



# UNIVERSITY OF ARKANSAS

## UA Center for Math & Science Education 2019 Summer Professional Development

To register, access the link provided in the descriptions.

*Unless noted, all sessions will be held at CMASE from 8:30 am – 3:30 pm.*

*Workshop fees include lunch and light refreshments.*

346 N. West Avenue, #202, Fayetteville, AR 72701      V: 479-575-3875

### **Mathematics PDs**

#### **Monday and Tuesday, June 3<sup>rd</sup> and 4<sup>th</sup>: Student-Centered/Task-based Lessons for 7-12 Mathematics – 12 hrs**

Learn how to use Illustrative Mathematics and Open Up tasks to enhance what you are doing in your junior high or high school math classroom. Pre-Algebra, Algebra I, Geometry, and Algebra II. This workshop will demonstrate how to focus on the learning goal, support students while they work through meaningful tasks, planning with the 5 practices, establish classroom norms in a problem-based classroom, and math language routines to support mathematical language development.

Registration Fee: \$30

Register: <http://bit.ly/2LpUqrD>

#### **Thursday, June 13, The Harmony of Music and Math – 6hrs**

Fusing the teaching of the elements of music with elementary math skills by using series of strategies aligned to both the music and math academic standards, with the elements of music as the frame for the day. For example, the element of musical form will be presented with the math skill of pattern recognition and the concept of rhythm and note value will be presented with the concept of fractions. The target audience—elementary music and math teachers—will also examine the ways in which collaboration between teachers or between a teacher and a teaching artist can be accomplished in the school setting.

Registration Fee: \$15

Register: <http://bit.ly/2VQAthG>

#### **Friday, June 14th, 12:30 – 3:30: TI-84 Family Tips and Tricks for 7-12 Mathematics – 3 hrs**

Everything you ever needed to know about the TI-84 graphing calculator. Something new for everyone including special function keys, APPs, and programs.

Registration Fee: \$5 (Lunch not included, Snacks and drinks only)

Register: <http://bit.ly/2VOHaRo>

#### **Thursday, June 20<sup>th</sup>: TI-84 Family Tips and Tricks for 7-12 Mathematics – 6 hrs**

Everything you ever needed to know about the TI-84 graphing calculator. Something new for everyone including special function keys, APPs, and programs.

Registration Fee: \$15

Register: <http://bit.ly/2LqX7sU>

#### **Monday and Tuesday, June 24th and 25<sup>th</sup>: Student-Centered/Task-based Lessons 7-12 Mathematics – 12 hrs**

How to use Illustrative Mathematics and Open Up tasks to enhance what you are doing in your junior high or high school math classroom. Pre-Algebra, Algebra I, Geometry, and Algebra II. This workshop will demonstrate how to focus on the learning goal, support students while they work through meaningful tasks, planning with the 5 practices, establish classroom norms in a problem-based classroom, and math language routines to support mathematical language development.

Registration Fee: \$30

Register: <http://bit.ly/2DMXgAT>

## **Monday-Wednesday, July 29, 30, 31<sup>st</sup>, Thinking Mathematically: Year 1 and Year 2 – 42 hrs**

Participants will engage in a comprehensive research-based approach to mathematics instruction based on how students think about math. Story problems and number sentences will be analyzed to determine the mathematical demands and recognize student responses in terms of cognitive development. Participants will assess students' thinking and design problems that will develop students' understanding of the important concepts and skills. Emphasis will be on strengthening teachers' effective questioning to facilitate purposeful discourse. No matter what curriculum resources you are using or planning to adopt (Connected Math, Illustrative Math, district developed curriculum, etc.), Thinking Mathematically will enhance the curriculum. Discussions about student work will provide a window into students' thinking, strengthen students' computational fluency and build their capacity for algebraic reasoning. Must have administration approval before registration.

**The Thinking Mathematically – Preregistration form** (<http://bit.ly/2WvIdTs>) must be submitted to CMASE before you register and pay online.

42 hours PD- 7 days (3 summer at UA STEM Center (CMASE), 4 at schools during the academic year).

Registration Fee: \$350

Register: <http://bit.ly/2H9zhMT>

## **SCIENCE PDS**

### **Wednesday, June 5: ADI 101: Introduction to Argument-Driven Inquiry in the High School Physical Science & Chemistry Classrooms – 6 hrs**

This workshop is an introduction to the Argument-Driven Inquiry (ADI) instructional model. Participants will first learn about the limitations of typical laboratory instruction and why ADI can help *all* high school students develop the knowledge and skills they need to be proficient in science. Next, the participants will have an opportunity to learn about the instructional model by participating in all eight stages of an actual ADI Physical Science/Chemistry Lab. Finally, participants will learn how ADI is aligned with the NGSS and CCSS for ELA.

**Option 1:** Workshop Only - \$30

Register: <http://bit.ly/2TXw9Jr>

**Option 2:** Workshop & ADI Book of your choice - \$80

Register: <http://bit.ly/2TWsefW>

### **Wednesday/Thursday, June 5-6: ADI 102: An Extended Introduction to Argument-Driven Inquiry in the High School Physical Science & Chemistry Classrooms – 12 hrs**

This workshop is an extended introduction to the Argument-Driven Inquiry (ADI) instructional model. After attending ADI 101, participants will now have a chance to participate in a second ADI lab investigation that focuses on a different topic and will require them to use a different method to collect data. Finally teachers will learn about ways to support students during each stage of the approach

**Option 1:** Workshop Only - \$60

Register: <http://bit.ly/2Ted1K8>

**Option 2:** Workshop & ADI Book of your choice - \$100

Register: <http://bit.ly/2ViC2AZ>

### **Monday, June 10: Engineering is Elementary (EiE) for Pre K and Kindergarten Educators - 6 hrs**

Wee Engineering (ages 3-5) and EiE for Kindergarten: Hands-on engineering challenges young children to see themselves as problem solvers. They learn that there's more than one way to solve a problem, and that it's okay to fail and try again. During age/grade appropriate engineering challenges, learners practice social, emotional, fine motor, cognitive, and language skills that will prepare them for later schooling.

Join this age-appropriate, hands-on engineering day of fun day set to help educators

- Engage children in real-world problems
- Build on the skills children are already developing
- Bring innovative engineering into your classroom
- Think outside the box
- Experience hands-on learning to engage young learners
- Explore how to help young students begin developing 21st century skills

Registration fee: \$50

Register: <http://bit.ly/2J3ckyi>

### **Tuesday, June 11: GLOBE for Elementary Teachers (K-4) - 6 hrs**

Join this fast paced day exploring seven (free to download) storybooks and accompanying lessons dealing with Clouds, Soil, Water, Weather, Seasons, and much, much more. Registration fee covers break snacks, lunch, materials and lessons.

Registration Fee: \$50

Register: <http://bit.ly/2DTiJrR>

### **Monday June 17, GLOBE Biosphere, 6 hrs**

Join this day for explore the Biosphere including data collection in Biometry and Land Cover Classification.

Registration Fee: \$50

Register: <http://bit.ly/2J3XVC1>

### **Tuesday, June 18, GLOBE Earth as a System and Data Analysis - 6 hrs**

Join this day for explore the Earth as a System and Data Analysis

Registration Fee: \$50

Register: <http://bit.ly/2ZZwaQv>

### **Wednesday, June 19, GLOBE Hydrosphere, 6 hrs**

Join this hands-on day to explore Alkalinity, Conductivity, Dissolved Oxygen, Freshwater Macroinvertebrates, Mosquitoes, Nitrates, Water Temperature, and Water Transparency.

Registration Fee: \$50

Register: <http://bit.ly/2DTRzB0>

### **Monday, June 24: ADI 101: Introduction to Argument-Driven Inquiry in High School Biology – 6 hrs**

This workshop is an introduction to the Argument-Driven Inquiry (ADI) instructional model. Participants will first learn about the limitations of typical laboratory instruction and why ADI can help *all* high school students develop the knowledge and skills they need to be proficient in science. Next, the participants will have an opportunity to learn about the instructional model by participating in all eight stages of an actual ADI Biology Lab. Finally, participants will learn how ADI is aligned with the NGSS and CCSS for ELA.

**Option 1:** Workshop Only - \$30

Register: <http://bit.ly/2U2IL33>

**Option 2:** Workshop & ADI Biology Book - \$80

Register: <http://bit.ly/2SYmgPk>

### **Monday/Tuesday, June 24-25: ADI 102: An Extended Introduction to Argument-Driven Inquiry in the High School Biology Classroom – 12 hrs**

This workshop is an extended introduction to the Argument-Driven Inquiry (ADI) instructional model. After attending ADI 101, participants will now have a chance to participate in a second ADI lab investigation that focuses on a different topic and will require them to use a different method to collect data. Finally teachers will learn about ways to support students during each stage of the approach

**Option 1:** Workshop Only - \$60

Register: <http://bit.ly/2SYeVz3>

**Option 2:** Workshop & ADI Biology Book - \$100

Register: <http://bit.ly/2H2Gm3M>

### **Wednesday June 26: 3D Printing in Education: Operation, Troubleshooting, and Lesson Planning – 6 hrs**

This session will be an introduction to 3D printing in the classroom. We'll cover how to operate and troubleshoot your new printer and go over 3D printing lesson plans from the PrintLab Portal! Please bring a Windows or Mac laptop with the latest version of Ultimaker Cura installed, or admin rights to install it during the class.

**Option 1:** NWA3D A5 3D Printer (5 x 6 x 4" print area, our most popular printer and great for integrating 3D printing into your curriculum), 3 colors of filament, 3D printing tool kit, and one year access to the PrintLab K-12 Lesson Plan Portal.

Option 1 Attendee Price: \$950

Register: <http://bit.ly/2TiKPpl>

**Option 2:** NWA3D A31 3D Printer (12 x 12 x 16" print area and perfect for large models such as drones and robotics), 3 colors of filament, 3D printing tool kit, and one year access to the PrintLab K-12 Lesson Plan Portal

Option 2 Attendee Price: \$1,400

Register: <http://bit.ly/2VgCtvH>

### **Thursday June 27: 3D Printing Check-In: Tips, Tricks, and Lesson Plans – 6 hrs**

This workshop will focus on taking the next step with your 3D printer. We'll answer questions, go over advanced tips, and cover anything and everything that can be troublesome with 3D printing in the classroom. After we get go through troubleshooting and operational tips, we'll swap gears to work on PrintLab Classroom, as well as other lesson plans, to help integrate 3D printing into your curriculum.

Time will be set aside to practice with your 3D printer, so please bring a computer with Cura, your NWA3D A5, and filament to use!

Fee: \$50

Register: <http://bit.ly/2ViDmUt>