

**GEORGE MASON UNIVERSITY  
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT  
GRADUATE SCHOOL OF EDUCATION  
Elementary Education Program**

**EDCI 553.001: SCIENCE METHODS FOR THE ELEMENTARY CLASSROOM**

**Fall 2016**

**Tuesdays 4:30 – 7:10**

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**Office Hours:** Anytime by appointment  
**Office:** 1404 Thompson Hall  
**Course Location:** 2020 Thompson Hall

**This course is only open to students in the Elementary Education program.**

**COURSE DESCRIPTION**

**A. Prerequisites/Corequisites**

Admission to the Elementary Education program.

**B. University Catalog Course Descriptions**

Develops skills and abilities in science teaching methods, applications of technology, safety practices, and creation of integrated science curricula. Examines science teaching based on contemporary theory, practice, and standards. Prerequisite(s): Admission to elementary education licensure program.

**Notes:** Requires field experience in public schools.

**C. Expanded Course Description**

The primary goal of this course is to provide you with practical experience, theoretical background, and pedagogical skills that will allow you to be successful in your future career. To this end, there will be two main themes stressed over the duration of the course: 1) to facilitate the development of pedagogical approaches to inquiry-based teaching practice, and 2) to develop confidence and understanding for science and health content. With respect to content, the course will develop your background knowledge with the goal of successful teaching in an elementary science context, meaning that you will need to have a solid understanding of large-scale science topics beyond what is expected of elementary children. The course will also consider the intersection of science, self and society to investigate elements of health related content such as human body systems, nutrition, emotional health, as well as conceptions of gender and identity.

Most children come to school with a keen interest in the world around them, but often by the end of elementary school only a small percentage of students have retained this interest in science content. This is generally attributed to the ways in which “school science” often ignores the beauty and joy that can come from engaging with science and connecting scientific understanding to the everyday experiences of children. Consequently, we will conceptualize science as a verb where we are consider our *wonders*, *build new knowledge* and *discover* as opposed to the memorization of 'science facts.' For this reason, we will utilize constructivist approaches to learning and those approaches should help you scaffold science content that is

too often presented as an exercise in the acquisition of vocabulary.

This course plans to provide opportunities for students to enjoy and embrace the ideas that make us wonder about the world and our role within it. In many respects, science can be intimidating to learn in the ways it is presented in schools, media and the general public. Our goal is to unpack those social constructions of science to present science in a more realistic light where scientists are presented as humans struggling to better understand the world (just like the rest of us) as opposed to omnipotent, infallible heroes that society and textbooks wish to portray. This class experience is merely a first step in your evolution toward becoming the kind of educator you wish to be. Lastly, you will be required to bring your curiosity to class for each session. Please make sure to nurture and feed it as we move through our work together.

## **LEARNER OUTCOMES**

This course will enable students to:

- A. Build pedagogical content knowledge base in science and health through inquiry-based investigation
- B. Conceptualize core principles regarding the Nature of Science, ie. how wonder, creativity experimentation, and evidence frame scientific thinking
- C. Develop lesson plans demonstrating inquiry-based principles in science and health education including the incorporation of technology
- D. Demonstrate age-appropriate safety standards when designing hands-on classroom experiences
- E. Examine science and health curricula and methods with respect to “Science for All” and standards documents at local, state, and national levels
- F. Develop viable assessment tools for science and health contexts

## **KEY PROFESSIONAL STANDARDS ADDRESSED FOR PBA ASSESSMENTS**

**INTASC:** *Interstate Teacher Assessment and Support Consortium*, Model Core Teaching Standards

**#4. Content Knowledge.** The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make the discipline accessible and meaningful for learners to assure mastery of the content.

**#5. Application of Content.** The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

**#6. Assessment.** The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher’s and learner’s decision making.

**#7. Planning for Instruction.** The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

**#8. Instructional Strategies.** The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

**ACEI:** *Association for Childhood Education International* - Standards for elementary level teacher preparation:

**1.0 Development, Learning, and Motivation**--Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students' development, acquisition of knowledge, and motivation.

**2.2 Science**— Candidates know and understand fundamental concepts of physical, life, and earth/space sciences as delineated in the National Science Education Standards. Candidates can design and implement age-appropriate inquiry lessons to teach science, to build student understanding of personal and social applications, and to convey the nature of science. (INTASC #1 Subject Matter Knowledge)

**2.6 Health education**— Candidates know, understand, and use the major concepts in the subject matter of health education to create opportunities for student development and practice of skills that contribute to good health. (INTASC #1 Subject Matter Knowledge)

**3.1 Integrating and applying knowledge for instruction**— Candidates plan and implement instruction based on knowledge of students, learning theory, connection across the curriculum, curricular goals, and community. (INTASC #7 Planning)

**#4.0 Assessment for Instruction** -- Candidates know, understand and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.

**Technology (ISTE NETS):** *International Society for Technology in Education / National Educational Technology Standards*

**Standard I.** Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

## **COURSE DELIVERY**

Face to face, 100%

## **REQUIRED TEXTS & READINGS**

Bryson, B. (2004). *A short history of nearly everything*. New York, NY: Broadway Books  
(Any edition is fine...just don't but the abridged version...)

Other required readings will be provided via electronic chapters via Blackboard.

Articles and other materials will be provided throughout the course.

### **Optional Texts:**

Board of Education, Commonwealth of Virginia (2010). *Standards of learning for Virginia Public Schools: Science* Available online:

[http://www.doe.virginia.gov/testing/sol/standards\\_docs/science/complete/stds\\_sciencek-12.doc](http://www.doe.virginia.gov/testing/sol/standards_docs/science/complete/stds_sciencek-12.doc)

Board of Education, Commonwealth of Virginia (2008). *Standards of learning for Virginia Public Schools: Health*. Available online:

[http://www.doe.virginia.gov/testing/sol/standards\\_docs/health/complete/stds\\_healthk-10.doc](http://www.doe.virginia.gov/testing/sol/standards_docs/health/complete/stds_healthk-10.doc)

## **COURSE ASSIGNMENTS/ASSESSMENTS**

### **1. Wonder Project [Course outcomes: A & B] 10%**

Think about the science that you see in the everyday. Ask yourself questions, feel the movements and forces while you drive, look at the sky, watch your pet, engage with another human, think about your place in this world, go for a long walk and just think...no phone, no worries, just get lost in your thoughts. Remember this is homework so you have an excuse. After you have engaged with some of these and spent some time with your thoughts, **craft a list of 25 things you wonder about in relation to science and include at least one image that can be shared with the class.** There are no real rules here. Your wonders are yours and unique to how you envision the world around you. "Dance like nobody is watching" while you build your list. Then reflect on the list and provide a ½ to 1page (max) discussion regarding aspects we will discuss in our next class.

### **2. Longitudinal Reading Logs [Course goals: A, B, E, F] 15%**

You will analyze each reading in terms of the reading and its connection to your school site and your unit. Record these responses in your longitudinal reading log for each reading. Use the template provided in Bb. Your reflection should...

1. be completed before the class period begins on days those readings are listed in the calendar
2. be brief, yet thoughtful, and demonstrate genuine consideration of the text
3. be accessible during each class session.

These will help in the construction and support of both your science unit and differentiation plan. Complete a log for each of the following readings:

#### **Science readings posted on Bb**

Ready, Set, Science.

How to teach elem. Science. Ch. 2

Teaching Science for all children p. 5-24.

Llewellyn – Ch. 7. (5E's).

Formative assessment in Science piece

Assessment of science inquiry, ch. 4

#### **Bryson Text**

Introduction & Chapter 1 - How to Build a Universe

Chapter 2 - Welcome to the Solar System

Chapter 5 - The Stone Breakers

Chapter 6 - Science Red in Tooth and Claw

Chapter 9 - The Mighty Atom

Chapter 12 - The Earth Moves

Chapter 24 - Cells

Chapter 21 - Life Goes On

Chapter 26 - The Stuff of Life

### **3. Inquiry-Based Unit Project (PBA) [Course goals: A-F] 40%**

The goal of this project is construct and teach an inquiry-based unit within your field site. We will design this work around the 5 E model of lesson planning. The unit will entail building a detailed and well-supported narrative description for the approach that will be employed. The

five-lesson sequence will build science content understanding in engaging and dynamic ways for students within your field site and provide some key theoretical and research-based support for the content, approach and activities constructed. The unit will be comprised of the following components and scored via the rubric provided later in the syllabus as part of the TBA.

*Unit Planning document* - Outline of the 5 E approach

*Unit narrative description* - Description of the unit goals, activities (including technology) and theoretical foundations for the project including references – roughly 1,000 words.

*Five individual lesson plans* - sequenced using the 5 E's with objectives clearly aligned to Virginia Science SOL's

*Assessment description* - roughly 250 words with supporting literature describing the assessment activities used across the lesson

*Teaching Plan* - clear depiction for dates/times for teaching unit at field site (evidence of unit teaching at field site must be provided later in the semester)

*References Cited section*

#### **4. Health Unit Narrative (PBA) [Course goals: A-F] 25%**

This project is designed to engage future teachers in the possibilities that exist when considering notions related to Health in elementary contexts. These can range from ideas closely tied to biological concepts toward deeper conceptions of self and society. You are encouraged to take some risks here and push your understanding for impactful ideas with children. The mini-unit will require the following pieces:

*Unit Planning document* - Outline of the 5 E approach with associated state standards

*Unit narrative description including assessment approach* - roughly 500-750 word description of the unit goals, activities and theoretical foundations for the project; provide clear descriptions for key assessments

**One individual lesson plan** - can represent any one of the unit lessons the 5 E's with objectives clearly aligned to Virginia Health SOL's

*Technology plan* - roughly 250 word description for the incorporation of technology with respect to how you envision it impacting student learning and open spaces for creativity

*References Cited section*

#### **5. Participation [Course goals: A-F] 10%**

Success in the course is predicated on being an active participant in the learning process.

To this end, there will be a number of class-based assignments, discussions and activities over the duration of the course that will also be included in your overall participation. My expectation is that active and engaged students stand the most to gain from the approaches we will use in class. Consequently, you are expected to *be present, actively* involve yourself in class activities, and treat classmates with respect. We will intentionally unplug ourselves and engage with our thoughts and ideas while avoiding the temptation for quick answers via the Internet. I have found this approach leads to increased science confidence and builds classroom community. The hope is to create a joyful context where laughing, lively discussion, raising questions and engaging with your group members are the norm. I strongly encourage you to consider how your individual role can positively impact our time together. Also remember that this class is a two way street. If there is a topic or idea that you would like to further investigate or need additional support...bring it up in class.

**COURSE GRADING SCALE:**

Grade	GRADING	Grade Points	Interpretation
A	94-100	4.00	Represents mastery of the subject through effort beyond basic requirements.
A-	90-93	3.67	
B+	85-89	3.33	Reflects an understanding of and the ability to apply theories and principles at a basic level
B	80-84	3.00	
C*	70-79	2.00	Denotes an unacceptable level of understanding and application of the basic elements of the course
F*	<69	0.00	

Note: "C" is not satisfactory for a licensure course

"F" does not meet requirements of the Graduate School of Education

**Other expectations**

**Attendance:** It is your responsibility to attend all class sessions. You are held accountable for all information from each class session whether you are present or not. Absences must be reported to the instructor in writing (via email) before our class session begins.

**Tardiness:** It is your responsibility to be on time for each class session.

**Assignments:** All assignments are to be turned in to your instructor on time. Late work will not be accepted for full credit. If the student makes prior arrangements with the instructor, assignments turned in late will receive a 10% deduction from the grade per late day or any fraction thereof (including weekends and holidays).

**BLACKBOARD REQUIREMENTS**

**TK20/Performance-Based Assessment(s) Submission Requirement**

Every student registered for any Elementary Education course with a required TK20 performance-based assessment (designated as such in the syllabus) must submit this/these assessment(s) to Tk20 through 'Assessments' in Blackboard (*Inquiry-based Science unit* and *Health unit*). Failure to submit the assessment(s) to Tk20 (through Blackboard) will result in the course instructor reporting the course grade as Incomplete (IN). Unless this grade is changed upon completion of the required Tk20 submission, the IN will convert to an F nine weeks into the following semester.

**Professional Dispositions:**

Students are expected to exhibit professional behaviors and dispositions at all times (See Elementary Education Program Handbook).

**Core Values Commitment:**

Core Values Commitment

collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles. <http://cehd.gmu.edu/values/>

The College of Education

**GMU Policies and Resources for Students**

*Policies*

- Students must adhere to the guidelines of the Mason Honor Code (see <http://oai.gmu.edu/the-mason-honor-code/>).

- Students must follow the university policy for Responsible Use of Computing (see <http://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://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

### *Campus Resources*

- Support for submission of assignments to Tk20 should be directed to [tk20help@gmu.edu](mailto:tk20help@gmu.edu) or <https://cehd.gmu.edu/api/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursesupport.gmu.edu/>.
- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see <http://writingcenter.gmu.edu/>).
- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (see <http://caps.gmu.edu/>).
- The Office of Student Support staff helps students negotiate life situations by connecting them with appropriate campus and off-campus resources. Students in need of these services may contact the office by phone (703-993-5376). Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to <http://studentsupport.gmu.edu/>, and the OSS staff will follow up with the student.
- **For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/>.**

**PROPOSED FALL 2016 CLASS SCHEDULE  
TENTATIVE CLASS SCHEDULE**

<b>Session</b>	<b>Topic/Learning Experiences</b>	<b>Readings &amp; Assignments</b>
<b>FALL</b>	<b>Tuesdays, 4:30 PM – 7:10 PM</b>	
Tuesday, Aug. 30	<ul style="list-style-type: none"> <li>• What is Science? Nature of Science? Checks activity</li> <li>• What do you wonder about?</li> </ul>	--Begin wonder project
Tuesday Sept. 6	<ul style="list-style-type: none"> <li>• Designing simple experiments and demos</li> <li>• Teaching on the cheap</li> <li>• Water on a penny activity/motion demos</li> </ul>	<b>Wonder Assignment Due, 3:59 PM Tuesday Sept. 6th via Blackboard</b>
Tuesday, Sept 13	5E process – video highlighting process - science activity- Mystery of the cans <ul style="list-style-type: none"> <li>• How might we best teach science to children?</li> </ul>	<b>Reading due -</b> Ready, Set, Science and Llewellyn (5E's) Ch. 7
Tuesday, Sept 20	<ul style="list-style-type: none"> <li>• Unit construction</li> <li>• Writing learning objectives, planning for inquiry, Virginia SOL's</li> <li>• Physical Science – Aluminum foil boats</li> </ul>	<b>Reading due –</b> How to teach elem. Science. Ch. 2 and Teaching Science for all children p. 5-24.
Tuesday, Sept 27	<ul style="list-style-type: none"> <li>• The role of wonder in science</li> <li>• Enacting the 5E's</li> <li>• Air pressure</li> </ul>	<b>Reading Due -</b> Formative assessment in Science piece and Assessment of science inquiry, ch. 4
Tuesday, Oct. 4	<ul style="list-style-type: none"> <li>• This will be a working session to complete both the unit and progress on Bryson readings. No face to face class meeting for either section.</li> </ul>	<b>Reading Due -</b> Bryson Intro (no reading log for intro) Ch. 1 & Ch. 2
Tuesday, Oct. 11	Unit sharing, progress reports, issues/concerns <ul style="list-style-type: none"> <li>• Group brainstorming</li> <li>• 5-E lesson plans/unit thinking/wonder</li> <li>• Warm/Cold fronts - Physical/Earth Science</li> <li>• Assessing/Evaluating student learning</li> </ul>	<b>Reading Due –</b> Bryson Ch. 5 & 6 --Bring objectives, standards, and 5 E outline for your unit -- continue work developing unit plans, including dates for teaching in your field site

Tuesday, Oct 18	<ul style="list-style-type: none"> <li>• Lesson peer review and Unit Q&amp;A</li> <li>• Sound - Physical Science</li> </ul>	--Bring a draft lesson from unit for peer review --continue work on assignments
Tuesday, Oct 25	<ul style="list-style-type: none"> <li>• Brief updates regarding Bryson progress</li> <li>• Earth History - Earth Science</li> <li>• Forces - Paper planes / data collection/fair testing</li> </ul>	--Unit Due...turn in via Blackboard by 4 PM <b>TUESDAY OCT 25</b>
Tuesday, Nov. 1	<ul style="list-style-type: none"> <li>• Return units and articulate action plan for carrying out in schools</li> <li>• Fossils - Earth Science/Biology</li> <li>• Optimizing materials and building a science program</li> </ul>	<b>Reading Due -</b> Bryson Ch. 9 & 12
Tuesday, Nov 8	<ul style="list-style-type: none"> <li>• Seasons - Earth Science</li> <li>• Sun, Moon and Earth - Earth Science</li> </ul>	<b>Reading Due -</b> Bryson Ch. 21 & 24
Tuesday, Nov 15	<ul style="list-style-type: none"> <li>• Life cycles, ecosystems - Biology</li> <li>• Introduction of Health and intersection with Biology</li> </ul>	<b>Reading Due -</b> Bryson Ch. 26
Tuesday, Nov 22	<ul style="list-style-type: none"> <li>• Food chains - Biology</li> <li>• Nutrition - Health (Co-taught with Deanna Lavanty - Registered Dietitian)</li> </ul>	--Begin conceptualization and topic for health unit
Tuesday, Nov 29	<ul style="list-style-type: none"> <li>• Constructions of gender - Health</li> <li>• Group discussion surrounding Health SOL's</li> <li>•</li> </ul>	--work on health unit
Tuesday, Dec 6	<ul style="list-style-type: none"> <li>• Body systems - Health</li> <li>• peer to peer discussions regarding health units</li> <li>• Last day of class... Q&amp;A on health unit</li> <li>•</li> </ul>	--work on health unit
Tuesday, Dec 13	<ul style="list-style-type: none"> <li>• Exam week...no class meeting... Health unit due</li> </ul>	<b>--Health Unit Narrative due Tuesday, Dec. 13 by 11:59 pm via Blackboard</b>

## ASSESSMENT RUBRICS:

*Rubric for EDCI 553's PBA: Unit Projects (You must earn at least 2 for all items or you will be required to resubmit)*

### **PBA TASK 1: Science Unit Rubric (40% of total grade)**

Assessment Summary: The project is meant to facilitate your understanding for the design and teaching of an inquiry-based science unit. This will require research into both inquiry-based lesson planning and science content. The goal is bring powerful learning theory to life in classrooms and design science experiences that both excite and engage elementary children.

<b>Description and standard addressed</b>	<b>Exceeds Expectations – 3</b>	<b>Meets Expectations – 2</b>	<b>Does Not Meet Expectations – 1</b>	<b>Does Not Meet Expectations – 0</b>
<b>A. Lesson Framework (pedagogical process &amp; procedure, narrative description)</b>  INTASC: # 8 ACEI: #1.0  (10 pts)	Utilizes inquiry-based lesson model (5E's), clearly describes pedagogical process that embodies inquiry. Clearly described, highly usable and innovative ideas with original elements; uses a myriad of excellent and well-respected sources properly referenced within narrative descriptions.	Utilizes inquiry-based lesson model (5E's), clearly describes pedagogical process that embodies inquiry. Effectively describes, usable and effective ideas; uses dependable sources that properly referenced within narrative descriptions.	Difficult to use; does not have complete components; and/or is not self-explanatory. Does not utilize reputable sources within narrative descriptions and/or more needed clarity within narrative.	No consistent format nor serious professional commitment to student needs.
<b>B. Aligned Standards, Objectives, Activities &amp; Resources</b>  INTASC: # 7; ACEI: #3.1  (5 pts)	All are student-oriented objectives and stated in observable student learning outcomes; spans all levels of student thinking; all are appropriate for the lesson. Standards, objectives and lesson activities all seamlessly align and support one another.	All are student-oriented objectives and stated in observable student learning outcomes; covers some levels of student thinking; most are clearly connected directly to lesson activities; there exists alignment between standards, objectives and activities.	A mix of student- and teacher-oriented objectives or not stated in terms of observable student learning outcomes; has only minimal levels of student thinking; has way too little or many objectives; and/or some are inappropriate for lesson. Standards, objectives and activities not clearly aligned.	Missing
<b>C. Assessment</b>  INTASC: #6 ACEI #4  (5 pts)	Innovative, well-supported assessment strategies clearly linked to objectives; demonstrates all stated objectives, copies of assessments included. Will include diagnostic, formative and summative approaches throughout the unit.	Assessment clearly linked to objectives; demonstrates nearly all stated objectives, copies of written assessments are attached. Will include diagnostic, formative and summative approaches throughout the unit.	Assessment is not clearly linked to objectives; demonstrates some stated objectives, and/or copies of written assessments are not attached. Does not include all three types of assessment.	Missing

<p><b>D. Science Content (Earth science, space science, life science, physical science)</b></p> <p>INTASC: #4 ACEI #2.2</p> <p>(10 pts)</p>	<p>Content utilized in lesson plan is accurate, complete (as defined by listed standards); incorporates innovative, exciting and scientifically accurate approaches; multiple connections are made to students everyday lives and accessible.</p>	<p>Content utilized in lesson plan is accurate, complete (as defined by listed standards); incorporates These approaches make attempts to connect to students everyday lives.</p>	<p>Content utilized in lesson plan is inaccurate in some places, key content is not addressed (as defined by listed standards); incorporates mostly scientifically accurate approaches; little effort to connect to students everyday lives.</p>	<p>Missing</p>
<p><b>E. Nature of Science and Safety</b></p> <p>INTASC Content #5 ACEI #2.2</p> <p>(5 pts)</p>	<p>Lesson supports essential enactment of science processes consistent with accepted notions of NOS. These include wonder, evidence, investigation, testing, concluding based on findings, etc. These approaches are well-supported with research literature. There also exists keen attention to issues that could arise and clearly provides appropriate safety measures.</p>	<p>Lesson supports enactment of science processes consistent with accepted notions of NOS. These include wonder, evidence, investigation, testing, concluding based on findings, etc. There also exists keen attention to issues that could arise and clearly provides appropriate safety measures.</p>	<p>Lesson tries to support enactment of science processes consistent with accepted notions of NOS, but misses on key approaches or those approaches are absent. (including wonder, evidence, investigation, testing, concluding based on findings, etc.) There is not enough attention paid to issues that could arise and do not clearly provide appropriate safety measures.</p>	<p>Missing</p>
<p><b>F. Technology Plan</b></p> <p>INTASC #5 ISTE: #I</p> <p>(5 pts)</p>	<p>Provides excellent description for technology use that connects subject matter with multiple forms technology that advance student learning through creative, and innovative ways.</p>	<p>Strong description for technology use that connects subject matter with technology approaches that advance student learning through creative, and innovative ways.</p>	<p>Description for technology lacks specifics and does not clearly offer ways to advance student learning in creative, innovative and meaningful ways.</p>	<p>Missing</p>

**PBA Task Two: Health Mini Unit Narrative (25% of total grade)**

**Assessment Summary:** The health mini-unit comes from the same philosophical positioning as the science unit; however, the focus will be squarely placed on conceptualizing your approach then actual lesson planning. That said, you will be required to identify an important health topic for upper elementary students (interpreted from the Virginia SOL's) and provide a narrative description for the unit processes. Secondly, you will need to develop one detailed lesson from the unit narrative as well as design a student resource, handout or activity in support of your lesson or other aspect the unit. Lastly, a detailed assessment plan will need to be part of the narrative discussion regarding your unit.

Description and standard addressed	Exceeds Expectations – 3	Meets Expectations – 2	Does Not Meet Expectations – 1	Does Not Meet Expectations – 0
<p><b>A. Narrative description of unit framework and lesson (structure, standards, alignment, pedagogical process)</b></p> <p>INTASC: # 8 ACEI: #1.0</p> <p>(5 pts)</p>	<p>Narrative thoroughly describes inquiry-based lesson approach (5E's or other inquiry framework), clearly describes pedagogical process that embodies inquiry that clearly aligned to standards. Lesson also provides clearly described, highly usable and innovative ideas with original elements. Uses a myriad of appropriate and available materials.</p>	<p>Describes inquiry-based lesson approach (5E's or other inquiry framework), clearly describes pedagogical process that embodies inquiry and contains usable and effective ideas that are aligned to VA state standards. Uses a myriad of appropriate and available materials. Clearly addresses safety concerns.</p>	<p>Difficult to use; does not have complete components; and/or is not self-explanatory and alignment is not clearly articulated. Does not carry out inquiry principles.</p>	<p>No consistent format nor serious professional commitment to student needs.</p>
<p><b>B. Assessment Plan</b></p> <p>INTASC: #6 ACEI #4</p> <p>(5 pts)</p>	<p>Narrative description provides powerful innovative, well-supported assessment strategies clearly linked to objectives; demonstrates all stated objectives. Will include diagnostic, formative and summative approaches throughout the unit.</p>	<p>Narrative description clearly links assessment to objectives; demonstrates nearly all stated objectives. Will include diagnostic, formative and summative approaches throughout the unit.</p>	<p>Narrative description is not clearly linked to objectives; demonstrates some stated objectives, and/or copies of written assessments are not attached. Does not include all three types of assessment.</p>	<p>Missing</p>
<p><b>C. Health Content</b></p> <p>INTASC #4 ACEI #2.6</p> <p>(5 pts)</p>	<p>Content utilized in lesson plan is accurate, complete (as defined by Virginia SOLs); and incorporates culturally relevant, challenging and innovative ideas that broaden student thinking in regards to health related content. Directly connected to students lives and experience.</p>	<p>Content utilized in lesson plan is accurate, complete (as defined by Virginia SOLs); and incorporates challenging ideas that broaden student thinking in regards to health related content. Makes an effort to connect to students lives and experience.</p>	<p>Does not address health content to create opportunities for student development and practice of skills that contribute to good health OR health content utilized is not accurate.</p>	<p>Missing</p>

<p><b>D. Technology Plan</b></p> <p>INTASC #5 ISTE: #I</p> <p>(5 pts)</p>	<p>Provides excellent description for technology use that connects subject matter with multiple forms technology that advance student learning through creative, and innovative ways.</p>	<p>Strong description for technology use that connects subject matter with technology approaches that advance student learning through creative, and innovative ways.</p>	<p>Description for technology lacks specifics and does not clearly offer ways to advance student learning in creative, innovative and meaningful ways.</p>	<p>Missing</p>
<p><b>E. Resources, materials and student handouts</b></p> <p>INTASC: #7 ACEI: #3.1</p> <p>(5 pts)</p>	<p>Sources of lesson plan and unit ideas clearly identified so that someone else could locate the sources; or originality described in detail, more than two sources used to write the lesson plan or develop student materials; uses a myriad of excellent and well-respected sources properly referenced.</p>	<p>Sources of lesson plan and unit ideas clearly identified so that someone else could locate the sources; at least two sources used to write the lesson plan and unit. Uses dependable sources that properly referenced.</p>	<p>Source of lesson plan and unit ideas not clearly identified so that someone else could locate the source and/or fails to use at least two sources to write the lesson plan and unit/ Does not fully develop student materials and/or does not properly reference sources. Lastly, does not utilize reputable sources.</p>	<p>Missing</p>