

2021 STEM 4023/5023 Final Project

STEM Champion Remaking Literacy The First Days of School

TASK: As you prepare for your future classroom, develop an integrated 10 to 15-day unit of instruction to “remake literacy” that you will begin during the first days of school. Your focus will be on designing the environment for your students to embrace creativity through the STEM experience as you 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 or Weebly site, or a video 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). Lastly, you will also present a 5minute multi-media presentation to our class.

BIG IDEA: You are a STEM Champion and your future students, your future team, and the world needs to know how you will teach to inspire creativity and innovation in your classroom! Think of your student’s looking back on you as their teacher and saying, “She saw something in me that no one else saw.”

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 experience, 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 Sills, and persistence, motivation, perseverance, and imagination.

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- 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
 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. You will submit your 10 to 15-day unit of instruction **AND** present a 5-minute multi-media presentation of your unit. Think of this 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.

Checkpoints –

March 11: Children’s books you will be using throughout the unit and the integrated standards

March 18: Outline of the entire unit (books, standards, STEM/making examples, design briefs, assessment...)