WILLIAM CAREY UNIVERSITY – TRADITION CAMPUS
DEPARTMENT OF EDUCATION
EDU 6090.80 Science in the Elementary School Summer 2012

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Class hours: Wednesday 5:00-9:00 p.m.
Class location: B113


Course Description: This course is designed to prepare educators for the delivery of science instruction at the elementary level. Instructional strategies for the delivery of both science content and process skills are reviewed with emphasis on the development of inquiry based instruction.

Student Learning Outcomes:
Students will
1. Increase their understanding of the importance of science in the elementary grades.
2. Review current practices in science education.
3. Experience a variety of approaches in teaching elementary science.
4. Develop a positive attitude toward the teaching of science through interactive lessons for elementary students.
5. Become acquainted with the instructional use of the computer in the elementary science classroom.

Course Requirements:
Each student will complete the following requirements:
1. Attend all classes, participate in all activities, discussions and writing assignments. Unavoidable illness, unusual circumstances, or an emergency resulting in a class absence should be discussed with the instructor as soon as possible.
2. Read assigned chapters from the text including related materials and documents.
3. Complete a Science Resource Portfolio following provided guidelines.
4. Develop personal goals for professional development in the classroom.
5. Complete and present a research paper that helps reach one or more of the selected personal goals.
6. Successfully complete assessments of content knowledge (mid-term and final exam, assignments, projects and assessments)
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**Statement on Academic Integrity**

William Carey University seeks to create an environment that encourages continued growth of moral and ethical values, which include personal honesty and mutual trust. The university places the highest value on academic integrity and regards any act of academic dishonesty as a serious offense. Academic dishonesty is considered unethical and in violation of William Carey University’s academic standards and Christian commitment. If such an incident occurs, students, faculty, and/or staff are obligated to initiate appropriate action. Depending upon the seriousness of the offense, sanctions could include failure of the assignment, failure of the course, and could lead to suspension or dismissal from the university. A full explanation of the procedures for responding to instances of academic dishonesty is contained in The Red Book.

**ADA Statement**

Students with disabilities who are protected by the Americans with Disabilities Act of 1990 and require special accommodations should contact Mr. Jerry Bracey at 228-702-1802. Mr. Jerry Bracey is located in the Administration Building of William Carey University - Tradition Campus.

**Disaster Plan Statement**

In the event of closure or cancellations due to natural disaster or other emergency causes, general information will be forwarded to local media, posted on the WCU website [http://wmcarey.edu](http://wmcarey.edu), and sent via automated process to your WCU student e-mail address. Specific information regarding the continuation of coursework will be posted on the university’s course management system at [https://elearning.wmcarey.edu](https://elearning.wmcarey.edu). For up-to-the-minute alerts regarding emergency situations, sign up to receive notifications through Sader Watch, the WCU emergency text message service. Sign up instructions can be found under current students on the WCU homepage.
Science in the Elementary School schedule

**Week 1 _________ Science as a Human Activity**
- What is science?
- How do children learn?
- Should the National Science Education Standards guide the way we teach?
- What is the Flow Theory?
- How do children learn best?

Overview of syllabus, special assignments and projects

**Saturday Meeting TBA: __________; Field Trip Project completed by week 7.**

Note:_______________________________________________________________

**Week 2 ________ Thinking and Learning; Integrating Science Content and Process**
- How does the way children think relate to the way children learn?
- What do educational theorists have to say about how children learn science?
- Which is more important, content or process?

**Assignments due week 2:**
1. Prepare an oral presentation on an educational theorist assigned to you as an individual or group.
2. **Article 1:** submit a written report on the teaching and learning of science for discussion.
3. Present an assigned group teaching activity (prepare materials for 5 students).

Note:________________________________________________________________

**Week 3 __________ Teaching Basic Science Skills/Teaching science as inquiry**
- What are the parts of a basic lesson plan?
- What is the teacher’s role?
- What is the student’s role?
- What is the difference between a direct instruction and an inquiry based lesson?
- Why is it important to give the student greater freedom and responsibility?
- What can we learn from watching and listening?

**Assignments due week 3:**
1. **Article 2**—submit a written report on the teaching and learning of science.
2. Present a science lesson plan (topic approved week 2)

Note:________________________________________________________________
Week 4 __________ Planning for Achieving Goals

• How do you choose a topic for a Science Unit?
• What are the steps to take in planning a science unit?
• What are the resources available for content and process skills?

**Assignments due week 4:**
1. Present a guided inquiry lesson plan on a selected topic.
2. Article 3— prepare a written report on teaching and learning science.
3. Review NSTS and finalize your personal goals as a teacher of science.

Note:________________________________________________________________________

Week 5 __________

**Promoting Independent Learning; Enhancing Instruction Through Assessment**

• Do children need to work in groups?
• What is cooperative learning?
• What is the purpose of assessment?
• What is authentic assessment?
• Is there more than one way to assess student work?
• Should all students be assessed in the same way?

**Assignments due week 5:**
1. Article 4—submit a written report on teaching and learning science.
2. Work on the development of your portfolio.
3. Research Field Trip locations related to teaching of science.
4. Midterm exam

Note:________________________________________________________________________

Week 6 __________

**Shaping the Classroom Learning Environment**

• Is making the classroom attractive important?
• What are some safety issues that we need to consider in the science classroom?
• How can we make sure that students are behaving in an appropriate manner?
• How important is praise in the science classroom?

**Including All Children in Science**

• Why is it important to be sensitive to the needs of each individual child?
• Can individual differences affect the way a child learns science?
• How do teacher expectations influence learning outcomes for all children?

**Assignments due week 6:**
1. Article 5— submit a written report on teaching and learning science.
2. Present a lesson included in your Portfolio.
3. Submit your internet site list for class activity.

Note:________________________________________________________________________
Week 7 ___________ Science Portfolio Due

Integrating Science with Other Subjects
- Why integrate?
- How do we integrate?

Assignments due week 7:
1. Teaching presentation of a science activity included in your portfolio.
2. Complete your literature list
3. Completed Field Trip Plans for portfolio inclusion.
4. Science Portfolio submitted for Portfolio Reviews

Note:________________________________________________________

Week 8 ___________ Taking Science Beyond the Classroom
- How important are field trips?
- Is there a need for environmental education?

Assignments due week 8:
1. Field Trip
2. Literature List due for class presentation.
3. Research paper
4. Final exam

NOTE: This syllabus is subject to revision due to student needs, time constraints, or other unforeseen circumstances that may arise.

TK20 Subscription Information for All Undergraduate and Graduate Students

This is a great time to be at William Carey University. The State of Mississippi and all of its institutions of higher learning are committed to advancing excellence in education on campuses and across the state’s schools. Our research expertise and well-prepared graduates will play an even larger role in leading Mississippi’s children to excellence. In order to achieve this goal, we must systematically and regularly assess our progress and use the data we collect to inform where we focus our efforts to improve. Also each graduate teacher (B.S., B.M.E, B.A, M.Ed., and Ed.S.) will employ a comprehensive portfolio tool, TK20.

To help us in this effort, we have purchased TK20, a comprehensive system that will provide all of us with a rich set of tools to manage our growth, improve our processes, and make tasks easier. The TK20 system will allow you to:

1. Build your course and performance artifacts electronically online. Your artifacts will stay with you so you can use them for years - up to 7 years upon purchase. This will be a great benefit to you as you seek to advance in your education career and build your career portfolio over time. TK20 connects to the larger world of educator across the nation.
2. Create electronic portfolios for documenting your work for presentation to faculty and prospective employers. Many school districts now expect electronic portfolios. The Mississippi Department of Education will be instituting an artifact portfolio annual review beginning in 2012 for all Mississippi educators. Instead of burdening your principal with paper artifacts, this system will allow you to store your portfolio on the internet, including test data, units, and teaching artifacts, etc.

3. Have a fully documented record of artifacts from your university classes and school.

Additionally the TK20 system will help us serve you better by providing instant data for advising and program improvement. Students are to purchase a TK20 account by going to [http://TK20.wmcarey.edu](http://TK20.wmcarey.edu) and clicking on "click here to purchase a student account", then follow the prompts. After purchasing your TK20 account, TK20 will email your log in information and further instructions.

Your TK20 Account should be activated (purchased) by the end of the second week of classes. You will then begin exploring the system and its portfolio features. Make sure to get oriented to the system and complete the assignment your instructor will use for your key assessment.

On-line training materials have been organized to orient you to TK20. To access the on-line tutorials, go to [http://TK20.wmcarey.edu](http://TK20.wmcarey.edu) and press the tutorials button.

Please contact your program manager, Ms. Amy Herchenhahn, for additional information and support (601-318-6088). Tk20 questions can be sent to Tk20@wmcarey.edu.

We do understand that a university education requires a significant investment of time and resources and we are committed to helping you achieve the greatest return on your investment. We have spent a considerable amount of time finding the best system to meet your needs and ours. As you become familiar with the system and realize its potential and benefits, I am sure that you will be pleased.

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