

Spring 2021 - STEM 4043/5023 Creativity and Innovation - T/TH - 9:30-10:45 - Tentative Schedule

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

Week 4

Tuesday, February 2 and Thursday, February 4

- Catapult Design Presentations and Demonstration
- Geometric Creatures Presentation
- Using <https://vectr.com/> - CorelDRAW & CO2 Laser – The Basics – Designing a Project to be Cut or Engraved on the VersaLASER
- Assignment – Set up Remote Lab Virtual Desktop - - to use CorelDRAW to redesign your Geometric Creature
 - Install VMware Horizon Client - <https://its.uark.edu/printing-labs/computer-labs/download-vmhorizon.php>
 - Go to: <https://its.uark.edu/printing-labs/computer-labs/remote-labs-virtual-desktops.php>
 - EDHP-STEM – Click on CorelDRAW
 - Things to remember
 - The first time you use your virtual desktop, it will take several minutes (15-30) to set everything up
 - When CorelDRAW opens, you can click ‘SKIP’, you do not need to create an account
 - Always log off the remote site to save your content
- Using the CO2 Laser - working to redesign your geometric creature to be cut on the laser
- Assignment – This is Not a Box - Paper Engineering Design Challenge Assignment
- Reading: Remaking Literacy - Chapter 2 – Creative Pathways to Learning – Complete reading review
- Reading: Remaking Literacy - Chapter 3 – Thinking and Designing – Complete reading review

*Children’s Engineering Conference – <https://childrensengineering.org/Convention/> - February 2-4-2021

Week 5

Tuesday, February 9 and Thursday, February 11

- Reading Review
 - Character Cards
- Using the CO2 Laser
- Continue This is Not a Box - Paper Engineering Design Challenge (Due February 16)
- Assignment – [Create a TinkerCAD account](#) - Working with TinkerCAD
- Using Cura 3D Printing Slicing Software
- [3D Printing Technology Design Challenge](#)
- Reading: Remaking Literacy - Chapter 4 – Low Tech Making – Complete reading review

Week 6

Tuesday, February 16 and Thursday, February 18

- Reading Review
- This is Not a Box - Paper Engineering Design Challenge Presentations
- LittleBits STEAM Design Challenges
- The Frugal Teacher STEAM Design Challenge (Due March 4)
- The Frugal Teacher STEAM Design Challenge – Development
 - Team selection/assignment
 - Project development
- 3D Printing Technology Design Challenge
- Reading: Remaking Literacy - Chapter 5 – Remaking with Maker Tech – Complete reading review

Week 7

February 22 – 23 – No Class – Spring Break

Thursday, February 25

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

Week 8

Tuesday, March 2 and Thursday, March 4

- Reading Review
- Frugal Teacher STEM Challenge Project Development
- Introduction to Magnetic Levitation Design Challenge (Due March 11) – [Moving Along the Tracks Unit](#)
- Frugal Teacher STEM Challenge Presentations
- Reading: Remaking Literacy - Epilogue/Appendices A-B and [Moving Along the Tracks Unit](#) – Complete reading review

Week 9

Tuesday, March 9 and Thursday, March 11

- Magnetic Levitation Project Development (Due – March 11 - MagLev Race)
- Introduction to Makey Makey and [Scratch Programming](#)
- MaKey MaKey Design Challenge Project Development
- Homework: Read Ch. 1 – Getting Started (pgs. 1-24) in the Learn to Program with Scratch book. You will need to set up a [Scratch account](#) and complete each of the activities. Then customize your game with your own Sprites and Costumes. Be prepared to demonstrate your 'pong' game to the class on Tuesday.

Week 10

Tuesday, March 16 and Thursday, March 18

- MaKey MaKey Design Challenge Project Development

Week 11

Tuesday, March 23

- MaKey MaKey Design Challenge Presentations

*International Technology and Engineering Educators Conference –
<https://www.iteea.org/Activities/Conference/ITEEA2021.aspx> - March 22-27, 2021

March 25-26 – No Class – Spring Break

Week 12

Tuesday, March 30 and Thursday, April 1

- Assignment: Engineering a Play Design Challenge
- The influence of theatre experiences in academic and social and emotional learning
- Assignment: Engineering a Play Design Challenge
- Engineering a Play Design Challenge - Storyboard and script development
- Engineering a Play - Puppet Pal Prototype Development

April 2 – No Class – Spring Break

Week 13

Tuesday, April 6 and Thursday, April 8

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

Week 14

Tuesday, April 13 and Thursday, April 15

- Maker Tech

Week 15

Tuesday, April 20 and Thursday, April 22

- Introduction to Robotics and Drones Programming Challenges
- Robotics, Drones, and Programming Design Challenges

Week 16

Tuesday, April 27 and Thursday, April 29

- Robotics, Drones, and Programming Design Challenges

April 30 – Dead Day

Final Exam

Tuesday, May 4, 2021 – 8:00 – 10:00 – Remaking Literacy Project Presentation