

STEM 5023 Creativity and Innovation in STEM Education
Spring 2015 Tuesday/Thursday Schedule
2:00-3:15 – 3:30-4:45

Weeks 1-3

Tuesday, January 13

- Introductions and Syllabus Review
- What is Technology? Reading – pgs. 2-17

Thursday, January 15

- What is creativity and innovation?
- Assignment: Read Part I of the Children's Engineering Book - pages 1-15

Tuesday, January 20

- Introduction to Children's Engineering
- The engineering notebook
- Safety in the elementary STEM lab
- Assignment: Read Part II of the Children's Engineering Book - pages 17-30

Thursday, January 22

- Using the cordless drill, drill press, miter saw, and lynx jointer
- Assignment: Read Part II of the Children's Engineering Book - pages 31-50

Tuesday, January 27

- The Standards for Technological Literacy
- Using tools (continued)
- Assignment: Read Part III of the Children's Engineering Book – Ready to Use Engineering Activities

Thursday, January 29

- Using tools (continued)
- Assignment: Read Part I of the Beyond the Basics Book – pages 1-10

Weeks 4-5-6 – MagLev Vehicle Design Challenge

Tuesday, February 3

- Moving Along the Tracks – Magnetic Levitation Unit
- Assignment: Read Part I of the Beyond the Basics Book – pages 11-23

Thursday, February 5

- MagLev Vehicle Design Challenge
- Assignment: Read Part I of the Beyond the Basics Book – pages 24-45

Tuesday, February 10

- MagLev Vehicle Design Challenge
- Assignment: Read Part I of the Beyond the Basics Book – pages 46-58

Thursday, February 12

- MagLev Vehicle Design Challenge
- Assignment: Read Part I of the Beyond the Basics Book – pages 59-94

Tuesday, February 17

- MagLev Vehicle Design Challenge
- Assignment: Read Part I of the Beyond the Basics Book – pages 95-131

Thursday, February 19

- MagLev Locomotive Race

Weeks 7-8-9 – Marionette Design Challenge

- Westward Expansion - Bad News for Outlaws
- The American Revolution - John, Paul, George, & Ben and George vs. George

Individual Module Projects – Weeks 10-16

1. Module 1 - Electronics Technology - Snap Circuits/ Little Bits

2. Module 2 - Lego Mindstorms NXT Robotics Technology

3. Module 3 - 3D Printing Technology

4. Module 4 - CO2 Laser Technology