

## STEM Literacy Infused Curriculum Project Description

### Electronic Evidence 3:

The purpose of this assignment is to provide you with an opportunity to **use and fuse** the Big Ideas of STEM (Science, Technology, Engineering, and Mathematics), into social studies instructional strategies and materials to plan and implement a comprehensive unit for one grade level. You will select a social studies/STEM topic of study from the *North Carolina Common Core and Essential Standards* to give focus and cohesion to the five (5) STEM infused lesson plans. Be certain to include at least one of the Big Ideas of Science into the social studies theme that can be met through meaningful research-based lesson plans. The STEM strands of science, technology, mathematics, and engineering will also need to be evident within the social theme chosen. You are required to incorporate at least one children's text and other non-fiction materials which align with the social studies theme and/or STEM topic of study that heighten awareness of diversity and global connections. Additionally, you are required to demonstrate how to use technology to maximize teaching and learning. Please note that you will need to document the *North Carolina Common Core and Essential Standards Computer/ Technology* (same grade level as above) that are addressed in the five (5) lesson plans which utilize technology. The integrative nature of this project will showcase your ability to develop and deliver engaging lessons which center on the connections between a social studies theme and the STEM methodology.

#### **Unit Format:**

1. *Title Page* (1<sup>st</sup> page)-includes: the title of your unit, the grade level, your name, Education 4133, and Fall, 2012.
2. *Table of Contents*-should be numbered and include enough information to help in locating key parts of the unit.
3. *Standards and Objectives of the Unit* -The candidate must align lesson plans with objectives from the North Carolina Common Core/Essential Standards to produce a unit centered on a social studies topic infused with literacy, and STEM. The standards and objectives should be identified for each lesson.

#### A. Common Core and Essential Standards Curriculum Areas

1. Social Studies
2. Language Arts (research, non-fiction, fiction)
3. Science
4. Technology
5. Mathematics

B. Social Studies and 21<sup>st</sup> Century Skills Integration- Considers and uses a variety of research-verified approaches to improve teaching and learning. The candidate will encourage collaboration and the integration of technology, engineering, mathematics and sciences where appropriate that encourages students to analyze, compare, infer, interpret, evaluate, synthesize, and/or problem solve to enhance understanding of the social studies/ STEM topic.

4. Overview of the unit- Describes what the unit is about.

5. *STEM Use*- The unit should be STEM infused, incorporating Math, Science, Technology, and engineering concepts throughout the unit. The candidate will integrate research and non-fiction literature, which align with their social studies/STEM topic that heightens awareness of diversity

and global connections. Bloom's Revised Taxonomy questions should be included in lessons. **(All literature used throughout the unit then should be listed in the Bibliography)**

6. *Lesson Plans*- Make sure that the selected strategies and materials reflect the social constructivist philosophy (**utilizing cooperative learning strategies to enhance understanding in at least 2 lesson plans**). When writing your plans, **make sure that you write out each objective** that is addressed in the accompanying strategy. When appropriate, one instructional strategy could be used to achieve several competency objectives. Likewise, several instructional strategies could be used to achieve one competency objective. The purpose of this assignment is for you to demonstrate your understanding of the myriad ways in which many of the NCCC/ES Goals/Objectives can be easily met simply by planning meaningful, purposeful, creative, and relevant literacy infused instructional strategies for your students on a daily basis. You are encouraged to use any information gleaned from course readings, class discussions, and classroom observations to develop your STEM Infused Curriculum Project.

- Lesson plans may be written in a 5/6 E Learning cycle format (this is the STEM format), six-point, before/during/after, or other Instructor specified format. The specifications and grading criteria for each format will be handed out in class.
- Explain how you would ***assess students' learning*** as a result of participation in each instructional activity.
- You must identify and briefly describe ONE ***unique learner for that same grade level***—this information should be no more than a page in length.
- For each lesson plan, you will focus on the same unique learner you described (above) to develop appropriate **modifications** that will enable the student to meet the stated lesson objective(s) **to demonstrate your ability to effectively differentiate instruction.**
- For at least one lesson plan, you must demonstrate the ability to incorporate co-teaching strategies (to work with a special needs, English language learner, or academically gifted teacher).