COURSE INFORMATION

Class Enrollment Limits:
This course is limited to participants in the Texas Regional Collaborative for Excellence in Science Teaching (TRC) grant via Region 10 ESC and instructor permission.

Materials – Textbooks, Readings, Supplementary Readings:
All readings will be provided by the course instructor.

Course Description:
This course is designed to allow participants to experience hands-on science via student-centered, constructivist-based pedagogical design. Course content will focus on physical science topics, including force and motion, energy and simple machines. Research-supported best teaching practices to incorporate this content via journaling and technology into the classroom will also be emphasized. While the focus will be on upper elementary school classroom applications (5-8), the content and activity level differentiation will be discussed.

Student Learning Outcomes:
1. Increase conceptual knowledge in physical science including: force and motion, energy and simple machines.
2. Increase understanding of the science TEKS as pertains to above content specific areas.
3. Learn and demonstrate research-supported best teaching practices to incorporate this content via journaling and technology into the classroom.
4. Develop abilities to plan and implement inquiry-based instruction for diverse learners.
5. Develop skills in the integration of science with other content (e.g., reading and mathematics).
6. Increase participants’ capacity for instructional leadership, collaboration and mentorship of peers and collaboration with members of scientific community.

COURSE REQUIREMENTS

**Instructional / Methods / Activities Assessments**

**Field Trip Participation:** (20 possible points)
- This course requires participation in 1 or more day(s) of field locations in the Dallas Metroplex Area to learn real-world physical science content applications.
- Field trips may involve walking on uneven surfaces, steep slopes, high grass, rocks, hills, etc. *If you have a physical condition that might cause you difficulty, please let me know in advance.*
- Information about field experiences will be provided and discussed prior to the trip day.

**Class Participation and Activities:** (30 possible points)
- During class meetings and field trips, students are expected to actively engage in various class discussions and activities, including online activities, and website investigations.
- These activities will be combined for an overall Class Participation and Activities grade.

**Homework Assignments:** (20 possible points)
There will be 3-4 homework assignments including a webquest and lab activity demo. Detailed information about each assignment’s requirements will be provided.

**Pre-test and Post-test Assessments:** (10 possible points)
Students will complete a pre- and post-test about the course content focus. The pre-test score will not affect your course grade. However, the post-test score will count as a potential 10 points. The post-test will be a “take-home” test in which notes and readings may be referenced in your answers.

**1 Virtual Field Trip or Instructional Project:** (20 possible points)
This course requires submission of a project that reflect Student Learning Outcomes numbers 1-6 (listed previously). These projects will be created as a way to enhance your science teaching content learned during this course. Detailed project guidelines will be provided and discussed during first day of class.

**Grading**
Points students’ receive from the afore described requirements will be totaled and the following course grades will be assigned: “Pass” grade for earning 70 - 100 points or “Fail” grade for earning less than 70 points.
TECHNOLOGY REQUIREMENTS

Participants may need to bring the following equipment to class during the course: a laptop computer, and a digital camera and/or video camera. Please be familiar with your personal equipment use before class. Days this equipment is needed will be announced on the first day.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

University Specific Procedures:

ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamu-commerce.edu
Student Disability Resources & Services

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See Code of Student Conduct from Student Guide Handbook).
# COURSE OUTLINE / CALENDAR

Meeting Schedule: (Dates, Times and Locations subject to change.)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>7/12 Th</td>
<td>Course Overview &amp; Pretest Discussion</td>
<td>MPLX 9:00-3:00</td>
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|       | Physical Science Content Overview:  
|       | • TEKS content/vertical alignment within elementary, middle & high school courses.  
|       | • STAAR updates and overview | |
|       | Physical Science Apps and websites. | |
|       | Slate Training in afternoon | |
| 7/13 F | Interactive Journaling in Science | MPLX 9:00-3:00 |
| 7/16 M | Force & Motion Concepts | MPLX 9:00-3:00 |
| 7/17 T | Energy & Simple Machines Concepts | MPLX 9:00-3:00 |
| 7/18 W | Physical Science Concepts in Everyday Life  
| | Introduce Technology Project  
| | Amusement Park Applications (pre-field trip info) | MPLX 9:00-3:00 |
| 7/19 Th | Field Trip: Six Flags Over Texas | 6 Flags 10:00-5:00+ |
| 7/23 M | Applications into Science Classrooms  
| | • Lab Activities  
| | • Technology Project | MPLX 9:00-3:00 |
| 7/24 T | Bringing it All Together  
| | • Post Test  
| | • Technology Presentations | MPLX 9:00-3:00 |