### Flex Course Request

**College** EHE  
**Course Bulletin Listing** EDU T&L  
**Course Prefix**  
**Course Number** 727  
**Generic course or decimal subdivision?**  
**Course Decimal** 27  

**Full Course Title** Science Education  
**Level** Undergraduate  
**Credit Hours** 3  
**Proposed Effective Year** 12  
**Proposed Effective Term** Spring Quarter  

### Flexibly Scheduled/Off-Campus/Workshop Course Information

**Course Description**  
This course will focus on research-based strategies for inquiry-based science instruction. An emphasis will be placed upon cross-curricular lessons infused with 21st century skills.

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**Offering Pattern**  
This year  
Every other year

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*GEC Course*

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**Date Range(s)** 3/28-5/30/2012
Complete this section for off-campus courses

Off-campus ZIP code 43229

Explain differences in distribution of contact time with on-campus offerings

Instructor Margilee Hilson

Explain differences in instructor rank/qualifications with on-campus offerings

Explain differences in teaching arrangements from on-campus offerings

Explain how student services will be provided to off-campus students (registration, office hours, academic advising, etc.)

General Information

Expected Section Size 0

State the need and purpose of the course. Indicate how the course relates to the primary goals of the academic unit/school/college/university.
This course is contracted through the office of Outreach and Engagement in the College of Education for the Columbus City School Teachers.

Describe any changes in library, equipment, or teaching aids needed

Expected Enrollment for Proposed Offering Term

Please complete and attach the form(s) on the following page before completing the package.

Scheduling Supplement Form

**Course Contact Information**

**Faculty Name**  Margilee Hilson

**Faculty Email**  Hilson.4@osu.edu

**Contact Name**  Sarah McNeill

**Contact Dept**  EDUTL

**Contact Email**  mcneill.27@osu.edu

**Contact Phone**  2-2476

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**THE OHIO STATE UNIVERSITY**  WWW.OSU.EDU
The Ohio State University
College of Education and Human Ecology
School of Teaching & Learning
EDUTL 727.27 Integrated Science Inquiry: PreK – Grade 3
Spring Quarter 2012 (3 credits)

Dr. Margilee P. Hilson
hilson.4@osu.edu  614 439-6203

Office Hours: After class or Skype by appointment

Course Rationale and Overview:
Children come to school settings with a natural curiosity about their world. This course will focus on methods and content to engage this natural curiosity of young children with science. You will learn how to organize materials and activities to help children experience the world, interact with each other, ask questions, problem-solve, and construct knowledge. We will analyze standards and explore research-based strategies for inquiry-based instruction. Anticipating the Common Core Science Standards, an emphasis will be placed upon cross-curricular lessons infused with literacy and 21st century skills as outlined by the Partnership for 21st Century Learning. Addressing the individual needs of a diverse student population in a variety of school settings will be a major concern.

The Ohio Revised Science Standards and Model Curriculum adopted in April 2011 and National Standards are the major data sources for both content and pedagogy in this course. Each class meeting will include the discussion of assigned readings and an activity in which you will experience the learning of some science content. This course will provide a model for teaching science content knowledge in conjunction with science inquiry skills. The research-based instructional model can easily be integrated with other disciplines such as mathematics, social studies, reading, and writing. The content and activities of this course are intended to provide you, as an early childhood teacher, with skills and knowledge that will strengthen your teaching of science in the classroom.

Text Materials:
- Ohio Revised Science Standards and Model Curriculum  
  http://education.ohio.gov/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=1705&ContentID=76585
- National Science Education Standards  http://ohiorc.org/content_stds/natl_stds/
- Common Core State Standards for ELA & Literacy in History/Social Studies, Science and Technical Subjects  http://www.corestandards.org/the-standards
- Common Core State Standards for Mathematics  http://www.corestandards.org/the-standards
- Annenberg Learner video workshop Learning Science Through Inquiry  
  http://www.learner.org/workshops/inquiry/videos.html#
## Weekly Assignments

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Pedagogy</th>
<th>Assignments for next class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td><strong>Introduction and Expectations</strong>&lt;br&gt;What, why and how of science in the early years&lt;br&gt;Cognitive development during early childhood and what it means for learning science&lt;br&gt;The Early Learning Cycle of Inquiry&lt;br&gt;Common Core</td>
<td><strong>Discussion:</strong> Designing lessons consistent with the Common Core</td>
<td>Locate and bring resources related to living things&lt;br&gt;Watch video clip: <strong>Workshop 1. What Is Inquiry and Why Do It?</strong> <a href="http://www.learner.org/workshops/inquiry/videos.html#">http://www.learner.org/workshops/inquiry/videos.html#</a>&lt;br&gt;Reflection paper: How can you implement student inquiry into the normal flow of instruction in your classroom?</td>
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<td>March 28</td>
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<tr>
<td>Session 2</td>
<td><strong>Core questions</strong>&lt;br&gt;• How do organisms get what they need to live?&lt;br&gt;• How do physical traits and behaviors influence survival?</td>
<td><strong>Discussion:</strong> What is meant by inquiry?&lt;br&gt;Teaching children to observe.</td>
<td>Watch the video clip: <strong>Workshop 2. Setting the Stage: Creating a Learning Community</strong> <a href="http://www.learner.org/workshops/inquiry/videos.html#">http://www.learner.org/workshops/inquiry/videos.html#</a></td>
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<tr>
<td>April 4</td>
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<tr>
<td>Session 3</td>
<td><strong>Core questions</strong>&lt;br&gt;• How do organisms get what they need to live?&lt;br&gt;• How do physical traits and behaviors influence survival?&lt;br&gt;Independent work session to create an outline of connected lessons</td>
<td></td>
<td>Locate and bring resources to talk about sound, magnets, or force &amp; motion&lt;br&gt;Watch the video clip: <strong>Workshop 3. The Process Begins: Launching the Inquiry Exploration</strong> <a href="http://www.learner.org/workshops/inquiry/videos.html#">http://www.learner.org/workshops/inquiry/videos.html#</a>&lt;br&gt;Bring your independently created lesson outline.</td>
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<td>CCS Spring Break, no face-to-face meeting</td>
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<tr>
<td>Date</td>
<td>Topics</td>
<td>Pedagogy</td>
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<tr>
<td>Session 4</td>
<td><strong>Core question</strong></td>
<td><strong>Discussion:</strong></td>
<td>Locate and bring resources to talk about sound, magnets, or force &amp; motion</td>
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<tr>
<td>April 18</td>
<td>What if... exploring cause and effect</td>
<td>Review lesson outlines.</td>
<td>Watch the video clip:</td>
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<tr>
<td></td>
<td>Sound, magnets, force &amp; motion</td>
<td>Productive questioning and helping children ask questions</td>
<td><strong>Workshop 4. Focus the Inquiry: Designing the Exploration</strong></td>
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<td>Reflection paper: Describe an episode in your classroom in which you encouraged students to ask and act upon their own questions.</td>
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<td>Session 5</td>
<td><strong>Core question</strong></td>
<td><strong>Discussion:</strong></td>
<td>Locate and bring resources to talk about change over time</td>
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<tr>
<td>April 25</td>
<td>What if... exploring cause and effect</td>
<td>Designing student-centered inquiries</td>
<td>Watch the video clip:</td>
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<td>Collaborative work session to create connected lessons</td>
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<td>Session 6</td>
<td><strong>Core question:</strong> Rocks, Soils , seasons, life cycles</td>
<td><strong>Discussion:</strong> Data collection techniques for young children</td>
<td>Locate and bring resources to talk about change over time</td>
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<td>May 2</td>
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<td>Watch the video clip:</td>
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<td>Reflection paper: describe a lesson in which students collect and analyze data.</td>
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<tr>
<td>Date</td>
<td>Topics</td>
<td>Pedagogy</td>
<td>Assignments for next class</td>
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<td>Session 7 May 9</td>
<td><strong>Core question:</strong> How do things change over time?</td>
<td><strong>Discussion:</strong> Processing meaning</td>
<td>Locate and bring resources to talk about properties of materials, measurement, and adaptation.</td>
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<td></td>
<td>Rocks, soils, seasons, life cycles</td>
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<td><strong>Watch the video clip:</strong> Workshop 7. Assessing Inquiry <a href="http://www.learner.org/workshops/inquiry/videos.html#">http://www.learner.org/workshops/inquiry/videos.html#</a></td>
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<td></td>
<td>Collaborative work session to create connected lessons</td>
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<tr>
<td>Session 8 May 16</td>
<td><strong>Core question</strong> How can objects and organisms be classified and measured?</td>
<td><strong>Discussion:</strong> Assessment in inquiry science</td>
<td>Locate and bring resources to talk about properties of materials, measurement, and adaptation.</td>
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<td></td>
<td>Patterns, structure, function, measurement</td>
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<td><strong>Watch the video clip:</strong> Workshop 8. Connecting Other Subjects to Inquiry <a href="http://www.learner.org/workshops/inquiry/videos.html#">http://www.learner.org/workshops/inquiry/videos.html#</a></td>
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<td><strong>Reflection paper:</strong> Critique a recent science assessment that you have given and discuss how it informed your teaching.</td>
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<tr>
<td>Session 9 May 23</td>
<td><strong>Core question</strong> How can objects and organisms be classified and measured?</td>
<td><strong>Discussion:</strong> Content mapping</td>
<td>Prepare for group sharing of lesson unit next week.</td>
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<tr>
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<td>Patterns, structure, function, measurement</td>
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<td>Work session to create connected lessons.</td>
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<td>Session 10 May 30</td>
<td>Share/present lesson plans</td>
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Evaluation:

Class participation and discussion of weekly reading assignments - 25%
Reflection papers – 4 @ 10% = 40%
Lesson drafts – 10%
Group Lesson Project - 25%

Grading Scale
This course will be graded S/U

Policy for Late Work – 10% of an assignment’s final score will be subtracted if the assignment is turned in late. Please see the instructor if you find yourself getting too far behind to complete multiple assignments on time, in order to make arrangements for completion of the course requirements.

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. “

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** – This class will meet in a Columbus City Schools building yet to be determined.

**Technology** – 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/). Please make sure that students know they will be expected to follow Americans with Disabilities Act Guidelines for access to technology.

**All materials for this course are available in alternative formats upon request to the instructor. Additional assistance is available through the OFFICE OF DISABILITY SERVICES (292-3307).**

**References**


Flex Course Request Form

College: Education and Human Ecology
Course Bulletin Listing: EDUTL (e.g. EDUTL – Education Teaching and Learning)

Course Number: 727
Generic course: Y
Course Decimal: .27

Level: Undergraduate _____ Graduate _____
Grade Option: S/U yes
Credit Hours: 3

Proposed Effective Year: 2012
Proposed Effective Term: Spring
Previous Terms of Offering: none

Flexibly Scheduled / Off-Campus / Workshop Course Information

Course Description: This course will focus on research-based strategies for inquiry-based science instruction. An emphasis will be placed upon cross-curricular lessons infused with 21st century skills.

25 word limit

Course offered less than term length: N
Distribution of Class Time: 3 hours/ 10 weeks (e.g. 3 hrs/ 10 weeks)

Offering Pattern: Distance Learning Format: N
Section Size: 25
Date Range: March 28 – May 30, 2012

Off-Campus Offering: Y
Off-Campus ZIP code: 43229
Off-Campus Location: 6655 Sharon Woods Blvd, Col., OH

Hours Out-of Class Preparation: 60
Total Class Meeting Hours: 30 (one class session will be completed independently due to Columbus City Schools being on spring break)
Length of each Class: 3 hours

Advertised Course Title: Integrated Science Inquiry: PreK – Grade 3

Faculty Name: Margilee P. Hilson
Faculty Phone: 614 439-6203
Faculty Rank: Instructor
Faculty E-mail: hilson.4@osu.edu

Secondary Instructor: __________________________ Desired Access: __________________________

SI Phone: __________________________ SI E-mail: __________________________

Academic Advising Opportunity: After class or through Skype by appointment (by appointment, after class, etc.)

Approved by the Graduate Studies Committee Chair: ____________________________ Date: 1-17-2012

Approved by the School Director: ____________________________ Date: 1-18-2012