**STEM Ed Certification Program 2018**

**June 4-6, 8:30-12:40:** EDUC 548: STEM Education in the 21st Century, KERN 1112(Michael Dragoni)

**June 4-22, 1:30-4:30:** EDUC 629: Creative Problem Solving, KERN 1112 (Michelle Schoeck)

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| **June 7, 8, 11 - 8:30-12:40** | **June 12, 13, 14 - 8:30-12:40** | **June 15, 18, 19 - 8:30-12:40** | **June 20, 21, 22 - 8:30-12:40** |
| EDUC 560-01: Makerspace Movement  (Karen Czaicki)  This course involves researching the Makerspace movement in relation to learning strategies and related curriculum. The course will focus on different types of Makerspaces and how the movement promotes creative problem solving and critical thinking skills. Makerspace activities and STEM related literature will be the focus of this course. | EDUC 560-03: Novel Engineering  (Chris Ries )  Novel Engineering is a model developed through Tufts University. Through this course teachers will use reading as a means to springboard into an engineering project. Participants will learn how to integrate curriculum utilizing a Novel Engineering Project. Participants will experience engineering projects themselves, as well as walk away with a plan on how to bring this back to their school setting. | EDUC 560-05: Robotics Using Ozobots and Spheros  (Kasey Healy)  Meet a couple of highly sophisticated robots that can be programmed to do some amazing things.  Participants in this course will learn how to create programs by simply drawing with markers, or using some very user-friendly apps. This course will allow time for exploration and experimentation with the technologies. Both robots are affordable options for teachers to use when teaching students how to code. | EDUC 560-07: Game Design Using Bloxels  (Dan Healy)  Bloxels is a video game creator that uses a physical game board, small cubes, an iPad, and a creative imagination to design and play a video game. Games can be simple or elaborate. Games can be designed for fun or connected into many areas of curriculum. |
| EDUC 560-02: Exploring Life Science in the Field  (Stacey Donovan)  Science and learning can happen anywhere! In this elective, you will explore the natural world in a field and laboratory setting. You will learn about ways to incorporate technology in both settings to enhance learning about plants and animals for students of all ages! | EDUC 560-04: Creating Music with Code  (Paul Gross)  In this course you will learn to write code using Earsketch, an environment designed to motivate students to learn programming by producing music. We will cover fundamental programming concepts aligned with computer science curricula in the creative context of making our beats and songs. | EDUC 560-06: Teaching Physics with Toys  (Shirley Verseman)  Have fun as you learn how to teach the principles of physics using toys you make. We will use common, everyday objects to construct toys which when played with help students to better understand physics. You will easily transfer everything we do to your students while providing a “make and take” experience for them. | EDUC 560-08: Automata with Circuitry  (Mike Beck)  Automata is a way to create small mechanical sculptures using ordinary materials. Wheels, cams, cranks, gears, and linkages get things moving and provide a medium through which a snippet of a story or idea can be shared.  This is a fast paced class and will focus on an introduction into basic tools for teaching electrical concepts through art. |

**June 25-28, 9:30-12:40 EDUC 549: STEM Capstone KERN 1112** (Michelle Schoeck)