Spring 2023 - Tentative Schedule - STEM 4043/5023 Creativity and Innovation - T/TH - 9:30-10:45

***Please keep in mind that this is a tentative schedule. Please check the http://www.uastem.com website for updates.**

Week 1

Tuesday, January 17

- Introductions and Syllabus Review
  - Making and Tinkering Toolbox
- Assignment – Using Simple Tools and Materials – Catapult Design (Due – February 7)
- Reading: Introduction and Chapter 1 – STEAM Makers: Fostering Creativity & Innovation in the Elementary Classroom Imperatives – Complete reading reflection/review
- Homework: YouTube Video Introduction

Thursday, January 19

- Reading Review
- Creativity (Torrance Creativity Test), Fluency and Flexibility
- Number Sense and Measurement - Catapult Design Challenge
- Reading: Remaking Literacy - Introduction and Chapter 1 – What the Research Says – Complete reading reflection/review

Week 2

Tuesday, January 24

- Reading Review
- Remaking Literacy Final Project Discussion and Ideation
- Making and Tinkering Toolbox (cont.) – Reexamining the Paperclip
- Tool Usage and Material Selection

Thursday, January 16

- Catapult Design
- Reading: Remaking Literacy - Chapter 2 – Creative Pathways to Learning – Complete reading review

Week 3

Tuesday, January 31

- Reading Review
- Continue Catapult Design
- Making and Tinkering Toolbox (cont.)
  - Geometric Creatures as a method for storytelling
- Assignment –Geometric Creature Design Challenge

Thursday, February 2

- Using CorelDRAW & CO2 Laser – The Basics – Designing a Project to be Cut or Engraved on theVersaLASER
- Using the CO2 Laser to redesign your geometric creature to be cut on the laser
- Reading: Remaking Literacy - Chapter 3 – Thinking and Designing – Complete reading review

Week 4

Tuesday, February 7

- Reading Review
- Final Catapult Design Due – Final Presentation and Testing
- Assignment – This is Not a Box - Paper Engineering Design Challenge Assignment (Due February 16)

Thursday, February 9

- Using the CO2 Laser
- Reading: Remaking Literacy - Chapter 4 – Low Tech Making – Complete reading review
- Assignment – Create a TinkerCAD account - Working with TinkerCAD

Week 5

Tuesday, February 14

- Reading Review
- Working with TinkerCAD
- Using Cura 3D Printing Slicing Software
- 3D Printing Technology Design Challenge

Thursday, February 16

- This is Not a Box - Paper Engineering Design Challenge Presentations
- LittleBits STEAM Design Challenge – Doodle Wizard
- The Frugal Teacher STEAM Design Challenge
- Reading: Remaking Literacy - Chapter 5 – Remaking with Maker Tech

Week 6

Tuesday, February 21

- Reading Review
- LittleBits STEAM Design Challenge – The Launcher
- The Frugal Teacher STEAM Design Challenge – Development
    - Team selection/assignment
    - Project development
- 3D Printing Technology Design Challenge
- Due: Final Project Checkpoint 1 - Format selected for your website – you have selected a format and started to develop your website.

Thursday, February 23

- Frugal Teacher STEM Challenge Project Development
- Reading: Remaking Literacy - Chapter 6 – Guidance for Implementation – Complete reading review

*Thursday, February 23 - Bob Folsom Elementary STEAM Night (Contact - Landie Storlie) - Farmington – 6-8pm

Week 7

Tuesday, February 28

- Reading Review
- Frugal Teacher STEM Challenge Project Development

Thursday, March 2

***Field trip to the Amazeum (actually called an un-field trip). We will meet at the Amazeum in Bentonville from 9am-12pm.**

- Due: Final Project Checkpoint 2 - Children's books you will be using throughout the unit and the integrated standards – you have identified your text/s and selected the standards that you will integrate throughout the project.

Week 8

Monday, March 6 – Holcomb Elementary STEAM Night (Contact – Cayce Neal) – Fayetteville – 5:30–7pm

Tuesday, March 7

- Frugal Teacher STEM Challenge Project Development

Thursday, March 9

- Complete Frugal Teacher STEM Challenge Project
- Remaking Literacy Final Project Discussion and Ideation

Week 9

Tuesday, March 14

- Introduction to Magnetic Levitation Design Challenge – Moving Along the Tracks Unit
- Magnetic Levitation Design Challenge Project Development

Thursday, March 16

- Magnetic Levitation Design Challenge Project Development
- Due: Final Project Checkpoint 3 - Outline of the entire unit (books, standards, STEM/making examples, design briefs, assessment…) – you have determined the length of your unit and have developed and outline including the readings, standards, challenges/activities and potential assessments for each day (morning and afternoon).

Week 10 – Spring Break

Week 11

Tuesday, March 28

- Fabric/Sewing Design with Dr. Deaton's class

Thursday, March 30

- Magnetic Levitation Project Due - MagLev Race
- Introduction to Makey Makey and Scratch Programming

Week 12

Tuesday, April 4

- Fabric/Sewing Design with Dr. Deaton's class

Thursday, April 6

- MaKey MaKey Design Challenge Project Development

Week 13

Tuesday, April 11

- MaKey MaKey Design Challenge Presentations
- Assignment: Engineering a Play Design Challenge
- The influence of theatre experiences in academic and social and emotional learning

Thursday, April 13

- Engineering a Play Design Challenge - Storyboard and script development
- Engineering a Play - Puppet Pal Prototype Development

Week 14

Tuesday, April 18

- Engineering a Play Design Challenge – Puppet Pal Prototype Videos Due

Thursday, April 20

- Maker Tech

Week 15

Tuesday, April 25

- Maker Tech

Thursday, April 27

- Robotics, Drones, and Programming Design Challenges

Week 16

Tuesday, May 2

- Remaking Literacy Final Project Ideation

Thursday, May 4

- Remaking Literacy Final Project Ideation

May 5 – Dead Day

Final Exam – Tuesday, May 9 – 8:00 – 10:00am - Remaking Literacy Final Project Presentations