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GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
DIVISION OF ELEMENTARY, LITERACY AND SECONDARY EDUCATION

EDPD 502.6R1
Elementary Science Series: Physical Science
1 Credit Graduate Fall Semester/2015
Saturday/8:15 am – 3:45 pm
September 26, 2015 and October 3, 2015
Kelly Leadership Center
Room 2002-2004

Instructor: *Dr. Jason Calhoun*

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COURSE DESCRIPTION:

Educators will collaborate to acquire new content knowledge while exploring opportunities to adapt and adjust instructional methods to support student mastery in the elementary physical science threads. At the conclusion of this course, educators will have improved professional practice and increased content knowledge resulting in continuously improving student learning. Educators will explore a variety of learning experiences and pedagogical applications that foster student interest, the inquiry process, critical thinking, and a conceptual understanding of physical science topics.

COURSE FORMAT:

During the course, participants will engage in in-class and online class discussions, laboratory investigations, and collaborative learning.

LEARNER OUTCOMES:

Upon completion of the course, learners will be able to accomplish the following:

- Increase content knowledge of various science topics.
- Implement or design an inquiry-based laboratory investigation.
- Reflect on professional practice.

PROFESSIONAL STANDARDS:

This professional development opportunity supports Prince William County Public Schools Professional Educator Performance Standard I (Knowledge of Students), Standard II (Instructional Planning), Standard III (Instructional Delivery), Standard IV (Assessment of and for Student Learning), Standard V (Learning Environment), and Standard VI (Professionalism).

REQUIRED/SUPPLEMENTAL TEXTS AND/OR READINGS:

Provided Texts:

Inquiry Within: Implementing Inquiry- and Argument- based Science standards in grades 3-8
3rd edition Douglas Llewellyn

Answers to Science Questions from the Stop Faking It Guy! William Robertson

Supplemental readings and additional resources will be provided electronically in the course SchoolFusion website.

COURSE REQUIREMENTS, PERFORMANCE-BASED ASSESSMENTS, EVALUATION CRITERIA, AND GRADING SCALE:

The assignments for this course include personal reflections, scientific journal summaries, and implement an inquiry-based science investigation. All assignments should be written for clarity and edited carefully for grammatical errors. Use a consistent format (such as APA) for citing and listing references. All assignments should be submitted to the instructors electronically by the due date.

Participation (20%)

Attendance and active participation are vital to the successful completion of the course. You are assessed at the conclusion of each class session. Every class participant is expected to contribute to class activities and discussions.

Attendance requirements:

- Participants must attend all face to face sessions and participate in all online requirements.
- Discussion forums are asynchronous (everyone can be on at different times) but participants must meet contribution requirements
- Participants must schedule a classroom observation of teaching an investigation in a timely manner as specified by the instructor. If observations can be scheduled, alternative will be arranged with instructor.

Participation for discussion forum requirements:

- An original post between 250 words is required
- Participants must submit a 100 word respond to at least two (2) classmates
- All responses must be submitted during the assigned timeframe

Reflection/Article Summaries (20%)

Journal summary requirements:

- 100-150 word summary of the article(s)
- 12 point font, Times New Roman or Arial (or the font in Schoolfusion)
- Source cited in APA or MLA format or a copy of the article with source listed
- Summaries must be posted in the required location in the online discussion forum

Written reflection requirements: one after each class

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- 250 word reaction statement
- 12 point font, Times New Roman or Arial (or the font in Schoolfusion)
- Reactions must be posted in the required location in the online discussion forum. Focus on how you will use information and strategies learned in class in your classroom instruction and tell your opinion of activities and class discussions.

Inquiry-based Investigation (40%)

Class participants will teach an inquiry-based laboratory investigation. The investigation may be an investigation from PWCS Elementary Inquiry Handbook or you may create your own inquiry-based science investigation using the template provided by the course instructor. The course instructor will provide resources and support during the course. Participants will schedule an informal observation of investigation being implemented in the classroom or alternative arrangements will be made with the course instructor.

Requirements:

- Utilize the PWCS Elementary Inquiry Handbook investigation or use the template provided by the course instructor
- If you create your own investigation, accurately site references using APA format (*course instructor will provide examples*)
- Email course instructor the following information when scheduling observation: date, time, location, investigation title and brief description of the investigation you plan to implement
- Reflection of your learning and teaching experience. The reflection must include the following:
 - 250 word count minimum
 - 12 point font, Times New Roman or Arial (or the font in Schoolfusion)
 - Participants must submit a 100 word respond to at least two (2) classmates
- Submit 3 – 5 student work samples from the investigation delivered
- **All observations must be completed and evaluated by December 11, 2015.**

Oral Presentations/Small Group Discussions (20%)

Actively participate in a small group discussion focused on a children's storybook. The topic of the book must be content focused. Classmates will provide feedback and pose questions to engage in discussion about the selected book.

Prepare and give an oral presentation of the book you selected. **The presentation should be a summary of the book. Provide an explanation of why you selected the book and how you would integrate the text into instruction.** A time limit for the presentation will be established based on the number of class participants. The course instructor will establish the timeframe during the first class.

Presentation requirements:

- Visuals must be used to present the book, such as the book shown or a picture of the book.
- Provide information in reference to where the book can be found or purchased by others

GRADING SCALE:

- A** 95 – 100 percent
- A-** 90 – 94 percent
- B+** 85 – 89 percent
- B** 80 – 84 percent
- C** 70 – 75 percent
- F** 69 percent or below

GMU POLICIES AND RESOURCES FOR STUDENTS

- a. Students must adhere to the guidelines of the George Mason University Honor Code [See <http://oai.gmu.edu/honor-code/>].
- b. Students must follow the university policy for Responsible Use of Computing [See <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>].
- c. Students are responsible for the content of university communications sent to their George Mason University 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.
- d. 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/>].
- e. Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See <http://ods.gmu.edu/>].
- f. Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.
- g. 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/>].

PROFESSIONAL DISPOSITIONS

Students are expected to exhibit professional behaviors and dispositions at all times.

CORE VALUES COMMITMENT

The College of Education & 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/>

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website <http://gse.gmu.edu>

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Date	Topic/Learning Experiences	Readings/Assignments
<p>Session One: Saturday, September 12, 2015 (KLC Room 2002/2004) 8:00 AM – 3:45 PM</p>	<ul style="list-style-type: none"> • Course overview, objectives, expectations • Discussion on weather concepts • Weather investigation • Discussion on oceanography • Oceanography investigation 	<ul style="list-style-type: none"> • Complete a reflection of the session. • Complete all required reading assignments from textbooks and provided articles. • Find a storybook related to session topics. • Participate in discussion forum.
<p>Session Two: Saturday, September 19, 2015 (KLC Room 2002/2004) 8:00 AM – 3:45 PM</p>	<ul style="list-style-type: none"> • Discussion on geology • Geology investigation • Discussion on Earth, Moon, and Sun system • Earth, Moon, and Sun system investigation 	<ul style="list-style-type: none"> • Complete a reflection of the session. • Complete all the required discussions. • Schedule informal observation on investigation implementation. • Complete all required reading assignments from textbooks and provided articles.
<p>Office of Student Learning- Science & Family Life Education SchoolFusion website will be used for online discussion forums.</p>		