

SCE 6456

Course Offering Information

Semester: Spring 2025

Section:

Meeting Time: Wednesday 5:00 – 7:45.

Room Location: EDU 313 (Tampa Campus)

Professor Information

Name: Milton Huling, Ph.D.

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Phone: 863-(863) 320-2214 (cell) I often cannot speak on the phone, but texting works well.

Office Location: Polk State College - Lakeland Campus

Office Hours: Do office hours even apply anymore? I'm around, just call.

Course Description

This course provides content related to effective instruction in the area of Science. Course topics include: Science as Inquiry, Physical Science, and Earth and Space Science. The *Florida Standards* provide the focal point of the materials provided. Assessment probes are used as a way to evaluate student understanding of content material. Extensive reading across the content area is expected.

Course Outcomes/Objective:

- **Inquiry-Based Science Learning:** Students will demonstrate the ability to design and implement inquiry-based science lessons that align with the Florida Standards, fostering critical thinking and problem-solving skills.
- **Content Knowledge in Physical and Earth/Space Science:** Students will exhibit a deep understanding of core concepts in Physical Science and Earth and Space Science, applying this knowledge to develop standards-based instructional plans.
- **Integration of Florida Standards:** Students will analyze and incorporate the Florida Standards into science instruction, ensuring that lesson plans meet state educational requirements.
- **Application of Science as Inquiry:** Students will develop and implement instructional strategies that encourage scientific inquiry, guiding students to formulate questions, conduct experiments, and interpret data.
- **Instructional Techniques for Diverse Learners:** Students will employ varied instructional methods to accommodate diverse learning needs, including hands-on experiments, collaborative projects, and visual aids in science education.

- **REQUIRED COURSE TEXT**

- Text used for class will be provided by professor.
- Florida Science Standards. Available at <http://www.cpalms.org/Downloads.aspx>
- Electronics – Students will need access to the Internet and electronic documents during class periods. Laptops or tablets are preferred.

- **Electronic Resources:**

My personal Moodle site can be found at the following:

<https://candlelightscience.moodlecloud.com>

username: usf

password: usf*1

Attendance and Participation - Attendance is vital for receiving information, collaborating with peers, and asking questions. Attendance policies of this institution will be strictly followed.

Late Work – Assignments are due on the dates published in the syllabus.

- If the assignment is not submitted by the due date, 50% of total assignment points or grade will be deducted.
- If the assignment is not submitted within one additional week, 0 points or grade of F will be earned.
- Assignments may be submitted early but may not be reviewed by the professor until after the due date.

Classroom Presentations: Appropriate Dress Appreciated

Field Studies: N/A for this class.

Course Schedule

Course Assignments and Grading

No.*	Assignment	Codes for Outcomes/Standards	Method of Evaluation	Percentage of Final Grade
1	Class Reflection/Discussion Posts (in Canvas) Reflections to be completed every second week of class. These posts should include thoughts on class activities and impact to you as a future teacher or to your future classroom. You will make one post and respond to one other student's post	Competencies & Skills: 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8 3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8,3.9,3.10 4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 5.1,5.2,5.3,5.4,5.5,5.6,5.7,5.8,5.9,5.10,5.11	N/A	5%
2	Mini Quiz at the beginning of each class (with focus on content covered in classes supported by text). Starting after second class meeting and assigned as applicable.	Competencies & Skills: 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8 3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8,3.9,3.10 4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 5.1,5.2,5.3,5.4,5.5,5.6,5.7,5.8,5.9,5.10,5.11	Points	5%
3	Weekly hands-on activities Activities are designed to help students better understand content and provide experiences to help them reflect on activities from both a student and teacher perspective. Some of	Competencies & Skills: 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8 3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8,3.9,3.10 4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9		10%

	these activities may require student to record themselves doing and explaining the activity.	5.1,5.2,5.3,5.4,5.5,5.6,5.7,5.8,5.9, 5.10,5.11		
4	Teacher Brief & presentation Teacher candidates will prepare and present a Teacher Brief that provides evidence of understanding and application of content knowledge in a selected area of science or STEM	Competencies & Skills: 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8 3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8, 3.9,3.10 4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 5.1,5.2,5.3,5.4,5.5,5.6,5.7,5.8,5.9, 5.10,5.11	Rubric & Peer Assessment	10%
5	Weekly Reading Summaries Reflective summaries of class readings will be submitted throughout the course to illustrate understanding of key science concepts and personal insights to the learning.	Competencies & Skills: 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8 3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8, 3.9,3.10 4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 5.1,5.2,5.3,5.4,5.5,5.6,5.7,5.8,5.9, 5.10,5.11	Rubric	20% (5 points each)
6	Lesson Plan Analysis Four lesson plans will be analyzed for content, student engagement, instructional strategies, and differentiation (ESE and ESOL). Each lesson plan should be from different grade levels and science content. In other words, what is good and what can be improved upon? Our	Competencies & Skills: 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8 3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8, 3.9,3.10 4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 5.1,5.2,5.3,5.4,5.5,5.6,5.7,5.8,5.9, 5.10,5.11		20%

	source will most likely be CPALMS.			
6	Lesson Plan Creation A total of 4 lesson plans will be created, 2 lessons for a chosen topic in Earth Science and 2 for physical science.	Competencies & Skills: 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8 3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8,3.9,3.10 4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 5.1,5.2,5.3,5.4,5.5,5.6,5.7,5.8,5.9,5.10,5.11	Rubric	10%
7	Final Exam Teach lesson to the class using student prepared lesson plan.	Competencies & Skills: 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10 2.1,2.2,2.3,2.4,2.5,2.6,2.7,2.8 3.1,3.2,3.3,3.4,3.5,3.6,3.7,3.8,3.9,3.10 4.1,4.2,4.3,4.4,4.5,4.6,4.7,4.8,4.9 5.1,5.2,5.3,5.4,5.5,5.6,5.7,5.8,5.9,5.10,5.11	Rubric	5%
8	Attendance, Engagement and Participation in Class Engaging in large and small group discussions, participating in class demonstrations and projects and generally exhibiting intentional focused attention to the content and activities of the class session are elements of active participation.			15%
TOTAL				100%

Final Grade Scale

A = 93-100

B = 85-92

C = 77-84

D = 70-76

F = 69 and below

Course Schedule – As this class is learner-centered, schedule may be modified to fit the needs of the students. See the Canvas course home page for a listing of weekly topics.

Week	Topics and Concepts (may vary slightly in order to meet class needs)	Assigned Reading – to be discussed in class with accompanying activities	All assignments should be submitted online the night before that week's scheduled class.
1	Introductory activities Exploring the 5E instructional model Introduction to MOODLE .	Before meeting, read: As marked in Canvas.	5E with mirrors Light and bulb
2	What is Inquiry and Why? What is it you think you know? Sun-Moon-Earth Interaction, Galaxy	Before meeting, read: See Canvas	Water Cycle Sun-Moon-Earth Interaction, Galaxy
3	Electricity	Before meeting, read: See Canvas	Sun-Moon-Earth Interaction, Galaxy (part 2) Different constellations Electricity (Circuits and Insulators/Conductors)
4	Rocks and Minerals and Light	Before meeting, read: See Canvas	TBD
5	Energy (forms of energy, Energy Transformation	Before meeting, read: See Canvas	TBD

6	Energy (electricity and Sound)	Before meeting, read: See Canvas	TBD
7	Motion and Graphing Lesson Plan #2 – discuss in class	Before meeting, read: See Canvas	TBD
8	Magnets	Before meeting, read: See Canvas	TBD
9	Weather and Atmosphere	Before meeting, read: See Canvas	TBD
10	Static Electricity, Magnetic Fields	Before meeting, read: See Canvas	Can races, electro-magnets
11	Forces	Before meeting, read: See Canvas	TBD
12	Plate Tectonics	Before meeting, read: See Canvas	TBD
13	TBD	Before meeting, read: See Canvas	TBD
14	TBD	Before meeting, read: See Canvas	TBD
15	Begin Presentations of Teacher Brief Project/Lesson		
16	Continue Presentations of Lessons		

The College of Education CAREs

The College of Education is dedicated to the ideals of **Collaboration, Academic Excellence, Research, and Ethics/Diversity**. These are key tenets in the Conceptual Framework of the College of Education. Competence in these ideals will provide candidates in educator preparation programs with skills, knowledge, and dispositions to be successful in the schools of today and tomorrow. For more information on the Conceptual Framework, visit:

www.coedu.usf.edu/main/qualityassurance/ncate_visit_info_materials.htm

Other Policies:

- a. **ADA Statement:** *Students with disabilities are responsible for registering with the Office of Student Disabilities Services in order to receive special accommodations and services. Please notify the instructor during the first week of classes if a reasonable accommodation for a disability is needed for this course. A letter from the USF Disability Services Office must accompany this request.*
- b. **USF Policy on Religious Observances:** *All students have a right to expect that the University will reasonably accommodate their religious observances, practices and beliefs. Students are expected to notify the instructor in writing by the second class if they intend to be absent for a class or announced examination, in accordance with this policy.*
- c. **Plagiarism** is defined as “literary theft” and consists of the unattributed quotation of the exact words of a published text, or the unattributed borrowing of original ideas by paraphrase from a published text. On written papers for which the student employs information gathered from books, articles, or oral sources, each direct quotation, as well as ideas and facts that are not generally known to the public at large must be attributed to its author by means of the appropriate citation procedure. Citations may be made in footnotes or within the body of the text. Plagiarism also consists of passing off as one’s own, segments or the total of another person’s work.

Punishment for Academic Dishonesty will depend on the seriousness of the offense and may include receipt of an “F” with a numerical value of zero on the item submitted, and the “F” shall be used to determine the final course grade. It is the option of the instructor to assign the student a grade of F or FF (the latter indicating dishonesty) in the course.