George Mason University
College of Education and Human Development
Early Childhood Education

ECED 516.B02 Science for Diverse Young Learners
3 Credits, Summer 2021
06/01/2021 – 07/24/2021, Tuesdays & Thursdays, 4:30pm – 7:10pm
Online Synchronous

Faculty

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Prerequisites
ECED 401 or 501 and ECED 403 or 503
Prerequisites require a minimum grade of C for undergraduate courses and B- for graduate courses.

University Catalog Course Description
Examines ways to foster development of science in preschool to third-grade children. Covers construction of science lessons and hands-on experiences that promote learning in children with diverse abilities and cultural and linguistic backgrounds.

Course Delivery Method
This course will be delivered online (76% or more) using a synchronous format via Blackboard Learning Management system (LMS) housed in the MyMason portal. You will log in to the Blackboard (Bb) course site using your Mason email name (everything before @masonlive.gmu.edu) and email password. The course site will be available on June 1, 2021.

Under no circumstances, may candidates/students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face class meeting, such online participation requires undivided attention to course content and communication.

Technical Requirements
To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with standard up-to-date browsers. To get a list of Blackboard's supported browsers see https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supported-browsers
  To get a list of supported operation systems on different devices see https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#tested-devices-and-operating-systems

- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students will need a headset microphone for use with the Blackboard Collaborate web conferencing tool.
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.
- The following software plug-ins for PCs and Macs, respectively, are available for free download:
    - Adobe Acrobat Reader: https://get.adobe.com/reader/
    - Windows Media Player: https://support.microsoft.com/en-us/help/14209/get-windows-media-player
    - Apple Quick Time Player: www.apple.com/quicktime/download/

Expectations

- Course Week: Our course week will begin on the day that our synchronous meetings take place as indicated on the Schedule of Classes.
- Log-in Frequency: Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials at least 4 times per week.
- Participation: Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- Technical Competence: Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues: Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- Workload: Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule** section of this syllabus. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- Instructor Support: Students may schedule a one-on-one meeting to discuss course requirements, content, or other course-related issues. Those unable to come to a Mason campus can meet with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.
- Netiquette: The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words*. Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.

- Accommodations: Online learners who require effective accommodations to ensure accessibility must be registered with George Mason University Disability Services.

Learner Outcomes or Objectives

This course is designed to enable students to do the following:

1. Explain how knowledge, skills, and practices in the four core science disciplines (i.e., Earth sciences, biology, chemistry, and physics), as defined in *Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds* and the *Virginia Science Standards of Learning*, provide a sound foundation for teaching science in prekindergarten through third grade.
2. Describe the nature of science and scientific inquiry, including the function of research design and experimentation, and the role of science in explaining and predicting events and phenomena.
3. Describe the practices required to provide empirical answers to research questions, including data collection and analysis, modeling, argumentation with evidence, and contracting explanations.
4. Discuss the reliability of scientific knowledge and its constant scrutiny and refinement; self-checking mechanisms used by science to increase objectivity, including peer review; and assumptions, influencing conditions, and limits of empirical knowledge.
5. Describe and organize key science content in Earth science, biology, chemistry, and physics content into meaningful units of instruction that actively engage students in learning; integrate processes and crosscutting concepts into planning and implementing in the interdisciplinary context; and promote the application of key science principles to solve practical problems and develops a "systems" understanding of the natural world.
6. Describe the role of family and community knowledge, experience, and resources in planning and implementing science content in the curriculum.
7. Plan instruction on Earth science, biology, chemistry, and physics that (a) uses a variety of instructional techniques to meet the needs of diverse young learners; (b) incorporates instructional technology to enhance learner performance; (c) ensures learner competence in science; and (d) is informed by the *Virginia's Early Learning Foundation Building Blocks*, the *Virginia Standards of Learning for Science*, and the *New Generation Science Standards*.
8. Evaluate, select, and adapt a variety of instructional materials, technologies, and teaching strategies to engage diverse young learners in science.
9. Identify fiction and nonfiction texts to develop key science concepts in diverse young children.
10. Develop science activities for young children using the scientific process with an emphasis on describing, analyzing, and quantitatively presenting findings.
11. Conduct formative and summative assessments of students' learning of science concepts.
12. Describe and use the knowledge, skills, and practices to implement classroom, field, and laboratory safety rules and procedures and ensure students take appropriate safety precautions.
13. Describe and use the knowledge, skills, and practices needed to conduct research projects and experiments, including applications of design process and technology, and systematic field investigations using the school grounds, the community, and regional resources.
14. Explain the contribution and significance of science, including (a) its social, cultural, and economic significance; (b) the relationship of science to mathematics, the design process, and

technology; and (c) the historical development of scientific concepts and scientific reasoning.
15. Exhibit standards of professionalism, ethical standards, and personal integrity with children, families, and professionals in the field and in interactions with classmates, the instructor, and others.
16. Use writing as an instructional and assessment tool to generate, gather, plan, organize, and to communicate for a variety of purposes; integrate correct written conventions (i.e., grammar, usage, mechanics, and spelling); and format using current APA style.

Professional Standards – Virginia Professional Studies Competencies, Virginia Early/Primary Education PreK-3 (EPK3) Endorsement Competencies, Interstate Teacher Assessment and Support Consortium (InTASC) Standards, and National Association for the Education of Young Children (NAEYC) Professional Standards and Competencies

Upon completion of this course, students will have met the following professional standards:

Virginia Early/Primary Education PreK-3 Endorsement Competencies
Methods
Knowledge and Skills: Science

Required Texts

American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). Washington, DC: Author.

Achieve Inc. (2013). *Next generation science standards*. Washington, DC: Author. http://www.nextgenscience.org

Peters, J. M., & Stout, D. L. (2011). *Science in elementary education: Methods, concepts, and Inquiries* (11th ed.). Boston: Pearson.

Shillady, A. (ed.) (2013). *Spotlight on young children: Exploring science*. Washington, DC: National Association for the Education of Young Children.
http://www.doe.virginia.gov/testing/sol/standards_docs/index.shtml

Virginia Department of Education. (2010). Science standards of learning.
http://www.doe.virginia.gov/testing/sol/standards_docs/index.shtml

Virginia Department of Education. (2010). Science curriculum framework.
http://www.doe.virginia.gov/testing/sol/standards_docs/index.shtml

Access Blackboard for required and optional class readings.

Course Performance Evaluation
Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, VIA, hard copy).

Assignments	Due Dates	Points
Attendance and Participation • Self-Evaluation	Ongoing July 20	**25**
Personal Journal • Part 1 • Part 2	 June 3 July 20	**10** 5 5

Science Activity Share	Variable	**15**
Enriching Science Inquiry with Literature • Literature Chart • Google Share: Pairing non-fiction and fiction science texts	 June 15 June 15	**10** 8 2
6E/PBL Lesson Plan	July 1	**15**
Online Science Lesson Implementation and Reflection • Part 1: Planning the Lesson • Part 2: Collecting Data • Part 3: Reflecting on the Lesson & Link to Video Recorded Lesson	 July 8 July 15 July 15	**25** 10 5 10
TOTAL		**100**

- **Assignments and/or Examinations**

NOTE: With exclusion of the personal journal, each of the major assignments for this course should focus on a <u>different</u> science area: physical science, life science, earth/space science, or engineering (i.e., no two assignments should focus on the same area.)

Personal Journal (Part 1=5 points; Part 2=5 points)
Part 1: To initiate class experiences, students will write a critical reflection on their personal experiences as a learner of science (2 pages). They will use the following prompts to help guide their reflection process.

- Begin with your earliest memories (give examples) and reflect until the present as a graduate student in a teacher preparation program.
- Reflect on your experiences in school, out of school, in the context of your family, etc.
- How do you think your social, cultural, and economic background played a role on your experiences as a science learner?
- How do you see yourself as a science learner?
- Why do you think you feel that way?
- How do you think these experiences will shape you as a teacher of science? In other words, what positive impacts or challenges on your teaching practice do you foresee from your prior experiences or self-conception?

Part 2: In conclusion of the course, students will revisit their initial thoughts in their first journal entry and reflect on how their thoughts and/or self-conception have changed, if at all (2 pages). They will use the following prompts to help guide their reflection process.

- What have you learned in the course?
- Do you view yourself as a science learner differently than you did before?
- Is there a concept you learned in the course that really stuck out for you? (Include references to course readings, as necessary.)
- Is there a particular reading, handout, or material from class that you found particularly helpful or eye-opening? (Include references to course readings, as necessary.)
- Articulate the kind of early childhood science teacher you plan to be. Will something you

learned in the course be included in your guiding principles?

Science Activity Share (15 points)
Students will choose a science content area from the four core science areas, including Earth sciences, biology, chemistry, and physics, during the first class in which to present an activity. Three students will sign up per content area: one person will focus on PreK, one on K-Grade 1, and one on Grades 2-3. Individual students will prepare a lesson plan using the template provided and lead a 15-minute informative and interactive activity that actively engages students in learning in their science content area.

Before the science activity share, students will post all share materials (lesson plan, resources) on Blackboard under Discussion Board. During the Activity Share, each student will include the following in a manner that is easy to see in the online space (integrating PPT slides is encouraged):

- An overview of the topic, including the key ideas or content and the importance of the topic to students' science learning
- An overview of relevant state and national content standards at the appropriate grade level(s), noting consistencies (or inconsistencies, if the case may be)
- A description of classroom and behavior management strategies that would increase the effectiveness of the implementation of the activity and contribute to creating and maintaining a safe environment
- Materials appropriate to the activity (use items that you can readily find around a home; list alternative materials in case students do not have certain materials at home; as much as possible, materials should be visually attractive and engaging for young learners)
- Model and explain the science concept (picture books are good to integrate; please do not use a video to teach for you; videos can be listed as additional resources)
- Evidence that the student has read the course materials (i.e., relevant chapters in course textbooks, articles and presentations on Blackboard) on the science topic
- Modeling how to engage in the activity chosen for science concept. Science activity should be in-line with the type of teaching practices we are learning about in the course (e.g., hands-on with materials, not a worksheet)
- *Modeling of the science concept and activity should be role played as if student is the teacher and classmates are young learners in the class*
- Preparation for how to adapt the activity for a range of learners
- A list of at least *three resources* related to teaching the topic that could include children's literature, websites, manipulatives or materials, or other teacher resources (at least one must be a relevant developmentally appropriate picture book (a hard or electronic copy of the book is fine) and one must be an article from a practitioner journal (e.g., NSTA's *Science and Children*) on the topic)

Enriching Science Inquiry with Literature: A Focus on Reading and Writing (10 points)

- Literature Chart (8 points)
  To place the core scientific disciplines of Earth science, biology, chemistry, and physics in an appropriate interdisciplinary context, students will identify a focused science topic (e.g., ecosystems or weather) and compile a chart of at least 10 literature resources that could be used for a unit on that topic, including fiction, non-fiction, digital, and non-digital forms, that promote children's engagement in the science concept. The chart will provide a picture of the cover of the book, a brief summary of the text, identify possible literacy experience(s) for the resource (e.g., read aloud, guided reading, exploration center, research text, independent reading, as a resource to promote writing, etc.), and identify and explain possible 6E entry points for the resource (i.e., engage, explore, explain, elaborate, evaluate, e-learning). A template of the chart is available on Blackboard.

- Google Share: Pairing Non-Fiction and Fiction Science Texts (2 points)
  Similar to the NSTA *Picture Perfect Science Series*, students will select a pair of texts (one non-fiction and one fiction) from their literature chart to contribute to a Google share site to serve as a reference for peers in the class. The Google chart will require students to include the APA citations for each text, a brief description of each text, grade-level connections, scientific discipline connection (e.g., Earth science, biology, chemistry, and physics), and a discussion of why the texts complement each other in a unit of inquiry.

6E/PBL Lesson Planning (15 points)

Students will use both an **inquiry-based** (6E model) and a **problem-based** (PBL) approach to develop a detailed 6E (engage, explore, explain, extend, evaluate, e-learning/incorporate technology) lesson plan for one of the following science areas: physical science, life science, chemistry, Earth/space science, or engineering as defined by *Virginia's Foundation Blocks of Early Learning*, the *Virginia Science Standards of Learning*, and the *Next Generation Science Standards*. They will develop a creative and engaging PBL challenge that they will integrate throughout the lesson plan (examples will be shared during class). Students will integrate questioning, curiosity, and active engagement with real materials in the lesson whenever possible. Students will include plans for classroom and behavior management and building community. They also will include how they will create and maintain a safe environment. They will use the lesson plan format provided by the instructor. In addition, students will develop the student sheets and any other supporting materials needed for their lesson. Students will create an assessment of student learning for their lesson and a rubric for the assessment.

Online Science Lesson Implementation and Reflection (25 points)

Due to the Coronavirus pandemic, schools across the country closed last spring forcing teachers to shift learning to alternative and online. In an effort to make learning in the course relevant and meaningful, this assignment is to convert a science lesson to a video-recorded asynchronous learning experience. Students will choose a developmentally appropriate science lesson in one of the four core science areas as defined by *Virginia's Foundation Blocks of Early Learning*, the *Virginia Science Standards of Learning*, and the *Next Generation Science Standards*. Resources for high quality science lessons will be shared on Blackboard, in addition to those included in the

course textbooks. The lesson can be for any target grade level between PreK to third grade. The recorded lesson should be between 8 to 15 minutes (not to exceed 15 minutes). *The recorded lesson should sound as though the student is speaking to children who are the age of your target audience, not a class of adult learners*. Visuals should be presented in a manner that is easy to see in the online space (integrating PPT slides is encouraged). Background information about the lesson, learning standards, and modifications for the lesson should be included in the lesson plan. Partners will act as sounding boards, review the recorded lesson, suggest modifications, and take reflective notes that he/she will share with his/her partner. Students will submit a link to their video-recorded lesson and written reflection in three parts.

- ***Planning the Lesson (10 points).*** The first part of the reflection will be due before the experience and will include how the lesson was selected; a list of relevant standards; how course readings support the selection of the lesson plan and plans to teach; what adaptations were made, if any, to the lesson plan and why; how students prepared to implement the video-recorded lesson: and what they will have the children submit to show their learning (e.g., a photo journal, a creative packaging for what they will make, a written reflection about the experience). Students will include tips for maintaining a safe environment for their target audience. In this part, students will be assessed on their preparation of the necessary materials for the video-recorded lesson (think about what materials children, and you, have access to at home). They will prepare a list of alternative materials. Partners will write and submit this reflection individually, but should work supportively and collaboratively. (2 to 3 double-spaced pages)

- ***Collecting Data (5 points).*** The second part of the reflection will be due before the experience and will include (a) a statement about ethical considerations as they plan for data collection and (b) a plan for collecting quantitative and qualitative data, including the "assignment" or student work that the young learners will turn in for evaluation (e.g., on Google Classroom). Partners will develop a teacher's checklist to be used to collect data about the children's learning. Partners will write and submit this part individually, but should work supportively and collaboratively. (1 page double-spaced, plus the created teacher's checklist)

- ***Reflecting on the Lesson (10 points).*** The third part of the reflection will be due with a link to the video-recorded lesson (e.g., a link can be generated from any number of platforms, including YouTube, OneDrive, Google Drive, etc.) and will include a reflection on how the lesson went (what went well, what could have been done differently/better for next time), key learnings, and "aha" moments. Students will provide specific linkages to course readings examined for the inquiry to show how evidence-based practices were used. They will conclude the reflection by providing recommendations for next steps to this science lesson for supporting children's understanding of the science concept and extending their learning. Partners will engage in reflective discussions about the implementation of the video-recorded lesson, but will submit written reflections independently. (3 double-spaced pages)

- **Other Requirements**

Attendance and Participation (25 points)
Because active participation and engagement are imperative for optimal learning, preparation for and participation in in-class and online activities will be evaluated based on the following criteria:

- Students attend class, arrive on time, and stay for the entire class period.
- Students notify the instructor by email in the case of an absence.
- In the case of an absence, students will view the recorded class session and submit a 2-3-page written reflection of the content covered (including course readings and content on Blackboard). Reflection is due within 1 week after an absence.
- Students use laptops and personal devices for instructional purposes only.
- Students complete readings and prepare for class activities prior to class as evidenced by their ability to discuss and write about the concepts presented and examined in the texts as well as participate fully in related activities.
- Students are actively involved in in-class and online learning experiences as evidenced by (a) participating in all activities, (b) engaging in small- and large-group discussions, (c) completing written work related to the activities, and (d) supporting the participation and learning of classmates.
- Students show evidence of critical reflective thinking through in-class and online discussions, activities, and written reflections.
- Students display professional dispositions at all times while interacting with the instructor and other students.
- Students complete participation activities across the semester that complement the scheduled course topic. Instructors will periodically collect artifacts from the activities. Students in attendance and who actively engage in the learning experience will receive credit for their efforts. Graded participation activities are not announced and are implemented at the discretion of the instructor.
- Students submit attendance and participation self-evaluation.

Written Assignments
All formal written assignments will be evaluated for content and presentation. The American Psychological Association, Seventh Edition (APA) style will be followed for all written work. All written work unless otherwise noted must be completed on a word processor and should be proofread carefully. (Use spell check!) If students are not confident of their own ability to catch errors, they should have another person proofread their work. When in doubt, they should check the APA manual. Students may consult the Writing Center for additional writing support.

Students will do the following:

1. Present ideas in a clear, concise, and organized manner. (Avoid wordiness and redundancy.)
2. Develop points coherently, definitively, and thoroughly.
3. Refer to appropriate authorities, studies, and examples to document where appropriate. (Avoid meaningless generalizations, unwarranted assumptions, and unsupported opinions.)
4. Use correct capitalization, punctuation, spelling, and grammar.

5. Type the paper with double spacing, indented paragraphs, 1-inch margins all around, and 12-point Times New Roman font.

- **Grading**

A = 95-100 A- = 90-94 B+ = 87-89 B = 80-86 C = 70-79 F = <70
Incomplete (IN): This grade may be given to students who are passing a course but who may be unable to complete scheduled coursework for a cause beyond reasonable control.

All CEHD students are held to the university grading policies as described in the Academic Policies section of the current catalog, which can be accessed at http://catalog.gmu.edu. Those students seeking Virginia initial teaching licensure must earn a B- or better in all graduate licensure coursework.

Professional Dispositions
Students are expected to exhibit professional behaviors and dispositions at all times. See https://cehd.gmu.edu/students/policies-procedures/.

Class Schedule

Date	Topics	Readings & Assignments
Week 1		
Jun 1	Four Core Science Disciplines • Earth sciences, biology, chemistry, physics • Understanding of the nature of science and scientific inquiry Foundations for Teaching Science in Early Childhood Education for Diverse Young Learners Classroom, Field, and Laboratory Safety • Rules and procedures • Ensuring students take appropriate safety precautions	Peters & Stout, Chapter 1 Reading on Blackboard: *Wonder as a Tool to Engage PSE Teachers in Science Learning and Teaching*
Jun 3	Role and Nature of Theory • Explaining events and phenomena, including learning theories undergirding pedagogical approaches for teaching science	Peters & Stout, Chapter 2 Spotlight on Science, pp. 2-10 Reading on Blackboard: *Engaging in Inquiry-Based Instruction and Using the 5E Model*

	Contribution and Significance of Science • Social, cultural, and economic significance Role of Family and Community Knowledge, Experience, and Resources in Planning and Implementing Science Content	**Due to Bb by 6/3 – Personal Journal Part 1**
Week 2		
Jun 8	Historical Development of Scientific Concepts and Scientific Reasoning Knowledge, Skills, and Practices for Conducting an Active Early Childhood Science Program Application of Key Science Principles to Solve Practical Problems • Problem-based learning (PBL) Standards • Virginia standards *(Virginia's Foundation Blocks for Early Learning: Comprehensive Standards for Four-Year-Olds, Virginia Science Standards of Learning)* • National standards (*Next Generation Science Standards*)	Peters & Stout, Chapter 3 Spotlight on Science, pp. 55-60, 72-73 Review National (NGES) and State (VASOL) Science Learning Standards <u>Readings on Blackboard:</u> *Weather Tamers* *Modeling Problem-Based Instruction*
Jun 10	Integrating the Four Core Scientific Disciplines Across Content Areas • Integrate processes and crosscutting concepts in an appropriate interdisciplinary context • Relationship of science to mathematics, design process, and technology	Spotlight on Science, pp. 48-54 & 68-71 <u>Readings on Blackboard:</u> *Learning About Plants with STEAM* *Artists and Scientists: More Alike Than Different*
Week 3		

Jun 15	Formative and Summative Assessments of Student Learning Practices Required for Empirical Answers to Research Questions • data collection and analysis, modeling, argumentation with evidence, contracting explanations	Peters & Stout, Chapter 4 <u>Readings on Blackboard:</u> *Performance-Based Assessments in Science* *Role of Documentation in Reggio Emilia* **Due to Bb by 6/15 – Enriching Science Inquiry with Literature**
Jun 17	Application of Key Science Principles to Solve Practical Problems Reliability of Scientific Knowledge • scrutiny, refinement, and self-checking mechanisms • objectivity, such as peer review • assumptions, influencing conditions, limits of empirical knowledge Science Learning in Out-of-School Time Virtual Field Trip to Children's Science Center (date to be confirmed)	Peters & Stout, Chapter 5 <u>Reading on Blackboard:</u> *Identifying and Supporting STEM Programs in Out-of-School Settings*
Week 4		
Jun 22	Plan Instruction on Earth Science, Biology, Chemistry, and Physics • Using the goals of the *Virginia Standards of Learning* and the National Science Standards • Using variety of instructional technology to support learner competence Summer Solstice and Stonehenge Inquiry-Based Approach to Teaching Science • 5E/6E model	Peters & Stout, Inquiry Unit 1 Spotlight on Science, pp. 41-47, 61-67 <u>On Blackboard:</u> Review Physical Science PowerPoint presentations **Science Activity Share – Physical Science I**

Jun 24	Core Science Discipline: Physics and Chemistry Research Projects and Experiments Classroom and Field Safety Rules and Procedures	Peters & Stout, Inquiry Unit 1 Spotlight on Science, pp. 29-35 <u>On Blackboard:</u> Review Physical Science PowerPoint presentations **Science Activity Share – Physical Science II**
Week 5		
Jun 29	Evaluate, Select, and Adapt Instruction and Materials to Meet the Needs of Diverse Learners Science Inquiry Invitations for Family Explorations	Peters & Stout, Chapter 6 Spotlight on Science, pp. 55-60 <u>On Blackboard:</u> Review Life Science PowerPoint presentations <u>Reading on Blackboard:</u> *Science Success for Students with SpecialNeeds* **Science Activity Share – Life Science I**
Jul 1	Core Science Discipline: Biology Engaging Diverse Young Learners in Science Experiences • Field investigations using school grounds, the community, and regional resources: Mason Apiary (guest lecturer: German Perilla) • Science activities using scientific process: describing, analyzing, using quantitative methods for findings • Knowledge, skills, practices to conduct research projects and experiments	Peters & Stout, Inquiry Unit 2 Spotlight on Science, pp. 11-16, 23-28 <u>On Blackboard:</u> Review Life Science PowerPoint presentations <u>Reading on Blackboard:</u> *Teaching with Play-An Introduction to Environmental Stewardship for Preschoolers* **Due to Bb by 7/1 – 6E/PBL Lesson Plan** **Science Activity Share – Life Science II**
Week 6		
Jul 6	NO CLASS Happy July 4th!	

Jul 8	Design Process and Engineering	Peters & Stout, Chapter 7 Spotlight on Science, pp. 36-40, 55-60 <u>On Blackboard:</u> Review Engineering PowerPoint presentations <u>Reading on Blackboard:</u> *They Can't Spell Engineering but They Can Do It* **Due to Bb by 7/8 – Science Lesson Reflection (Parts 1 & 2)** **Science Activity Share – Engineering**
Week 7		
Jul 13	Core Science Discipline: Earth Science	Peters & Stout, Inquiry Unit 3 Spotlight on Science, pp. 61-67 <u>On Blackboard:</u> Review Earth Science PowerPoint presentations **Science Activity Share – Earth and Space Science I**
Jul 15	Core Science Discipline: Earth and Space Science Professional Development in Support of Inquiry	Peters & Stout, Chapter 8 Spotlight on Science, pp. 77-80 <u>On Blackboard:</u> Review Space Science PowerPoint presentations <u>Reading on Blackboard:</u> *Representation of the Moon in Children's Literature* **Due to Bb by 7/15 – Science Lesson Reflection (Part 3)** **Science Activity Share – Earth and Space Science II**

Week 8		
Jul 20	Computer Science in the Early Childhood Classroom Technology to Enhance Student Performance in Science Evaluating Instructional Materials, Technologies, and Teaching Practices Self-Reflections on Filling the Role of Science teacher for Diverse Young Learners	Reading on Blackboard: *Computer Science Unplugged: Second Grade Students Design a Puppy Playground Using Computational Thinking* **Due to Bb by 7/20 – Personal Journal Part 2** **Due to Bb by 7/20 – Attendance and Participation Self-Evaluation**

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

Core Values Commitment
The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: http://cehd.gmu.edu/values/.

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see https://catalog.gmu.edu/policies/honor-code-system/).
- Students must follow the university policy for Responsible Use of Computing (see https://universitypolicy.gmu.edu/policies/responsible-use-of-computing/).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see http://ds.gmu.edu/).
- Students must follow the university policy stating that all sound emitting devices shall be silenced during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to Tk20/VIA should be directed to tk20help@gmu.edu or https://cehd.gmu.edu/aero/tk20. Questions or concerns regarding use of Blackboard should be directed to https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/.
- For information on student support resources on campus, see https://ctfe.gmu.edu/teaching/student-support-resources-on-campus.

Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking: As a faculty member, I am designated as a "Responsible Employee," and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason's confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-380-1434 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance from Mason's Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

For additional information on the College of Education and Human Development, please visit our website: http://cehd.gmu.edu.