Instructor:
Carol Muskin, PhD
Office: 1117 Benjamin Building
Office Hours: Mondays 10:30AM-12PM and by appointment

Office hours: Monday 10:30AM-12PM or by appointment
Email: please allow 24 hours for a response.

Course Information

Course description:
This course provides theoretical and practical knowledge for teaching science in Early Childhood classrooms.

Learning Objectives:

1. Apply principles of inquiry based learning to early childhood science instruction.
2. Create a classroom environment that promoted scientific thinking and learning.
3. Develop and facilitate child directed science experiences.
4. Develop and teach science lessons based on goals advanced by national and state standards that address the needs of diverse learners.
5. Research age appropriate school and community resources for teaching science.
6. Use age appropriate technology for supporting data collection and display.
7. Address common roadblocks in teaching science.

Course Textbooks and supporting web sites
www.nsta.org
www.naeyc.org
www.nextgenscience.org
www.corestandards.org
www.esiponline.org

Course Requirements
1. Do all required reading.
2. Complete all work assigned and submit when due. Unless specified, late assignments are penalized and must be handed in no later than one week after the original due date for credit to be given. Assignments will be penalized up to one letter grade for each week that it is late. (See Class Policies)
3. Consistent class participation and attention to subject.
Course Assignments in Brief (with point values) – (Detailed information on pages 6 and 7)
Course work will be weighted as follows, up to 100 possible points:

- 3 points  Science Autobiography
- 5 Points  Science in the News
- 5 points  Female and Minority Scientist report
- 5 points  Science Field Trip
- 12 points  Health/Nutrition Lesson plan (MSGE)
- 25 points  Science Lesson Part 1 and 2 (15 points for part 1 and 10 points for part 2) (MSGE)
- 20 points  Final: Science and Social Studies Integrated Unit (MSGE)
- 10 points  Class participation
- 15 points  Science Journal and Activity Binder (including labs, activities, and resources)

Grading Scale
A plus/minus grading has been in use by the University since Fall 2001. These marks remain part of your permanent record and may only be changed (when approved by the department chair/dean) if an actual mistake has been made in determining or recording the grade. Pluses & minuses do impact your GPA.

Class Policies

Academic integrity: The University of Maryland, College Park has a student-administered Honor Code and Honor Pledge. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.studenthonorcouncil.umd.edu/whatis.html. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. The code prohibits students from cheating, fabrication, facilitating academic dishonesty, and plagiarism. Instances of this include submitting someone else’s work as your own, submitting your own work completed for another class without permission, or failing to properly cite information other than your own (found in journals, books, online, or otherwise). Any form of academic dishonesty will not be tolerated, and any sign of academic dishonesty will be reported to the appropriate University officials.

Special needs: If you have a registered disability that will require accommodation, please see the instructor so necessary arrangements can be made. If you have a disability and have not yet registered with the University, please contact Disability Support Services in the Shoemaker Building (301.314.7682, or 301.405.7683 TTD) as soon as possible.

Religious observances: The University of Maryland policy on religious observances states that students not be penalized in any way for participation in religious observances. Students shall be allowed, whenever possible, to make up academic assignments that are missed due to such absences. However, the student must contact the instructor before the absence with a written notification of the projected absence, and arrangements will be made for make-up work or examinations.

Late assignments and make-up work: Assignments will automatically be marked down by one letter grade (or the equivalent number of points) for each week that they are handed in late. Make-up work (including presentations) will be allowed at the discretion of the instructor, based upon written documentation and the University of Maryland policy regarding excusable absences. Please note that I do not accept any version, variety, or derivation of computer/printer/flash drive/diskette/hard drive/software or other technology-related problems as acceptable explanations for late submission of assignments. Please make sure your assignments are copied ahead of time and ready for submission when they are due.
**Paper submissions:** Papers, including homework assignments, extra credit, and final term projects will be accepted in hard copy during class on the day for which the assignment is due. *Do not* accept emailed assignments or papers unless extenuating circumstances that require special arrangements for a student and have been discussed with the instructor. Such arrangements must be made prior to the assignment due date.

**Use of technology in classroom:** As teachers in training, all students in EDHD 321 should be particularly aware of the kinds of disruption caused by non-course related technology use during class. For everyone in the class who is trying to teach and learn, you are asked to demonstrate the respect that you will soon expect and hope to receive from your own students in your own classrooms.

**Course evaluations:** As a member of our academic community, students have a number of important responsibilities. One of these responsibilities is to submit course evaluations each term though CourseEvalUM in order to help faculty and administrators improve teaching and learning at Maryland. All information submitted to CourseEvalUM is confidential. CourseEvalUM will be open for you to complete your evaluations for spring semester courses near the end of the semester. Please go directly to the website (www.courseevalum.umd.edu) to complete your evaluations when notified that CourseEvalUM is open. By completing all of your evaluations each semester, you will have the privilege of accessing online, at Testudo, the evaluation reports for the thousands of courses for which 70% or more students submitted their evaluations.

**Missed single class due to illness:** Once during a semester, a student’s self-authored note will be accepted as an excuse for missing a minor scheduled grading event in a single class session if the note documents the date of the illness, acknowledgement from the student that information provided in the note is correct, and a statement that the student understands that providing false information is a violation of the Code of Student Conduct. Students are expected to attempt to inform the instructor of the illness prior to the date of the missed class.

**Major scheduled grading events:** Major Scheduled Grading Events (MSGE) are indicated on the syllabus. The conditions for accepting a self-signed note do not apply to these events. Written, signed documentation by a health care professional or other professional in the case of non-medical reasons (see below) of a University-approved excuse for the student’s absence must be supplied. This documentation must include verification of treatment dates and the time period for which the student was unable to meet course requirements. Providers should not include diagnostic information. Without this documentation, opportunities to make up missed assignments or assessments will not be provided.

**Non-consecutive, medically necessitated absences from multiple class sessions:** Students who throughout the semester miss multiple, non-consecutive class sessions due to medical problems must provide written documentation from a health care professional that their attendance on those days was prohibited for medical reasons.

**Non-medical excused absences:** According to University policy, non-medical excused absences for missed assignments or assessments may include illness of a dependent, religious observance, involvement in University activities at the request of University officials, or circumstances that are beyond the control of the student. Students asking for excused absence for any of those reasons must also supply appropriate written documentation of the cause and make every attempt to inform the instructor prior to the date of the missed class.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Due</th>
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<tbody>
<tr>
<td>1 9/9</td>
<td>Syllabus Overview; Science in the ECE Classroom; Introduction to Standards</td>
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<tr>
<td>2 9/16</td>
<td>Concept Development in Young Children; Inquiry Process; Standards</td>
<td>Read: Units 1, 2, 8</td>
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<td></td>
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<td>Due: Science Autobiography</td>
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<tr>
<td>3 9/23</td>
<td>Scientific Language Development; Planning and types of science experiences</td>
<td>Read: Units 9, 7, 13</td>
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<td>Due in-class- Health/Nutrition Lesson Plan objective/activity idea</td>
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<td>Due: Science in the Newspaper</td>
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<td>4 9/30</td>
<td>Building Science Content Knowledge: Playground Physics and Science; Supporting and assessing science experiences</td>
<td>Meet at CVU (weather permitting)</td>
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<td>Playground Science</td>
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<td>Read: Units 3, 4, 5, 15</td>
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<td>Due in-class- Health/Nutrition Lesson Plan Draft Plan</td>
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<td>Due: Female and Minority Scientist paper</td>
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<td>5 10/7</td>
<td>Building Science Content Knowledge: Health and Nutrition; Environmental Science; Materials and resources for science</td>
<td>Read: Units 6, 18, Appendix B</td>
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<td>Due in-class- Science Lesson Plan objectives/activity ideas</td>
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<td>Due: Health/nutrition lesson plan</td>
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<td>6 10/14</td>
<td>No Class Held</td>
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<td>7 10/21</td>
<td>Unit, Lesson, and Hands-on Activity Planning; Materials, Logistics, and Management of Science Activities</td>
<td>Read: Units 19, 12</td>
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<td></td>
<td>Due in-class- Integrated Unit Plan social studies science objectives/activity ideas</td>
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<td>Due: Science Lesson Objective, teacher background knowledge, student Interviews</td>
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<td>8 10/28</td>
<td>Building Science Content Knowledge: Life Sciences/Nature and Gardening; Community-Based Inquiry; Family Involvement SPKR: Ancestral Knowledge-tentative</td>
<td>Read: Units 20, 21, 14</td>
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<td>Due: Science Field Trip</td>
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<tr>
<td>9 11/4</td>
<td>Adapting the Inquiry Process to the Standards Based Classroom; Inter-disciplinary study</td>
<td>Read: Unit 17</td>
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<td>Due In-class: objectives, activity, and materials list for a hands-on activity for either your science lesson or integrated unit</td>
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<td>10 11/11</td>
<td>Building Science Content Knowledge: Earth Space</td>
<td>Read: Unit 16</td>
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<tr>
<td>Date</td>
<td>Task Description</td>
<td>Due</td>
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<td>11/18</td>
<td>Planning for Integrating Units of Study; Pre-K Science</td>
<td>Read: Unit 11, 10</td>
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<td>Due: Science Lesson Plan Part 1</td>
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<td>11/25</td>
<td>Assessment; Differentiation</td>
<td>Read: Appendix A</td>
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<td>Due: Integrated Unit Draft Plan</td>
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<td>12/2</td>
<td>No Class Held</td>
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<td>12/9</td>
<td>Technology in the Early Childhood Classroom; Time for Science</td>
<td>Read:</td>
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<td>Due: Science Journal and Activity Binder</td>
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<td>12/13</td>
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<td>Due: Science Lesson Part 2</td>
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<td>12/13</td>
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<tr>
<td>Final TBA</td>
<td>Due: Integrated Science/Social Studies Unit</td>
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1. **Science Autobiography:**
   a. Write a one page paper about your experiences in elementary school science
   b. What topics and teaching strategies do you remember?
   c. How did these early experiences influence your interests and competence in science?
   d. What would you like your future students’ science memories to be?

2. **Science in the News:**
   a. Read a science article published in the last year.
   b. Compile a complete citation. (author, date, title, source, page numbers)
   c. Summarize the major issues/findings of the article in 1-3 sentences
   d. Write one paragraph on how you would use the insights from the article in class with children
   e. Attach the article

3. **Female and Minority Scientist Report**
   a. Select a female or minority scientist to investigate (lists will be provided)
   b. Research your scientist in encyclopedia or biography type resources
   c. Create a one page report with a picture of the scientist, a visual of one of their major contributions, and a short description of their life and work
   d. Be prepared to share in class

4. **Science Field Trip:**
   a. Attend a science based event on campus or in the community.
      i. (See “Physics is Phun” on campus)
      ii. Off campus, try a nature center, observatory, museum event
   b. Write a 2 page paper and include:
      i. where it was,
      ii. what you learned,
      iii. how did you feel about going there/participating,
      iv. how does this impact your teaching of science to young children?

5. **Health and Nutrition Lesson Plan:**
   a. Select a topic/objective by 9/23 which could be taught in your placement this semester
   b. Create a draft lesson plan using the ECE template by 9/30
   c. Final version of the plan is due by 10/30

6. **Science Journal and Activity Binder:**
   a. Obtain a binder and begin to collect science resources.
   b. Include standards/objectives for pre-K science and your placement grade level
   c. Gather lab notes from all hands-on science activities completed in class
   d. Include your field trip assignment and lists of other community resources
      ****more details tba

7. **Science Lesson Part 1 and 2:**
b. More details will be provided in class but the lesson should include a whole group and small group interaction.

c. The lesson plan will be adapted to the ECE Lesson plan format.

d. This lesson will be documented on video.

8. **Final: Integrated Social Studies/Science Unit:**

   a. The objective of this assignment is to create a unit of study that incorporates a grade level science objective with social studies and integrates reading, writing and math components.

   b. The Integrated Unit will be completed in a small group (2 or possibly 3 students) teaching at the same/similar grade level. Topic due by 10/21. Draft due by 11/27. Completed unit due on the finals period.

   c. Ideally the curriculum topics will come from the MCPS 2.0 Curriculum for your spring takeover period (late March, early April)

   d. The unit will include a rationale, overview, and MCPS source materials outlining your core social studies/science content and objectives. Lesson “seeds” and mini-plans will be included demonstrating how you will integrate the core science/social studies objectives in other areas (e.g., reading, writing, math, arts). The unit will be created, shared, and graded (in parts) in the science and social studies methods courses.

   e. For science the unit will contain at least one science “talk” or discussion, at least one science background knowledge lesson, and at least one hands-on science exploration.

   f. More details will be given in class.
EDHD 321 prepares the future teacher of young children to become knowledgeable & passionate about children’s learning of science. It allows students to explore science and teaching methods as it relates to the development of lifelong learning.

This course is a prerequisite for completion of the University of Maryland’s Early Childhood Education Program. Assignments for the course address many of NAEYC’s initial licensure standards, particularly those that are starred below.

**NAEYC Standards for Initial Certification Programs**

<table>
<thead>
<tr>
<th>NAEYC Standard 1: Promoting Child Development and Learning</th>
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<tbody>
<tr>
<td>1a. *Demonstrates knowledge and understanding of young children’s characteristics and needs</td>
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<tr>
<td>1b. Demonstrates knowledge and understanding of the multiple influences on development and learning</td>
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<td>1c. *Uses developmental knowledge to create healthy, respectful, supportive, and challenging learning environments</td>
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<tr>
<th>NAEYC Standard 2: Building Family and Community Relationships</th>
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<tr>
<td>2a. Demonstrates knowledge about and understanding of diverse family and community characteristics</td>
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<tr>
<td>2b. Demonstrates support for and engagement of families and communities through respectful, reciprocal relationships</td>
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<tr>
<td>2c. *Demonstrates involvement of families and communities in their children’s development and learning</td>
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<tr>
<th>NAEYC Standard 3: Observing, Documenting, and Assessing to Support Young Children and Families</th>
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<tr>
<td>3a: Demonstrates an understanding of the goals, benefits, and uses of assessment</td>
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<tr>
<td>3b: *Knows about and uses observation, documentation, and other appropriate assessment tools and approaches</td>
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<td>3c: *Understands and practices responsible assessment to promote positive outcomes for each child</td>
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<td>3d: Formulates assessment partnerships with families and with professional colleagues</td>
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<tr>
<th>NAEYC Standard 4: Standard 4. Using Developmentally Effective Approaches to Connect with Children and Families</th>
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<tr>
<td>4a: *Understands positive relationships and supportive interactions are the foundation of his/her work with children</td>
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<td>4b: *Demonstrates knowledge and understanding of effective strategies and tools for early education</td>
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<td>4c: *Uses a broad repertoire of developmentally appropriate teaching/learning approaches</td>
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</table>
4d: *Reflects on his/her own practice to promote positive outcomes for each child

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<tr>
<th>NAEYC Standard 5: Using Content Knowledge to Build Meaningful Curriculum (Language and Literacy, The Arts, Mathematics, Science, Physical Activity and Social Studies)</th>
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<tbody>
<tr>
<td>5a: *Demonstrates knowledge and understanding of content area and relevant resources</td>
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<tr>
<td>5b: *Demonstrates knowledge and understanding of the central concepts, inquiry tools, and structures of each content area.</td>
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<tr>
<td>5c: *Uses his/her own knowledge, appropriate early learning standards, and other resources to design, implement, and evaluate meaningful, challenging curricula for each child.</td>
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<tr>
<th>NAEYC Standard 6: Becoming a Professional</th>
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<tr>
<td>6a: *Identifies and involves oneself with the early childhood field</td>
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<tr>
<td>6b: *Demonstrates knowledge of and upholds ethical standards and other professional guidelines</td>
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<td>6c: *Engages in continuous, collaborative learning to inform practice</td>
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<td>6d: *Integrates knowledgeable, reflective, and critical perspectives on early education</td>
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<td>6e: Engages in informed advocacy for children and the profession.</td>
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Appendix B

InTASC MODEL CORE TEACHING STANDARDS (2011)

THE LEARNER AND LEARNING
1. Learner Development: understanding of learner growth and development and ability to design developmentally appropriate instruction [InTASC 1]
2. Learning Differences: understanding of individual differences and diverse cultures and communities and ability to ensure constructive inclusive instructional environments [InTASC 2]
3. Learning Environments: understands and creates environments to support individual and collaborative learning and promotes student engagement in learning [InTASC 3]

CONTENT
4. Content Knowledge: understanding of central concepts, structures, and tools of inquiry in the disciplines he/she teaches and can create learning experiences that makes the discipline accessible for different learners [InTASC 4]
5. Application of Content: understanding of how to connect concepts and engage learners using multiple activities to address authentic local and global issues [InTASC 5]

INSTRUCTIONAL PRACTICE
6. Assessment: understanding and use of multiple methods of assessment to engage learners, monitor progress, and guide instructional decision-making [InTASC 6]
7. Planning for Instruction: plans to support student learning in meeting rigorous learning goals in and across disciplinary areas [InTASC 7]
8. Instructional Strategies: understands and uses varied instructional strategies that build learners’ deep understanding of content and their ability to apply that knowledge meaningfully [InTASC 8]

PROFESSIONAL RESPONSIBILITY
9. Professional Learning and Ethical Practice: commitment to professional development and reflection on practice, and assesses impact of choices on learners, peers, and community [InTASC 9]
10. Leadership and Collaboration: seeks opportunities to take on leadership roles and collaboration with learners, peers, and families to promote learning and advance the profession [InTASC 10]
Appendix C  
UM College of Education  
Conceptual Framework - Condensed Version  
(May 2011)

THE VISION AND MISSION
The College of Education (COE) at the University of Maryland, College Park (UM) envisions a world where every individual has equal access to life-long learning and opportunities for healthy development and where each person’s distinct abilities are nurtured from potential to achievement (COE Strategic Plan, p 3). We aim to prepare accomplished beginning and advanced-level professionals who can advance the learning and development of their students and who are ready to become leaders in their fields.

Our mission is to foster the learning and development of PK-16 students through our educator preparation programs, leadership, research, advocacy, and partnerships. We aim to prepare educators with the skills and commitments necessary to ensure equity for all students in the public schools and classrooms they will lead. This mission, which reflects an overarching emphasis on Excellence and Equity, serves as the foundation for the COE conceptual framework.

The COE is dedicated to rigorous evidence-based research, free and open debate, shared governance, responsibility to the surrounding community and participatory democracy. It is a place whose academic vitality and capacity to serve others flow from, and are nourished by, its core values: diversity and equity, innovation and creativity, internationalization, and policy engagement.

Conceptual Framework Candidate Proficiencies
The COE requires that all graduates demonstrate these four core proficiencies:

1) Candidates demonstrate competency in their knowledge of subject matter, curriculum, pedagogy as well as pedagogical content knowledge.
2) Candidates demonstrate understanding of learners and their social and cultural contexts with a global perspective and intentional sensitivity to other cultures.
3) Candidates practice evidence-based decision-making through the use of assessment as well as the critical interpretation of research and inquiry in order to improve educational practice.
4) Candidates competently integrate technology in instruction to support student learning and develop data-driven solutions for instructional and school improvement.

These proficiencies ensure that our graduates will be ready to embrace their responsibility for advancing the learning and development of their PK-16 students, advocating for equity in the school districts and classrooms where they work, and leading others toward these same goals.

ACHIEVING EXCELLENCE; PROMOTING EQUITY
We see three critical domains of our teacher and educational leader preparation as key to helping us achieve the goals set forth above: Commitment, Knowledge, and Practice.

Domain #1: COMMITMENT

Commitment occurs across two dimensions:
1. our expectations for commitments for the program and faculty; and
2. our expectations for commitments by our candidates -- both what they bring into our programs and what we hope to inculcate in them as part of our programs.

Program Commitments:

- Internationalization: The educator preparation programs commit to developing and studying a range of approaches that will support and enhance the academic and professional studies and the associated clinical
experiences of our teacher and educational leaders candidates around global education and international perspectives.

- **Admissions:** We have a commitment to establish and study the impact of high expectations for admission to our educator preparation programs and to ensure the presence of a vigorous retention support system. We are committed to implementing an admissions process based upon multiple indicators that are associated with qualities of effective teachers and that allows for discretion and judgment to permit admission for candidates with exceptional experiences and backgrounds.

- **Diversity:** It is our goal that our candidates succeed in creating educational opportunities that are adapted to a wide range of diverse individuals and settings. We do this by providing coursework that includes diversity, and by designing field experiences in the diverse communities in our region and state. Our programs include development of dispositions in its candidates that include professionalism, accommodation, and respect for differences in their work with students.

- **Strong and Coherent Programs:** We are committed to thinking systemically about our programs and seek to build and study the linkages across courses, experiences and policies that lead to strong and coherent programs.

- **Professional Development Schools (PDS):** Program faculty and professional staff are committed to working with PDS partners and with partners at PDS affiliated schools to support collaboration between school-based clinical faculty and university faculty in the design and support for high quality teacher preparation, collaboration in the determination and design of professional development to support both intern and mentor growth as educators, collaboration in inquiry and research into student learning and instructional practice, and a collaborative focus on improving student learning for all children.

- **Purposeful Assessment:** Systematic and purposeful data collection and assessment must occur at the program and institution level. We must have relevant data if we are to understand our candidates as learners and provide timely feedback and support for their development; adapt and adjust elements in our program to meet candidate needs; revise elements of programs to improve what we do; and be responsive to institutional, state, and accreditation accountability demands. We commit to exploring richer measures of candidate progress and achievement and program effectiveness as we strive to build comprehensive and integrated assessment systems.

- **Research and Inquiry:** As a research institution, we accept a responsibility to be active in the production of research knowledge that leads and guides our efforts to revise and improve what we do in educator preparation and informs the profession. We are engaged in the systematic study of program elements, practices, and designs. Through our inquiry and participation in professional organizations and interactions with state and national policy makers on educator preparation, we contribute to the knowledge base that decision-makers use to guide policy in educator preparation in the state and nationally.

- **Collaboration:** Within our educator preparation programs, collaboration takes many forms and is evident throughout our teaching, research, and service to the field of education. Collaboration between schools and universities forms the basis for professional development schools (PDSs), which supports much of the initial teacher preparation field experience. Within PDSs we encourage collaborative research addressing issues important to teachers and their classrooms, with the objective that such collaboration will inform both teacher education and teaching and learning in schools. Our initial and advanced programs are enhanced by the contributions of faculty in differing disciplines across the college, faculty in other colleges in our university, faculty at other universities, faculty among administrative practitioners, public schools educators, local businesses and communities, and professional organizations.

**Candidate Commitments:**
Candidate commitments include both the Foundational Competencies (non-academic competencies, such as communication or interpersonal skills, which candidates are expected to demonstrate at the time of entry to the
program) as well as the Emerging Commitments that we expect candidates to strive for as they progress through the program. The candidate commitments identified below play a key role in candidates’ ability to teach a diverse student population (ethnicity, socio-economic status, English Language Learners [ELL], giftedness and inclusion of students with special needs in regular classrooms).

**Foundational Competencies**
The COE has an agreed-upon set of Foundational Competencies that we expect of all candidates in educator preparation programs. Most of these are expected to be well-developed by individuals as they apply to our programs, although it is also expected that some of these abilities will continue to develop and be refined as a consequence of program-based courses and experiences.

- English Language Competence -- Ability to express oneself in standard written and oral English
- Interpersonal Competence -- Ability to interact effectively with others
- Work and Task Management -- Ability to organize and manage multiple work demands
- Analytic/Reasoning Competencies -- Ability to think analytically and reason logically about professional topics, issues, and problems
- Professional Conduct -- Ability to work within a set of reasonable expectations for conduct as defined by the profession and/or workplace
- Physical Abilities -- Ability to meet the professional demands of the profession and/or workplace
- Professional Dispositions -- Commitment to one’s own continuing professional development and to the belief that one can be a responsible agent for the improvement and reform of education; Commitment to the belief that all children and adults can learn.

**Emerging Commitments:**

- **Equity and Diversity** – Candidates demonstrate a belief that all children can learn, and develop a repertoire of culturally responsive strategies that they implement to ensure all children learn. [EC 1 – Equity and Diversity]
- **Advocacy** – Candidates serve as an advocate for their learners, as well as their community. They take an advocacy role as they utilize their knowledge and experiences to influence decisions about individual student needs, curricula, community engagement and educational policy. [EC 2 - Advocacy]
- **Internationalization** - Candidates demonstrate the knowledge, experiences, and skills that support a commitment to internationalization of experiences for children and youth and the development of global competencies. [EC 3 -- Internationalization]
- **Reflection** – Candidates recognize that reflection is essential to self-understanding and serves as a foundation to improve and develop as a professional. They make informed, reflective judgments about research and practice. [EC 4 -- Reflection]
- **Innovation and Creativity** – Candidates are resourceful and imaginative in utilizing a variety of evolving tools and techniques to ensure learning for all. They integrate media resources and technology in the curricular experiences of students and use technology as a vehicle for active learning, collaboration, global communication and research. [EC 5 – Innovation and Creativity]
- **Responsible and Ethical Action** – Candidates act as responsible and ethical professionals in accord with institutional and national standards. [EC 6 – Responsible and Ethical Action]
- **Specialist Competence** – Candidates demonstrate a commitment to developing specialist competence – i.e., being good at what they do, and striving to acquire subject-matter competence. [EC 7 – Specialist Competence]

Domain #2: KNOWLEDGE
Professional knowledge is guided by professional standards. The initial teacher preparation programs draw extensively upon the InTASC Standards\(^1\) and both the initial and advanced programs emphasize the Specialty Professional Association Standards\(^2\) (e.g., CEC, NCTM, etc.). As a result, the Conceptual Framework is constantly evolving as specialty professional associations revise and update their standards.

**Knowledge of Subject Matter:**
Reflective educators have a thorough understanding of facts and concepts related to the subjects they teach; substantive structures – the ways in which the fundamental principles of a discipline are organized; and the canons of evidence and proof that guide inquiry in the field. They know how to apply what they have learned to support instruction that emphasizes developing high level skills and is responsive to and extends students’ content understanding. \([\text{Subject Matter}]\)

**Knowledge of Pedagogy:**
Reflective educators possess pedagogical content knowledge. Candidates demonstrate a firm knowledge of culturally responsive and respectful pedagogy – knowledge of the science of teaching, including principles and strategies that are subject matter or topic specific as well as those not bound by subject matter or topic. They understand that effective pedagogy supports the development of critical thinking skills and promotes active engaged learning and collaborative learning communities. They know “how to manage a classroom, how to assess understanding, and how to implement a wide repertoire of instructional strategies to reach diverse learners” (Alter & Coggshall, 2009). \([\text{Pedagogy}]\)

**Knowledge of Learners:**
Reflective educators understand academically, culturally and linguistically diverse learners, including both knowledge of student characteristics and cognitions, as well as knowledge of the motivational and social-emotional aspects of student learning and development. This knowledge is expanded through an understanding of partnerships with parents and families. \([\text{Learners}]\)

**Knowledge of Curriculum:**
Candidates understand how the content and outcomes for instruction are and can be organized for different purposes and how they are responsive to different learners, contexts of schools, and political realities within the state and in a global community. Their instruction is aligned with the state’s curriculum standards. \([\text{Curriculum}]\)

**Knowledge of Educational Goals and Assessment:**
Reflective educators understand educational goals and possess the ability to demonstrate evidence-based decision-making. They aggregate, disaggregate and analyze classroom data in order to demonstrate their impact on student learning, plan for further instruction, and shape the improvement of their practice. \([\text{Educational Goals and Assessment}]\)

**Knowledge of Social and Cultural Contexts:**
Reflective educators demonstrate a thorough knowledge of social and cultural contexts and the ability to apply that knowledge to understand and address educational goals and learning in diverse communities. Candidates are globally competent, informed, and comfortable with international perspectives. \([\text{Social and Cultural Contexts}]\)

**Knowledge of Technology:**
Candidates are exposed to the full range of emerging technological tools for education so that they can make informed choices about which technology will best meet their instructional and community-building goals. They demonstrate proficiency on the Maryland Teacher Technology Standards\(^3\) (MTTS) and/or the Technology Standards for School Administrators (TSSA\(^4\)) and learn to use technology fluently and in pedagogically appropriate ways. \([\text{Technology}]\)

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\(^1\) For a listing of the Interstate Teacher Assessment and Support Consortium- InTASC Standards, see Attachment A.

\(^2\) For a listing of the different SPA Standards, see the following NCATE web site:

\(^3\) For a listing of the MTTS Standards, see Attachment B.

\(^4\) For a listing of the TSSA Standards, see Attachment C.
Domain #3: PRACTICE: FIELD EXPERIENCE, CLINICAL PRACTICE, AND INDUCTION

Field Experience:
Teaching is a profession of practice; teacher candidates use the knowledge outlined in Domain #2 as they develop the skills to enact this knowledge in the practical, field-based settings within which they work (cf. Ball & Forzani, 2009; Grossman, Hammerness, & McDonald, 2010; NCATE, 2010).

Clinical Practice:
Candidates engage in the action research/inquiry process within the school setting. Their action research is linked to school improvement needs, and candidates use the results of research and inquiry to inform future practice in the classroom and to foster student achievement in PDS sites.

Induction:
Teacher learning and the transition from novice apprenticeship to expertise is an extended process. As such, both pre-service and post-service teachers need mentoring in order to acquire a framework which can guide effective pedagogical decision-making and enactment (Hammerness et al 2005; Darling-Hammond 2006). In keeping with the recommendations of educational researchers and policy-makers for the reform of teacher preparation programs, the COE is working to develop and add an induction component to the clinical preparation of teacher candidates across many of its certification programs and in its professional development school partnerships.

CONCLUSION:
This conceptual framework draws on our vision for the College of Education as a place dedicated to preparing educators who advance students’ learning and development and foster equity in the schools where they work. In the conceptual framework we talk about how that vision has led us to a set of commitments for our programs and commitments we expect of our candidates. These commitments are supported by and interact with our understanding of the knowledge and skills that candidates acquire during their time here. The combination of on-campus coursework and clinical field experiences work together to help drive the development of candidates’ skills, knowledge, and commitments. We recognize, too, the importance of participating in the continuing education of our graduates; this is a direction we set for the future. Finally, as a research extensive university we commit to drawing upon research to build our programs and to engaging in research on various aspects of our programs in order to improve our practice.

Fundamental in this conceptual framework is our commitment to excellence and equity. Our goal is not solely to prepare good educators, but to prepare exceptional educators who understand teaching and learners and commit themselves to meet the needs of a diverse student body.

For bibliographic references and the complete text of this document, including all of the associated attachments, see the College of Education Conceptual Framework (Approved May 2011)

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5 For a listing of the PDS Standards, see Attachment D.