

2022 STEM 4023/5023 Final Project - Remaking a Novel Study

BIG IDEA: Why are you doing this project?

1. To synthesize and document the work you have completed in your first two STEM classes (STEM 4033/5033 and STEM 4043/5023).
2. You are a STEM Champion and your future students, your future team, and the world needs to know how you will teach to inspire your students in your classroom. Think of your students looking back on you as their teacher and saying, "She/He saw something in me that no one else saw." This project will demonstrate your ability to stand out as a teacher of critical thinking, problem solving, creativity, and innovation.
3. You also need to be able to showcase yourself as an amazing teacher. Your website, resume, and detailed unit of instruction will help you highlight your skills to prospective employers.

TASK: As you prepare for your future classroom, you will develop an integrated STEM novel study (3-6) or close reading of text (K-2) unit of instruction to "remake literacy" or "hack" learning for your future students. Your unit should provide enough detail to be used during 10-15 full-days of instruction. Your focus will be on designing the environment for your students to embrace creativity and innovation through integrated STEM learning experiences that foster technological and engineering literacy.

PARAMETERS: This is an individually created work and may be developed in any creative and interactive format that can be used to highlight your skills as a future teacher, STEM Champion, innovative educator, hacker, and maker. Besides the written 10 to 15-day unit of instruction, you will develop a webpage such as WordPress, WIX, Webnode, Weebly, or Google Site that highlights your unit of instruction which can also be embedded in your resume. When writing your unit, consideration should be prioritized to what "the student will" (TSW) as opposed to what "the teacher will" (TTW).

DELIVERABLES:

1. Your project MUST include the following:
 - Multiple examples included from the following list: tinkering, designing, building, problem solving, empathy, individual student "tinkering toolbox," Laser cutter, TinkerCAD, paper engineering, 3D printing, CorelDRAW or another vector software program, maker-tech, low-tech making, creative notetaking, construction blocks, a technical procedural experiences, simple tools, a quick challenge, circuits, simple motors, _____.
 - Connections to children's literature
 - Evidence of standard integration from your chosen grade in ELA, Math, Science, Technological and Engineering Literacy, and other areas.
 - Strong explicit connections to 21st Century Skills (including community, culture, and connectivity) and persistence, motivation, perseverance, and imagination.
 - Examples of your students using your engineering design loop from Intro to STEM.
 - A deliberation showing your understanding how your unit can be adapted to another grade level
2. Your unit MUST highlight:
 - Your ability to effectively develop a creative STEM learning environment in your future classroom
 - Sample design briefs that highlight your abilities
 - Photographs and detailed descriptions of exemplary teaching models (that you will create as part of this project)
3. You MUST include how you plan to assess the learning throughout the unit:
 - traditional passive assessment, or active assessment?
 - formative assessment, or summative?
4. Your website MUST include the following components:
 - Homepage that includes information that introduces you as a 'STEM Champion'

- Updated resume with QR code that links to your website
 - A 2 - 3-minute video introduction that introduces you and the content on your website. Think of this video presentation as an “elevator speech” where you have the chance to stand out from a group of teacher applicants and to prove yourself as a STEM champion.
5. Your will final submission will be the link to your website.

Final Project Rubric

Category	Up to 25 pts.	Up to 50 pts.	Up to 75 pts.	Up to 100 pts.	Score
Reflection	<p>There is no clear focus for the unit.</p> <p>No connection to student learning is evident., or adaption to other grade levels.</p>	<p>There is some focus for the unit.</p> <p>Some connection to student learning is evident. Few details are provided about adaption to other grade levels.</p>	<p>The unit is purposeful, confident, and clearly focused. It holds the reader's attention and but lacks the relevant and technical details needed. Some details are provided about adaption to other grade levels.</p>	<p>The unit is purposeful, confident, and clearly focused. The unit makes a clear case for the importance of providing children opportunities to be creative and innovative. The unit holds the reader or viewer's attention and includes relevant details and technical specifications when needed. Contains an insightful deliberation that proves understanding of adaption to other grade levels.</p>	
	Up to 5 pts.	Up to 10 pts.	Up to 20 pts.	Up to 25 pts.	Score
Photographs, Videos, Work Samples	<p>The unit is missing photographs, videos, and work samples that could be used to demonstrate the candidate's ability to be a STEM champion in their school.</p>	<p>The unit includes few photographs, videos, or work samples that demonstrate the candidate's ability to be a STEM champion in their school.</p>	<p>The unit includes some photographs, videos, and work samples that demonstrate the candidate's ability to be a STEM champion in their school.</p>	<p>The unit includes many high quality photographs, videos, and work samples that demonstrate the candidate's ability to be a STEM champion in their school.</p>	
	Up to 5 pts.	Up to 10 pts.	Up to 20 pts.	Up to 25 pts.	Score
Resources for your website	<p>The unit includes some STEM resources.</p>	<p>The unit includes 10-15 STEM resources (including detailed descriptions) for delivering integrated STEM education.</p>	<p>The unit includes 15 - 20 STEM resources (including detailed descriptions) for delivering integrated STEM education.</p>	<p>The unit includes 20 or more STEM resources (including detailed descriptions) for delivering integrated STEM education.</p>	
	Up to 5 pts.	Up to 10 pts.	Up to 20 pts.	Up to 25 pts.	Score
Professionalism & Mechanics	<p>Written work contained many errors including misuse of vocabulary, misspellings, or grammatical mistakes. The unit did not include effective and engaging use of word choice.</p> <p>The project was not submitted electronically by the due date.</p>	<p>Written work contained several errors including misuse of vocabulary, misspellings, or grammatical mistakes. The unit did not include effective and engaging use of word choice.</p> <p>The project was not submitted electronically by the due date.</p>	<p>Written work contained few errors, vocabulary errors, misspellings, or grammatical mistakes. The unit included effective and engaging use of word choice.</p> <p>The project was submitted electronically by the due date.</p>	<p>Written work was free of errors including misuse of vocabulary, misspellings, or grammatical mistakes. The unit included effective and engaging use of word choice.</p> <p>The project was submitted electronically by the due date.</p>	

	Up to 5 pts.	Up to 10 pts.	Up to 20 pts.	Up to 25 pts.	Score
Presentation and Website	<p>The unit presentation video and website were organized in a logical and coherent sequence which the audience could follow. The presentation and website did not demonstrate knowledge of the subject, and many explanations and elaboration are needed. The intended message was missing through the presentation and website.</p>	<p>The unit presentation video and website were not organized in a logical and coherent sequence which the audience could follow. The presentation and website demonstrated some knowledge of the subject, but many explanations and elaboration are needed. The intended message was delivered.</p>	<p>The unit presentation video and website were organized in a logical and coherent sequence which the audience could follow. The presentation and website demonstrated a full knowledge of the subject, but some explanations and elaboration are needed. The presentation using the website was effective, and the intended message was delivered.</p>	<p>The unit presentation video and presentation were organized in a logical, coherent, and interesting sequence which the audience could follow. The presentation and website demonstrated a full knowledge of the subject and included explanations and elaboration—when appropriate. The presentation using the website was effective, and the intended message was clearly delivered.</p>	

Comments:

Total Points: /200