ELED 558.01W Science Curriculum
Course Outline and Assignments: Fall 2012

Instructor: Dr. Joel Palmer
Office Location: Mesquite ISD, Curriculum Building.
Office Hours: Online through virtual office, any time via email or office phone.
Office Phone: 972-882-7388
Office Fax: 972-882-5511
University Email Address: jpalmer2@leomail.tamuc.edu

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings:

Textbook(s) Required:
- Ready, Set, Science! Putting Research to Work in K-8 Science Classrooms; National Research Council, 2008
- Texas Essential Knowledge and Skills (TEKS) - Science; found at: http://ritter.tea.state.tx.us/rules/tac/chapter112/index.html
- Other readings as assigned

Course Description:
An examination of current issues and trends in (science) content and pedagogy with an emphasis on inquiry instruction and learning. Development and evaluation of curriculum will ascertain how changing needs in education are being addressed.

Purpose:
To teach science content and inquiry methods; in such a way that those teaching science in elementary schools will feel confident, skilled and motivated to integrate inquiry science into the curriculum.

Student Learning Outcomes:

1. Refine ideas about and philosophy of teaching science
2. Develop an understanding of current practices in science teaching as outlined in state & national standards
3. Develop an understanding of current issues in science and related research.
4. Increase comfort level with science teaching and learning.
5. Display a high degree of professionalism by attending class and participating in all class activities.
COURSE REQUIREMENTS

(Assignments/activities are subject to change in order to meet emerging student needs)

Weekly Reading reflections – 10 points each X 14 readings
Submit a brief (1 page max) reflective paper that provides your thoughts, comments & questions about the readings. Thoughtfully discuss how these ideas may apply in your classroom situation; similar things you have seen or done in the classroom (or will try to do in your own classroom). Reflective papers will receive from 0 – 10 points. Submit in the E-College Dropbox. Points will be deducted for late assignments.

Weekly Miscellaneous Assignments – 10 points each X 14 assignments
Weekly assignments such as website reviews, mini topical reflections, science teaching reflections, etc. will be described in E-College.

Weekly Online discussion – 10 points each X 14 discussions
Actively & thoughtfully participate in the online discussion of the readings as indicated.

Student final project of choice – 80 Points
Develop and complete a project that will directly enhance the science learning in your classroom. A brief description of the potential project must be submitted via email by Sept. 12th and approved by the instructor. Possible projects include: developing inquiry-based units of study, revising existing units into inquiry-based units, locating quality children’s literature to connect with science units … Format of the project to be submitted is variable and open to allow best representation of the project.

Grading:

Grades:

<table>
<thead>
<tr>
<th>Assignment Type</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly miscellaneous assignments</td>
<td>140</td>
</tr>
<tr>
<td>Weekly online discussions</td>
<td>140</td>
</tr>
<tr>
<td>Weekly reading reflections</td>
<td>140</td>
</tr>
<tr>
<td>Final project</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
</tr>
</tbody>
</table>

Students will also self assess and will turn in an “expected grade” with a brief justification based on accomplishments in the course using the following scale. Final grade will be a synthesis of self and instructor assessment.

A = exceptional  B = commendable  C = developing  D = minimal  F = unsatisfactory
TENTATIVE COURSE OUTLINE / CALENDAR

Week 1 - Introduction to course. What is science? What is science teaching?
Week 2 - National Science Standards; TEKS; Four strands
Week 3 - Science toolkit; NSDL strand maps.
Week 4 - Science misconceptions; Learning cycle; 5 E model; Foundational knowledge & conceptual change
Week 5 - Government resources for science teaching.
Week 6 - Setting the stage for inquiry; Science process skills; Core concepts in science
Week 7 - Assessment in science; content integration.
Week 8 - Safety in the science classroom; Talk & argument; Modeling & representation
Week 9 - Implementing inquiry; Learning from investigations
Week 10 - Online simulations & learning tools.
Week 11 - Models & simulations; Myths about inquiry.
Week 12 - Science & society.
Week 13 - A system for science education
Week 14 - Online simulations & learning tools.
Week 15 - Models & simulations; Myths about inquiry.
Week 16 - Science & society.
Week 17 - Final projects due

ACCESS AND NAVIGATION

This is an online course and some obvious technological resources will be required.

As a student enrolled at Texas A&M University-Commerce, you have access to an email account via myLeo. All my emails sent from eCollege (and all other university emails) will go to this account, so please be sure to check it regularly. Conversely, you are to email me via the eCollege email system or your myLeo email as our spam filters will catch yahoo, hotmail, etc. and I will not check for your email in spam.

This course will be utilizing eCollege to enhance the learning experience, eCollege is the Learning Management System used by Texas A&M University-Commerce. To get started with the course, go to: https://leo.tamu-commerce.edu/login.aspx.
You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or helpdesk@tamuc.org.

COMMUNICATION AND SUPPORT

Texas A&M University Commerce provides students technical support in the use of eCollege. The student help desk may be reached by the following means 24 hours a day, seven days a week. If you experience issues while taking your exams or at any other point, feel free to contact the support desk.

• Chat Support: Click on ‘Live Support’ on the tool bar within your course to chat with an eCollege Representative.
• Phone: 1.866.656.5511 (Toll Free) to speak with eCollege Technical Support Representative.
• Email: helpdesk@online.tamuc.org to initiate a support request with eCollege Technical Support Representative.
• Help: Click on the ‘Help’ button on the toolbar for information regarding working with eCollege (i.e. How to submit to dropbox, How to post to discussions etc…).
Interaction with Instructor Statement:
Please use the virtual office &/or email through E-college or office phone number.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:
Science education is a hands-on subject that is challenging to transfer to an online format; therefore, some assignments will give specific instructions on the order to be completed in order for you to experience some of the learning processes appropriate for science education.

Please check E-college for announcements each time you log on.

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).