

## Spring 2022 - STEM 4033 Introduction to STEM Education - T/TH – 4:35 – 5:50 - Tentative Schedule

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

### Week 3

#### Tuesday, February 1

- Reading Review
- The Design Loop PP
- Major Assignment 1 – Creating a Design Loop
- Template and Challenge

~~Cancelled - Wednesday, February 2 – Turnbow Elementary STEAM Night – 5:30-8:30pm~~

#### Thursday, February 3

- Challenge 5 (in-class) – Engineering Design Challenge

### Week 4

#### Tuesday, February 8

- Design Loop Presentations
- The Quick Challenge PP
- Major Assignment – Quick Challenge Project

#### Thursday, February 10

- Quick Challenge Development and Peer Review
- Weekly Reading Assignment 5 - Integrating Literacy and Engineering Instruction for Young Learners and Reading Reflection

\*Children's Engineering Conference – <https://childrensengineering.org/Convention/> - February 8-10-2022

### Week 5

#### Tuesday, February 15

- Reading Review
- Curriculum Design and Assessment PP
- Major Assignment 3 - Literature-based Curriculum Assignment
- Finding a good book – library resources – STEM lab book check-out
- Weekly Reading Assignment 6 - Writing a STEM Design Brief and [Toward Narrative-Centered Learning Environments](#) and Reading Reflection

#### Thursday, February 17

- Reading Review
- Literature-based Design Challenge Development

### Week 6

#### Tuesday, February 22

- Reading Review
- Literature-based Curriculum Development Ideas and Ideation Presentations
- Scope and Sequence PP
- Weekly Reading Assignment 7 - Performance-Based Assessment Guide and Reading Reflection

#### Thursday, February 24

- Reading Review
- Literature-based Curriculum Peer Review – submit to Blackboard

### Week 7

#### Thursday, March 1

- Reading Review
- Literature-based Curriculum Presentations
- Major Assignment 4 - Construction Blocks Curriculum Project
- Discuss working in teams on major projects
- Weekly Reading Assignment 8 - [Using Block Play](#) and [Blocks as a Tool for Learning](#) and Reading Reflection
- Challenge 6 (in-class) - Keva Maze Design Challenge and Video
- [KEVA Resources](#)

#### Thursday, March 3

- Reading Review
- Construction Block PP

- Construction Block Ideation/Guide

**Thursday, March 3– Decatur Elementary STEM Night 6:00-7:30**

### Week 8

**Tuesday, March 8**

- Construction Block Ideation

**Thursday, March 10**

We will not officially meet for class, as I will be traveling to the International Technology and Engineering Educators Conference (ITEEA) Conference (March 9-12)

Friday, March 11 – 71<sup>st</sup> Annual University of Arkansas Regional Science and Engineering Fair – contact Shawn Bell - seb010@uark.edu

### Week 9

**Tuesday, March 15**

- Construction Block Ideation
- Computer Programming and Computational Thinking
  - Scratch and Pencil Code
- Weekly Reading Assignment 9 – Computer Science in the Elementary Classroom – Preview the K-4 and 5-8 Arkansas Computer Science Standards - <https://dese.ade.arkansas.gov/Offices/ar-comp-sci-initiative/computer-science-standards-and-courses>
- Challenge 7 (at-home) - Scratch Programming and Reflection

**Thursday, March 17**

- Construction Blocks Curriculum Project Presentations

### Week 10

**No classes - Spring Break – March 21-25**

### Week 11

**Tuesday, March 29**

- Technical Procedural Problem-Solving PP
- Major Assignment 5 - Technical Procedural Curriculum
- Challenge 8 (in-class) - Teacher Geek
- Weekly Reading Assignment 10 – Writing a Technical Procedural STEM Problem

**Thursday, March 31**

- Technical Procedural Curriculum Development

### Week 12

**Tuesday, April 5**

- Introduction to Electricity - Building electrical circuits to demonstrate transfer of energy
- Major Assignment 6 - Electricity Curriculum Project
- Challenge 9 (in-class) – Paper Circuit
- Weekly Reading Assignment 9 - Chapter 1: [http://www.allaboutcircuits.com/vol\\_1/index.html](http://www.allaboutcircuits.com/vol_1/index.html)

**Thursday, April 7**

- Electricity Curriculum Project Development

**Thursday, April 7 – Center-Gamble Elementary STEM Night (TBD)**

### Week 13

**Tuesday, April 12**

- Electricity Curriculum Project Development

**Thursday, April 14**

- Electricity Curriculum Project Development

### Week 14

**Tuesday, April 19**

- Electricity Curriculum Project Presentations
- Cooperative and Collaborative Learning PP
  - 21<sup>st</sup> Century Skills
- Weekly Reading Assignment 10 - Cooperative and Collaborative Learning Readings and Reflection

**Thursday, April 21**

- Cooperative and Collaborative in STEM Education
- Challenge 10 (in-class) – Spy Game
- Challenge 11 (in-class) – Green and White/Gutterball/Crazy Forts

### **Week 15**

**Tuesday, April 26**

- Paper Engineering PP
- Challenge 12 (at-home) – Pop-Up Card Quick Challenge

**Thursday, April 28**

- Paper Engineering (cont.)
- Challenge 13 (in-class) - MakeDo

### **Week 16**

**Tuesday, May 3**

- Automata – Final Project

**Thursday, May 5**

- Automata – Final Project

**Friday, May 6 – Dead Day**

### **Final Exam**

**Thursday, May 12 – 3:00 – 5:00 – Final Project Due**