
</tbody>
</table>

To access your scores, click on Grades in the My Tools area in Blackboard.

**Important Policies**

All course-specific policies for this course are spelled out in this syllabus. However, additional university policies are located in the Policies folder in the Info & Policies section of Blackboard. You are responsible for reading and understanding all of these policies. All of them are important. Failure to understand or abide by them could have negative consequences for your experience in this course.

**Ottawa Online Late Policy**

With instructor approval, assignments may be accepted for up to one week after the due date, but a minimum automatic deduction of 10% of the points will be assessed. The instructor also has the option of increasing this deduction percentage up to a maximum of 20%. Extenuating circumstances may be determined on rare occasions and an extension allowed without a deduction, but only at the sole discretion of the instructor.

Discussion board postings will not be accepted for credit when posted after the close of the discussion week. There are no exceptions to this rule; however, solely at the discretion of the instructor, the student may be allowed to submit an alternative assignment to make up for the points under extenuating circumstances. If granted, this should be an exception to the rule.

No assignments will be accepted after the last day of the course (end of term) unless arrangements have been made and “approved” by the instructor at least one week in advance.

**Editorial Format for Written Papers**

All written assignments are to follow the APA writing style guidelines for grammar, spelling, and punctuation. This online course includes information regarding the APA style under “Writing and Research Resources” in the Resource Room on the course menu in Blackboard.
Saving Work
It is recommended that you save all of your work from this course on your own computer or flash drive. The capstone course you take at the end of your program may require you to have access to this work for culminating assignments and/or reflections.

Academic Integrity
Plagiarism and cheating will not be tolerated at any level on any assignment. The reality of cyberspace has made academic dishonesty even more tempting for some, but be advised that technology can and will be used to help uncover those engaging in deception. If you ever have a question about the legitimacy of a source or a procedure you are considering using, ask your instructor. As the University Academic Council approved on May 29, 2003, “The penalty for plagiarism or any other form of academic dishonesty will be failure in the course in which the academic dishonesty occurred. Students who commit academic dishonesty can be dismissed from the university by the provost/director.”
Please refer to Academic Honesty in the Policies section of the online course menu for important information about Ottawa University’s policies regarding plagiarism and cheating, including examples and explanations of these issues.

Student Handbook
Please refer to your student handbook for all university regulations. The Resource Room on the course menu in Blackboard contains information about where to find the student handbook online for your campus.

Please see Policies in Blackboard for additional university policies.

Blackboard Technical Support
The Resource Room in Blackboard contains links to student tutorials for learning to use Blackboard as well as information about whom to contact for technical support. Ottawa University offers technical support from 8 a.m. to midnight Central Time for all students, staff, and faculty at no cost. See www.ottawa.edu/ouhelp for contact information.