O K L A H O M A
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58TH ANNUAL | AUGUST 4-5, 2025
STEM Division

MONDAY, AUGUST 4, 2025

7:00 a.m. Registration and Exhibits Open
Arvest Conference Center, Pepsi Exhibit Hall

8:00 a.m. - Breakout Sessions for all Attendees (refer to Conference at a Glance)
2:00 p.m. *Arvest Conference Center or DoubleTree Hotel Downtown*

10:30 a.m. - Lunch on your own in Exhibit Hall (concessions and food trucks are available)
2:00 p.m. *Arvest Conference, Pepsi Exhibit Hall*
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12:00 p.m. - STEM Business Meeting
1:30 p.m. *Arvest Conference Center, Conference Hall D*

2:00 p.m. - General Session & Awards
3:00 p.m. *Arvest Conference Center, Grand Hall*

TUESDAY, AUGUST 5, 2025

7:15 a.m. – Teachers Arrival to Tulsa Tech Riverside Campus
8:00 a.m. 801 E 91st ST, Tulsa, OK 74132

8:00 a.m. – Breakout Session 1
8:45 a.m. **Session Title: STEM Engagement for All Abilities!**

Presenter Name: Dr. Dorinda Risenhoover – NASA Oklahoma Space Grant Consortium
Room A106
Description: During this session, participants will be immersed in practical and simple modifications to ensure their STEM engagement events and activities are accessible for all abilities. In addition to experiencing 3 hands-on activities with at least 12 modifications each to meet a variety of needs, participants will be linked to free NASA resources and opportunities to assist them in this endeavor! All activities/information are based on research which is in the process of being published.

Session Title: ODOT: Major Impact
Presenter Name: Kala Fowler & Anthony Delce
Room A114
Description: Crash barriers will be designed to withstand the impact of a vehicle running down a track with a limited budget. The most effective crash barriers will increase the amount of time it takes for a vehicle to come to a stop due to the impulse relationship, where increasing impact time will decrease impact force.
In this session teachers will learn how to use this curriculum and implement them into their classroom.

Session Title: Hands on STEM: Engaging Middle Schoolers in Coding and Robotics
Presenter Name: Tim Lankford
Room A144
Description: Technology jobs are projected to grow at twice the national average throughout the next decade, opening the door to a broad range of exciting career opportunities for students. Research has shown that middle school is a pivotal time to spark students' interest in STEM and prepare them for success in the digital age. This interactive workshop, hosted by Pitsco Education, will focus on strategies for teaching hands-on coding and robotics to middle school students, equipping them with workforce-ready skills. Our presenters will show how educators, even those with no prior experience, can deliver engaging computer science and engineering experience in their classrooms. Additionally, the session will include tips and tricks for successful classroom implementation. After the presentation, attendees will participate in a collaborative challenge to adapt and program a meal-delivery robot.

Session Title: TSA Updates
Presenter Name: Tami Redus
Room A150
Description: Tami Redus, State TSA Advisor, will share important updates, announcements, and key information about TSA events for the upcoming year. This session will help advisors stay informed and prepared for a successful TSA season.

Session Title: Beginners' Guide to Google Classroom
Presenter Name: Casey Woods
Room A209
Description: Join us for a hands-on introduction to Google Classroom designed specifically for STEM educators new to the platform. This session will cover the basics of setting up classes, assigning work, and streamlining communication with students. Discover how Google Classroom can enhance your STEM instruction and simplify classroom management.

Session Title: Civil Air Patrol
Presenter Name: Scout Lee
Room A216
Description: Discover how Civil Air Patrol (CAP) inspires the next generation of innovators through its dynamic STEM programs! This session will provide Scout's experience in CAP and learn how to promote aerospace education, robotics, flight training, and hands-on science activities—offering exciting, real-world experiences that ignite student curiosity and foster a passion for STEM.

Session Title: Bridging the Gap: Fostering Innovation with Industry Partners in STEM Education
Presenter Name: David Day
Room A229
Description: This presentation will showcase how the Pryor HS Innovation Center is revolutionizing STEM education. Discover how they collaborate with local industry partners to develop project-based projects, providing students with invaluable real-world experience. Furthermore, the presentation will highlight how these initiatives are strengthened through strategic partnerships with OKCareerTech, leveraging their resources and expertise in career and technical education, and the Technology Student Association (TSA), which provides a framework for competitive events and leadership development that further enhances students' STEM skills and career readiness.

Session Title: Classroom Arcade with Makey-Makey & Scratch Coding
Presenter Name: Michelle Rahn – Tulsa Regional STEM Alliance
Room A231
Description: Learn how to bring hands-on inventions and coding into your classroom! This session introduces educators to Makey~Makey, Makey~Makey is a fundamental circuit board that connects everyday objects to computer keys; transforming everyday objects into touchpads for engaging student learning. Then learn how to integrate Makey Makey with Scratch, a free block-based coding language, to invent projects like a video arcade.

Session Title: SeaPerch Challenge
Presenter Name: Abraham Kamara
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Description: Explore the exciting world of underwater robotics through the SeaPerch program—a hands-on, project-based workshop that brings STEM to life! Participants will discover how SeaPerch, an innovative initiative originally developed at MIT and funded by the Office of Naval Research, engages students in building and testing their own Remotely Operated Vehicles (ROVs). Learn how this program introduces fundamental engineering and science concepts through a marine engineering lens, encouraging creativity, problem-solving, and real-world application. Whether you're new to SeaPerch or looking to implement it in your classroom or club, this session will provide you with the tools, background, and inspiration to get started.

Session Title: Engineering Tomorrow: Labs that Introduce Students to the Worlds of Engineering
Presenter Name: Jennifer Edwards
Room A243
Description: Introduction to Engineering Tomorrow's 14 physical labs & 8 digital labs, all developed by expert engineers in collaboration with college mentors. These engaging, real-world experiences are designed to spark students' interest in engineering and STEM fields. Teachers can implement the labs in one of three flexible formats: Independent, Customized, and Live.

Session Title: Safe Water with Science Take Out MS
Presenter Name: Passion Bradley
Room A250
Description: Explore a hands-on approach to teaching real-world science concepts through water quality investigations. In this interactive session, you'll engage in an activity modeled from the Safe Water kit to learn how to incorporate inquiry, data analysis, and environmental relevance into your lessons. Walk away with practical strategies to boost student engagement, critical thinking, and STEM connections using ready-to-implement classroom tools.

Session Title: Take a TOSA Certification!
Presenter Name: Deborah Trask
Room C114
Description: Come join us to take a Tosa Certification or Tosa practice assessment to experience our proficiency-based, adaptive, Industry-Recognized Certification exams. We offer Python, Web Developer (HTML, CSS, JavaScript) and JavaScript, plus Digital Literacy, Cyber Responsibility, Adobe, MS Office, Google Workspace, WordPress, AutoCAD, and more!

Session Title: Crafting a Great First Day: Going Beyond the Ice Breakers and Syllabus
Presenter Name: Sarah Carter
Room C118
Description: Explore creative ideas for engaging students with meaningful activities on the first day of class that don't involve going over the syllabus or answering silly ice breaker questions. These hands-on activities that will get students thinking, communicating with one another, and having fun. These ideas are easily adaptable to different grade levels and can be used across middle school and high school.

Session Title: Introduction to Aquaponics with Symbiotic Aquaponics
Presenter Name: Kaben Smallwood
Room D119
Description: Join us for an introduction to aquaponics, a hands-on way to explore real-world STEM concepts in the classroom. This session will cover the basics of how an aquaponics system works and how it can be used to support learning in areas like engineering, technology, and environmental problem-solving. Perfect for sparking curiosity and encouraging creative thinking through interactive, project-based learning.

Session Title: Industry 4.0: Career & College Exploration for 5th – 8th Grade
Presenter Name: Joe Carter
Room D135
Description: This presentation will go over a new Middle School exploration program exposing the students to 7 different pathways-Manufacturing, Construction, Biotechnology & Healthcare, Information Technology, Logistics, Transportation, and Agriculture. A completely packaged program embedded with Project based learning with all resources ready for any Secondary Educator.

Session Title: 3D Printer: Ins and Out
Presenter Name: David Oulette
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Description: Tips and tricks for successful 3D printing in the classroom environment. This information will be most helpful for beginners and intermediate skill levels. With almost 10 years of field repair experience, and training from more than 10 3D printer manufacturers, I will be speaking from real world experiences and repairs.

Session Title: Anatomy of Athletes: From Humans to Horses
Presenter Name: Amanda Pennings
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Description: Explore the fascinating similarities between human and equine athletes in this session focused on injury mechanisms in racehorses. Learning how understanding anatomy and biomechanics can improve both performance and animal welfare. Background knowledge will be provided to help high school teachers bring these real-world connections into the classroom.

Session Title: Education Grows Naturally
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Session Title: Teaching Systems: Laser Engraving
Presenter Name: Brandi Schwartz & Ronnie Tatum
Room F138
Description: This session is designed for educators of all experience levels. Participants will explore the fundamentals of laser engraving, including practical applications and techniques, with a focus on how to effectively integrate this technology into the classroom setting.

Session Title: VR Coding
Presenter Name: Wesley Scott
Room F145
Description: Bring virtual reality to life in your classroom—no matter the experience level! In this session, you'll explore how to implement VR coding and programming using accessible online curriculum and tools. Learn how to engage students in immersive, hands-on learning experiences that build real-world coding skills. Whether you're new to VR or looking to expand your tech toolkit, this workshop will provide practical strategies, resources, and tips for integrating VR coding into any classroom setting.

Session Title: The Happiness Diet
Presenter Name: Nikki Parker
Room F153
Description: The Happiness Diet is all about learning how to take care of yourself from the inside out. It's not about food or counting calories—it's about feeding your life with joy, rest, good choices, and healthy thoughts. This session teaches students how to protect their peace, manage their emotions, and build daily habits that make them feel strong, confident, and happy. Through stories, simple tools, and real talk, they'll walk away knowing how to choose happiness every day, even when life feels heavy.

Session Title: Middle School Inside the Competitions: Q & A with TSA Event Managers
Presenter Name: TSA Event Managers
Room F201
Description: Unlock the secrets to TSA competition success in this interactive session led by the event managers themselves! Gain first-hand insights into what judges are looking for, how events are structured, and common pitfalls to avoid. This is your chance to ask questions, clarify guidelines, and learn proven strategies to better support and prepare your students. Whether you're new to TSA or looking to elevate your chapter's performance, this workshop will provide the clarity and confidence you need to guide your students to success.

Session Title: Thriving on a Budget with Tinker Federal Credit Union
Presenter Name: Jessica Teszlewicz
Room F207
Description: Having a budget, no matter the size, doesn't mean you have to sacrifice joy or opportunity. This practical and empowering workshop will help you unlock the full potential of your income with smart money-saving strategies, resourceful tips and tricks, and creative ways to stretch your dollars. Whether you're looking to balance expenses, build savings, or simply get more out of what you have, you'll leave with tools and confidence to thrive financially and live well within your means.

Session Title: STEM in the Classroom – Hands on Desing Projects
Presenter Name: Brandy Mays and Jovette Dew
Room F211
Description: Ignite curiosity and creativity in your classroom with hands-on, project-based activities that bring learning to life! This interactive session will equip you with practical, adaptable strategies to make STEM come alive for every student. Because at the end of the day—every teacher is a STEM teacher.

Session Title: Unity Fundamentals for Game Design
Presenter Name: David Swift
Room F216
Description: This beginner-friendly session will introduce teachers to the basics of Unity, one of the most popular platforms for creating interactive digital content. No prior experience is needed. You'll learn how to navigate the Unity interface, build simple projects, and explore practical ways to incorporate Unity into lessons to engage students.

Session Title: Exploring Cyber Security with OCII
Presenter Name: Timothy Crisp & Tywania "TJ" Griffin
Room F219
Description: We will showcase an exciting hands-on demonstration using Micro: bits. Micro: bits are small, programmable devices that make learning about cyber security fun and interactive. During this demonstration you will learn basic cyber security concepts and the importance of digital safety. Our demonstration will illustrate key cyber security principles such as encryption and secure communications.

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Presenter Name: JD Talbert
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Session Title: STEM Sustainability Readers with OK Beef Council
Presenter Name: Jessica Sadler
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Description: Attendees will be engaging with the Beef Sustainability readers that were created for the Kansas Beef Council. They are applicable to cattle and councils throughout the US. Attendees will be engaged with resources that provide information on Carbon Cycling, Prescribe Burns, Upcycling, Ruminant Animals, Careers, and so much more. Each reader has an accompanying lab, and I will also share the Breakout Box resource created to help with basic cattle knowledge.

Session Title: Botball Educational Robotics Programs
Presenter Name: Steve Goodgame
Room F236
Description: Come learn more about the Botball Educational Robotics program and how schools across Oklahoma are teaching their kids using our autonomous (no remote control) robot programs. We will highlight resources available including an AI assisted tutor built within our virtual robot simulator.

Session Title: MS Technology and Engineering: Creating Modules and Developing Your Course
Presenter Name: Holly Hannon
Room F251
Description: This will be an interactive presentation to help Middle School Technology and Engineering teachers develop and plan their courses. Teachers should come away with tools for creating modules based on current technologies and engineering disciplines.

Session Title: Women in STEM – BreakOut Box
Presenter Name: Debra Wood
Room G124
Description: Let's test your critical thinking skills and knowledge of "Women in STEM" in this brand-new breakout box created entirely around the achievements of the famous, and not so famous, women in science, technology, math and engineering! Originally designed for upper elementary students in a girls-only STEM club, these boxes will have students (and educators) in all grade levels wanting to give it a try! Never done a breakout box with students? No worries, you will be guided through the entire process of how to create such clues that can teach whatever concept you have! Participants will learn how to incorporate critical thinking skills using "Escape Rooms/Breakout Boxes". By using clues and strategies, participants are given a mission to find the key to solve the energy mystery. "Breakout/escape boxes" are tools that can help students work toward their learning goals, as it is a challenge that allows them to work together while solving a variety of puzzles. Using teamwork and critical thinking skills to think outside the box, they find "breakout boxes" to be interactive and fun. Regardless of the subject matter or age/grade level, participants will discover what all the excitement is about!

Session Title: Hands-on Middle School Career Exploration with SAM Labs; How Hands-On Learning Can Engage Intermediate Students
Presenter Name: Corey Abernathy and Morten Hagen
Room G125
Description: Participants will take part in a fun, hands-on workshop where they'll build real-world prototypes using sensors, motors, and other hardware, then bring their creations to life through coding. Along the way, we'll explore how these projects connect to real-world STEAM careers—giving students a window into fields like engineering, environmental science, architecture, and more. It's a playful, collaborative session that introduces practical ways to integrate coding, design thinking, and problem-solving into everyday instruction—while helping students see themselves in future career pathways. This session is designed for elementary, middle, and high school educators—no prior coding experience needed!

9:00 a.m. –
9:45 a.m.

Breakout Session 2
Session Title: STEM Engagement for All Abilities!

Presenter Name: Dr. Dorinda Risenhoover – NASA Oklahoma Space Grant Consortium
Room F223
Description: During this session, participants will be immersed in practical and simple modifications to ensure their STEM engagement events and activities are accessible for all abilities. In addition to experiencing 3 hands-on activities with at least 12 modifications each to meet a variety of needs, participants will be linked to free NASA resources and opportunities to assist them in this endeavor! All activities/information are based on research which is in the process of being published.

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In this session teachers will learn how to use this curriculum and implement them into their classroom.

Session Title: Computer Science Curriculum: Prepare Your Students for Tech Jobs
Presenter Name: Anji Ison
Room A144
Description: Join Pitsco Education and Mastery Coding™ to discover exciting career opportunities for your students in technology through computer science. Prepare your students with transferable skills by introducing the most profitable coding languages. Whether your students want to become data scientists, software engineers, network administrators, or even game developers – find the right curriculum to support your students' career paths in technology!

Session Title: 5- Year Program Evaluation
Presenter Name: Kristye O'Mealey
Room A150
Description: If your program is up for evaluation this year, join this session to go over the evaluation format, the standards, check list, how to prep, where to be uploading documents, and general information to make your evaluation easy and successful. *Districts that are up for evaluation this year: Atoka, Bristow, Central High (Stephens County), Choctaw, Cleland, Clinton, Cottonwood, Hartshorne, Jenks, McAlester, Mustang, Oilton, Oklahoma City, Owasso, Piedmont, Sand Springs, Sapulpa, Shattuck, Talihina, Union, Weatherford, Wilburton, Yukon.*

Session Title: Intermediate Guide to Google Classroom
Presenter Name: Casey Woods
Room A209
Description: Designed for STEM educators with basic Google Classroom experience, this session delves deeper into effective classroom organization and student engagement strategies. Learn how to manage multiple classes, use rubrics for grading, and incorporate multimedia resources and Google Workspace tools. Enhance your workflow and create a more interactive learning environment for your students.

Session Title: Civil Air Patrol
Presenter Name: Scout Lee
Room A216
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Session Title: Are Flavored E-Cigarettes Harmful
Presenter Name: Passion Bradley
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Description: Explore the science behind a timely health question: *Are flavored e-cigarettes harmful?* In this interactive, hands-on workshop, participants will experience the Science Take-Out kit that guides students through real-world data analysis, scientific inquiry, and evidence-based reasoning. Leave with practical tools and strategies to bring this engaging and relevant investigation into your classroom. Perfect for health, biology, or STEM educators looking to spark critical thinking and meaningful discussion.

Session Title: Getting Students College and Career Ready with Stackable, Industry Recognized Credentials
Presenter Name: Deborah Trask
Room C114
Description: Did you know that 92% of U.S. jobs require mastery of digital skills, and over one-third of college graduates enter the job market without these critical competencies? Join this session to explore how stackable, industry-recognized, and proficiency-based certifications can bridge this critical skills gap. Learn actionable strategies to empower learners to validate and demonstrate their expertise in essential digital competencies, setting them up for success in higher education and their careers. During the session, you will learn the role of digital skills in today's workforce, discover the benefits of proficiency-based certifications and how they validate skill sets, and gain insights into implementing stackable, industry-recognized certifications in your educational program. You'll walk away with practical tips for integrating certifications into your curriculum, plus resources and examples to help revolutionize college and career readiness in your classrooms. Don't miss this opportunity to transform student preparation for the demands of the digital age!

Session Title: Creative Ways to Incorporate Logic Puzzles in the Classroom
Presenter Name: Sarah Carter
Room C118
Description: We all know that logic puzzles help build critical thinking skills in students, but finding time to incorporate these types of learning experiences can be tricky. In this session, we will explore creative ways to incorporate logic puzzles in the classroom without having to give up valuable instruction time.

Session Title: Intermediate Guide to Aquaponics with Symbiotic Aquaponics
Presenter Name: Kaben Smallwood
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Description: Have a little knowledge but want more? Join us for this intermediate session on aquaponics, a hands-on way to explore real-world STEM concepts in the classroom. This session will cover a little more than the basics of how an aquaponics system works and how it can be used to support learning in areas like engineering, technology, and environmental problem-solving. Perfect for sparking curiosity and encouraging creative thinking through interactive, project-based learning.

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Session Title: Tips and Tricks for TSA Portfolios and Displays
Presenter Name: Tara Dye and Valerie McCauley
Room F201
Description: Take your TSA competition presentations to the next level! In this practical session, you'll learn proven tips and tricks for creating polished, effective portfolios and eye-catching displays that meet TSA guidelines and impress judges. Whether you're new to TSA or looking to refine your students' competitive edge, you'll leave with ready-to-use ideas and resources.

Session Title: The Psychology of Money with Tinker Federal Credit Union
Presenter Name: Jessica Teszlewicz
Room F207
Description: Discover how your emotions, beliefs, and habits shape the way you handle money in The Psychology of Money. In this engaging session, participants will explore their unique "money personality" and uncover how it influences everyday financial decisions. Using Money Habitude Cards as a fun, interactive activity, we'll dig into the attitudes and behaviors that may be holding you back—and learn how to reframe them into habits that support your goals. Whether you're a saver, spender, or somewhere in between, this presentation offers eye-opening insights and practical tools to build a healthier, more intentional relationship with money.

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Presenter Name: Brandy Mays and Jovette Dew
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Description: Ignite curiosity and creativity in your classroom with hands-on, project-based activities that bring learning to life! This interactive session will equip you with practical, adaptable strategies to make STEM come alive for every student. Because at the end of the day—every teacher is a STEM teacher.

Session Title: Staying Calm(ish) in the Chaos
Presenter Name: Trisha Swift
Room F216
Description: Some days the classroom feels like controlled chaos, and it can be hard to stay calm when students are not. This session will focus on simple, realistic strategies to help you stay regulated and in control even when behaviors escalate around you. We will explore ways to manage stress, respond instead of reacting, and create a steady classroom environment that supports both you and your students. You will leave with tools to help you stay grounded, no matter what the day throws your way.

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Session Title: Students to SMEs: Building Cybersecurity Talent from 8th grade to Employment
Presenter Name: Dr. Sari McCoy, Ms. Susan Henderson, and Mrs. Kelly Newman
Room F251
Description: Have you ever wondered … Is cybersecurity just for big cities and big companies? Employability for cyber careers begins after college, right? Do schools need a cyber expert to teach cybersecurity learners? All audiences are invited to join us for an engaging session on cybersecurity career programming. There are 500,000 cybersecurity unfilled positions, and the gap is widening while threats against all individuals and industries are increasing. The focus of this session is to provide insight into cyber talent development by dismissing the myths about cyber education, and sharing models and best practices for career preparation, credential attainment, and work-based learning. 8th grade to employment in a package!

Session Title: Women in STEM – BreakOut Box
Presenter Name: Debra Wood
Room G124
Description: Let's test your critical thinking skills and knowledge of "Women in STEM" in this brand-new breakout box created entirely around the achievements of the famous, and not so famous, women in science, technology, math and engineering! Originally designed for upper elementary students in a girls-only STEM club, these boxes will have students (and educators) in all grade levels wanting to give it a try! Never done a breakout box with students? No worries, you will be guided through the entire process of how to create such clues that can teach whatever concept you have! Participants will learn how to incorporate critical thinking skills using "Escape Rooms/Breakout Boxes". By using clues and strategies, participants are given a mission to find the key to solve the energy mystery. "Breakout/escape boxes" are tools that can help students work toward their learning goals, as it is a challenge that allows them to work together while solving a variety of puzzles. Using teamwork and critical thinking skills to think outside the box, they find "breakout boxes" to be interactive and fun. Regardless of the subject matter or age/grade level, participants will discover what all the excitement is about!

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Presenter Name: Corey Abernathy and Morten Hagen
Room G125
Description: Participants will take part in a fun, hands-on workshop where they'll build real-world prototypes using sensors, motors, and other hardware, then bring their creations to life through coding. Along the way, we'll explore how these projects connect to real-world STEAM careers—giving students a window into fields like engineering, environmental science, architecture, and more. It's a playful, collaborative session that introduces practical ways to integrate coding, design thinking, and problem-solving into everyday instruction—while helping students see themselves in future career pathways. This session is designed for elementary, middle, and high school educators—no prior coding experience needed!

10:00 a.m. – 10:45 a.m.	Breakout Session 3 **Session Title: OSU Speedfest India Class (5th-12th grade) Competition Information and Curriculum** Presenter Name: Dr. Dorinda Risenhoover – NASA Oklahoma Space Grant Consortium *Room A106* Description: During this session, participants will learn the who, what, when, where, how, and why of the OSU Speedfest India Class Competition (a remote-controlled foam airplane competition). In addition to receiving detailed information, participants will be immersed in one of the hands-on activities within the NASA OKSG India Class Speedfest Curriculum.

Session Title: Stellar Explorers Competition
Presenter Name: Charles Koutahi
Room A114
Description: Come learn about StellarXplorers (STLX), a national high school space design competition developed by the Air & Space Forces Association. This exciting program challenges students to apply problem-solving skills to real-world space mission scenarios, including circular and elliptical orbit determination, launch vehicle planning, payload integration, and satellite component selection.

Session Title: Take Learning to New Heights: Engaging Students Through Drone Technology
Presenter Name: David Meador
Room A144
Description: In an era of rapidly evolving technology, drones offer exciting opportunities for students and open pathways to countless career paths. Join Pitsco Education for a hands-on workshop to explore how drone technology is transforming high school classrooms by enhancing student engagement, developing 21st-century skills, and supporting career exploration. During this interactive workshop, our presenters will demonstrate how drones can be used to teach STEM concepts while strengthening learners' problem-solving, critical-thinking, and teamwork skills. They will also share practical strategies for integrating drones into middle and high school curricula. Following the presentation, attendees will work in pairs to design, build, configure, and fly a drone.

Session Title: New Teacher Session
Presenter Name: Kelli Carnes
Room A150
Description: This session is designed specifically for new STEM teachers entering the CareerTech system. Participants will receive a comprehensive overview of the expectations, resources, and support available within the STEM division. Key topics will include professional development requirements, curriculum frameworks, instructional best practices, program reporting, and student organization integration. Attendees will have the opportunity to connect with other new educators, ask questions, and hear directly from experienced STEM staff. This workshop is essential for ensuring a strong start and long-term success in your STEM teaching career.

Session Title: Environmental Sustainability for Future Engineers
Presenter Name: Christine Cammuso
Room A209
Description: Discover strategies for elevating PLTW's Environmental Sustainability curriculum to better engage and inspire the next generation of engineers. Designed for a beginner audience of science and engineering instructors at the middle and high school levels, this session will explore practical enhancements, project ideas, and interdisciplinary connections that make the content more impactful and engineering focused. Walk away with tools to help students tackle real-world environmental challenges through innovation, critical thinking, and design.

Session Title: Civil Air Patrol
Presenter Name: Scout Lee
Room A216
Description: Discover how Civil Air Patrol (CAP) inspires the next generation of innovators through its dynamic STEM programs! This session will provide Scout's experience in CAP and learn how to promote aerospace education, robotics, flight training, and hands-on science activities—offering exciting, real-world experiences that ignite student curiosity and foster a passion for STEM.

Session Title: Connecting with Your Community: A Human Centered Approach
Presenter Name: Andrew Darrow
Room A229
Description: Using Design Thinking strategies, you will be shown how to connect with local experts, bring professionals into your classroom, and have your students engage with real people outside of the school setting.

Session Title: Behind the Barcode: Unpacking the STEM Careers Behind your Food, Fiber, and Fuel
Presenter Name: Emily Ague
Room A231
Description: We will explore two National Ag in the Classroom resources: Science in Your Shopping Cart and Discover Agriculture Careers. The workshop will explore the STEM in agriculture and the various career opportunities. Be ready for some hands-on learning and how to teach about careers in your STEM classroom. We will share about the Oklahoma Ag in the Classroom Program, including website, FREE resources, professional learning opportunities, and grants for teachers.

Session Title: Getting Started with Whitebox Learning
Presenter Name: Lane Ullrich
Room A240
Description: Take flight with this introductory workshop using the Whitebox Learning glider program in your middle school STEM class! Designed for educators new to the platform or looking to sharpen their approach, this session will provide a step-by-step walkthrough of the glider design process. Learn helpful tips for guiding students through digital modeling and physical construction, while reinforcing core STEM concepts. Walk away with practical strategies to boost student engagement and ensure successful glider builds from start to finish.

Session Title: Engineering Tomorrow: Labs that Introduce Students to the Worlds of Engineering
Presenter Name: Jennifer Edwards
Room A243
Description: Introduction to Engineering Tomorrow's 14 physical labs & 8 digital labs, all developed by expert engineers in collaboration with college mentors. These engaging, real-world experiences are designed to spark students' interest in engineering and STEM fields. Teachers can implement the labs in one of three flexible formats: Independent, Customized, and Live.

Session Title: Water Pollution with Science Take Out HS
Presenter Name: Janet Lawrene
Room A250
Description: Take on the role of an environmental scientist in this hands-on session focused on investigating water pollution in a simulated community scenario. You'll analyze water samples, interpret data, and use critical thinking to pinpoint the source of contamination. This activity models an engaging, real-world science investigation that's ideal for middle and high school classrooms, helping students build problem-solving skills and make meaningful connections to environmental issues.

Session Title: Getting Students College and Career Ready with Stackable, Industry Recognized Credentials
Presenter Name: Deborah Trask
Room C114
Description: Did you know that 92% of U.S. jobs require mastery of digital skills, and over one-third of college graduates enter the job market without these critical competencies? Join this session to explore how stackable, industry-recognized, and proficiency-based certifications can bridge this critical skills gap. Learn actionable strategies to empower learners to validate and demonstrate their expertise in essential digital competencies, setting them up for success in higher education and their careers. During the session, you will learn the role of digital skills in today's workforce, discover the benefits of proficiency-based certifications and how they validate skill sets, and gain insights into implementing stackable, industry-recognized certifications in your educational program. You'll walk away with practical tips for integrating certifications into your curriculum, plus resources and examples to help revolutionize college and career readiness in your classrooms. Don't miss this opportunity to transform student preparation for the demands of the digital age!

Session Title: Creative Ways to Incorporate Logic Puzzles in the Classroom
Presenter Name: Sarah Carter
Room C118
Description: We all know that logic puzzles help build critical thinking skills in students, but finding time to incorporate these types of learning experiences can be tricky. In this session, we will explore creative ways to incorporate logic puzzles in the classroom without having to give up valuable instruction time.

Session Title: Extending Learning with Aquaponics with Symbiotic Aquaponics
Presenter Name: Kaben Smallwood
Room D119
Description: Take your aquaponics knowledge to the next level! In this advanced session, dive deeper into the concepts of aquaponics with plants and fish. This is an opportunity to work with an industry professional on how to utilize a system in your STEM program.

Session Title: OnShape: Cloud Based CAD Modeling
Presenter Name: Brian Twomey
Room D135
Description: Wondering what Onshape has to offer? Want to see the interface demonstrated? The format will be a short presentation of features accompanied by a Q/A session with live demonstrations.

Session Title: 3D Printer: Ins and Out
Presenter Name: David Oulette
Room Faculty Lounge
Description: Tips and tricks for successful 3D printing in the classroom environment. This information will be most helpful for beginners and intermediate skill levels. With almost 10 years of field repair experience, and training from more than 10 3D printer manufacturers, I will be speaking from real world experiences and repairs.

Session Title: Engaging Students in the 21st Century with STEM Curriculum
Presenter Name: Kassie Jo Winn-Huizar
Room F134
Description: STEM is at the heart of 21st-century education, sparking curiosity, creativity, and problem-solving skills in students. Integrating STEM into your classroom fosters critical thinking and fuels a solution-driven mindset that gets students excited to learn. In this session, we'll showcase iCEV's dynamic STEM curriculum, designed to make STEM accessible and engaging—no matter your budget, classroom space, or teaching experience.

Session Title: A New Approach to STEMM Career Exploration: Lab Xchange
Presenter Name: Nicole Sjoblom
Room F135
Description: This presentation will demonstrate LabXchange's library of free, online, and interactive STEMM (Science, Technology, Engineering, Mathematics, and Medicine) resources as a tool for empowerment in STEMM career exploration. We will discuss practical strategies and lesson ideas for integrating these digital resources into your own learning spaces and educational standards. We will showcase our new CareerXplorer tool and share strategies to help students connect STEMM learning to real-world career skills so they can chart their own meaningful path into the STEMM workforce. Whether a veteran, beginner, or somewhere in between, this session is open to any middle or high school educator.

Session Title: Teaching Systems: Laser Engraving
Presenter Name: Brandi Schwartz & Ronnie Tatum
Room F138
Description: This session is designed for educators of all experience levels. Participants will explore the fundamentals of laser engraving, including practical applications and techniques, with a focus on how to effectively integrate this technology into the classroom setting.

Session Title: Complete Guide to 3-D Printing in the Classroom
Presenter Name: Andrew Lankford
Room F145
Description: In this session we will provide information for beginners to advanced users on purchasing, set up and use of your 3-D printers. We will be using Babu labs printers as a model.

Session Title: Careertech Testing: From Creation to Credentialing
Presenter Name: Corey Clapp
Room F153
Description: All audiences are welcome to join this session to discover the comprehensive assessment services offered to Oklahoma technology center/partners by the CareerTech Testing Center (CTTC), a division of Oklahoma Department of CareerTech. Since 1985, CTTC has been providing standards and assessments for career and technology education programs. This session will cover CTTC's web-based delivery system, immediate results feedback, free study guides, proctoring solutions, and how these services can benefit your technology center.

Session Title: TSA High School Inside the Competitions: Q & A with Event Managers
Presenter Name: TSA Event Managers
Room F201
Description: Unlock the secrets to TSA competition success in this interactive session led by the event managers themselves! Gain first-hand insights into what judges are looking for, how events are structured, and common pitfalls to avoid. This is your chance to ask questions, clarify guidelines, and learn proven strategies to better support and prepare your students. Whether you're new to TSA or looking to elevate your chapter's performance, this workshop will provide the clarity and confidence you need to guide your students to success.

Session Title: Tango Flight – Where STEM Takes Flight
Presenter Name: Craig Anthony
Room F207
Description: This is an advanced High school aviation/aerospace course, with real dual credit opportunities for students who show an acumen and interest. It is a double blocked class with a full 2-year, Federal Aviation Administration-based classroom curriculum and a full 2-year Lab in which the students build an actual, full-sized FAA certified airplane, in school.

Session Title: STEM in the Classroom – Hands on Desing Projects
Presenter Name: Brandy Mays and Jovette Dew
Room F211
Description: Ignite curiosity and creativity in your classroom with hands-on, project-based activities that bring learning to life! This interactive session will equip you with practical, adaptable strategies to make STEM come alive for every student. Because at the end of the day—every teacher is a STEM teacher.

Session Title: Staying Calm(ish) in the Chaos
Presenter Name: Trisha Swift
Room F216
Description: Some days the classroom feels like controlled chaos, and it can be hard to stay calm when students are not. This session will focus on simple, realistic strategies to help you stay regulated and in control even when behaviors escalate around you. We will explore ways to manage stress, respond instead of reacting, and create a steady classroom environment that supports both you and your students. You will leave with tools to help you stay grounded, no matter what the day throws your way.

Session Title: Fab Lab Tulsa
Presenter Name: Dan Moran
Room F219
Description: Fab Lab Tulsa is a community makerspace and affiliate of the University of Tulsa located in the Kendall – Whittier neighborhood of Tulsa. Our makerspace utilized CAD software and digital fabrication technology to teach design thinking, problem solving, and skill building to audiences including youth, educators, community, workforce, and business segments. Come learn more about the Fab Lab and how it can be utilized within your program.

Session Title: It's Alive! Bring STEM to Life with AR/VR
Presenter Name: Brooke Cashion
Room F228
Description: Experience the power of AR/VR in delivering lifelike lab-based experiences in STEM programs through this "hands-on" roundtable discussion. Understand how AR/VR enables students to enjoy STEM experiences which would normally be considered dangerous, impossible, counter-productive, or expensive in traditional classrooms. Experience the technology and see examples of student-centered activities that supplement and align with OK standards and pathways.

Session Title: STEM Sustainability Readers with OK Beef Council
Presenter Name: Jessica Sadler
Room F232
Description: Attendees will be engaging with the Beef Sustainability readers that were created for the Kansas Beef Council. They are applicable to cattle and councils throughout the US. Attendees will be engaged with resources that provide information on Carbon Cycling, Prescribe Burns, Upcycling, Ruminant Animals, Careers, and so much more. Each reader has an accompanying lab, and I will also share the Breakout Box resource created to help with basic cattle knowledge.

Session Title: Botball Educational Robotics Programs
Presenter Name: Steve Goodgame
Room F236
Description: Come learn more about the Botball Educational Robotics program and how schools across Oklahoma are teaching their kids using our autonomous (no remote control) robot programs. We will highlight resources available including an AI assisted tutor built within our virtual robot simulator.

Session Title: Students to SMEs: Building Cybersecurity Talent from 8th grade to Employment
Presenter Name: Dr. Sari McCoy, Ms. Susan Henderson, and Mrs. Kelly Newman
Room F251
Description: Have you ever wondered … Is cybersecurity just for big cities and big companies? Employability for cyber careers begins after college, right? Do schools need a cyber expert to teach cybersecurity learners? All audiences are invited to join us for an engaging session on cybersecurity career programming. There are 500,000 cybersecurity unfilled positions, and the gap is widening while threats against all individuals and industries are increasing. The focus of this session is to provide insight into cyber talent development by dismissing the myths about cyber education, and sharing models and best practices for career preparation, credential attainment, and work-based learning. 8th grade to employment in a package!

Session Title: Illuminating your Mind: Paper Circuits
Presenter Name: Debra Wood
Room G124
Description: Deepen your students' understanding of energy and energy transfer with paper circuits! Participants will be given the opportunity to design and create paper circuits that demonstrate the flow and transfer of energy from a battery to light bulb. The idea that the paper circuit can create a more concrete understanding for an abstract idea will hopefully resonate with all participants, and their students, in a unique way. Participants will become completely engaged in this hands-on activity! Energy and energy transfer are incredibly abstract concepts that young students (and even adults) tend to struggle with, but with paper circuits, learners construct meaning and understanding through a more concrete view of energy transfer.

Session Title: Hands-on Middle School Career Exploration with SAM Labs; How Hands-On Learning Can Engage Intermediate Students
Presenter Name: Corey Abernathy and Morten Hagen
Room G125
Description: Participants will take part in a fun, hands-on workshop where they'll build real-world prototypes using sensors, motors, and other hardware, then bring their creations to life through coding. Along the way, we'll explore how these projects connect to real-world STEAM careers—giving students a window into fields like engineering, environmental science, architecture, and more. It's a playful, collaborative session that introduces practical ways to integrate coding, design thinking, and problem-solving into everyday instruction—while helping students see themselves in future career pathways. This session is designed for elementary, middle, and high school educators—no prior coding experience needed!

11:00 a.m. – Breakout Session 4
11:45 a.m. **Session Title: OSU Speedfest India Class (5th-12th grade) Competition Information and Curriculum**
Presenter Name: Dr. Dorinda Risenhoover – NASA Oklahoma Space Grant Consortium
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Description: During this session, participants will learn the who, what, when, where, how, and why of the OSU Speedfest India Class Competition (a remote-controlled foam airplane competition). In addition to receiving detailed information, participants will be immersed in one of the hands-on activities within the NASA OKSG India Class Speedfest Curriculum.

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Session Title: Engineering your Robotics CTE Course
Presenter Name: Tim Lankford
Room A144
Description: As companies continue to adopt and leverage technology at a lightning pace, the demand for new skills and new jobs continues to grow. Career and technical education (CTE) provide an opportunity to prepare students for these jobs of the future by arming them with technical know-how and 21st-century skills. Join Pitsco Education for a primer on utilizing robotics in CTE pathways. During this session, we'll discuss how studying robotics provides students with workforce-ready skills and an engaging, relevant CTE classroom experience. Then, participants will team up for a fun and engaging mini robotics competition.

Session Title: TSA Updates
Presenter Name: Tami Redus
Room A150
Description: Tami Redus, State TSA Advisor, will share important updates, announcements, and key information about TSA events for the upcoming year. This session will help advisors stay informed and prepared for a successful TSA season.

Session Title: Environmental Sustainability for Future Engineers
Presenter Name: Christine Cammuso
Room A209
Description: Discover strategies for elevating PLTW's Environmental Sustainability curriculum to better engage and inspire the next generation of engineers. Designed for a beginner audience of science and engineering instructors at the middle and high school levels, this session will explore practical enhancements, project ideas, and interdisciplinary connections that make the content more impactful and engineering focused. Walk away with tools to help students tackle real-world environmental challenges through innovation, critical thinking, and design.

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Description: Take flight with this introductory workshop using the Whitebox Learning glider program in your middle school STEM class! Designed for educators new to the platform or looking to sharpen their approach, this session will provide a step-by-step walkthrough of the glider design process. Learn helpful tips for guiding students through digital modeling and physical construction, while reinforcing core STEM concepts. Walk away with practical strategies to boost student engagement and ensure successful glider builds from start to finish.

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Presenter Name: Jennifer Edwards
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Description: Introduction to Engineering Tomorrow's 14 physical labs & 8 digital labs, all developed by expert engineers in collaboration with college mentors. These engaging, real-world experiences are designed to spark students' interest in engineering and STEM fields. Teachers can implement the labs in one of three flexible formats: Independent, Customized, and Live.

Session Title: Kidnapped with Science Take Out
Presenter Name: Janet Lawrence
Room A250 Classroom
Description: In this session step into the role of a forensic scientist with *Kidnapped!*, an engaging, hands-on investigation from Science Take-Out. Participants will analyze evidence to solve a fictional kidnapping case using real-world techniques such as blood typing, DNA profiling, and fingerprint analysis. This session showcases how science can be applied in criminal investigations, while promoting critical thinking and problem-solving skills. Perfect for middle and high school science or STEM educators, this session demonstrates how to bring inquiry-based learning to life—no lab equipment or prep required!

Session Title: Getting Students College and Career Ready with Stackable, Industry Recognized Credentials
Presenter Name: Deborah Trask
Room C114
Description: Did you know that 92% of U.S. jobs require mastery of digital skills, and over one-third of college graduates enter the job market without these critical competencies? Join this session to explore how stackable, industry-recognized, and proficiency-based certifications can bridge this critical skills gap. Learn actionable strategies to empower learners to validate and demonstrate their expertise in essential digital competencies, setting them up for success in higher education and their careers. During the session, you will learn the role of digital skills in today's workforce, discover the benefits of proficiency-based certifications and how they validate skill sets, and gain insights into implementing stackable, industry-recognized certifications in your educational program. You'll walk away with practical tips for integrating certifications into your curriculum, plus resources and examples to help revolutionize college and career readiness in your classrooms. Don't miss this opportunity to transform student preparation for the demands of the digital age!

Session Title: Crafting a Great First Day: Going Beyond the Ice Breakers and Syllabus
Presenter Name: Sarah Carter
Room C118
Description: Explore creative ideas for engaging students with meaningful activities on the first day of class that don't involve going over the syllabus or answering silly ice breaker questions. These hands-on activities that will get students thinking, communicating with one another, and having fun. These ideas are easily adaptable to different grade levels and can be used across middle school and high school.

Session Title: Building an Aquaponics System for your Classroom/Greenhouse
Presenter Name: Kaben Smallwood
Room D119
Description: Get ready to build your own aquaponics system in this hands-on session designed to deepen STEM learning through real-world application. Teachers will learn how to construct a functioning system, exploring how its parts connect and operate. Along the way, they'll learn about system design, monitoring, and troubleshooting while applying engineering and problem-solving skills. The session will wrap up with a Q&A, giving teachers the chance to ask questions, share insights, and reflect on their systems.

Session Title: OnShape: Cloud Based CAD Modeling
Presenter Name: Brian Twomey
Room D135
Description: Wondering what Onshape has to offer? Want to see the interface demonstrated? The format will be a short presentation of features accompanied by a Q/A session with live demonstrations.

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Presenter Name: David Oulette
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Presenter Name: Kassie Jo Winn-Huizar
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Presenter Name: Brandi Schwartz & Ronnie Tatum
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Description: This session is designed for educators of all experience levels. Participants will explore the fundamentals of laser engraving, including practical applications and techniques, with a focus on how to effectively integrate this technology into the classroom setting.

Session Title: Incorporating 3-D Printing Into Your Program with Q & A
Presenter Name: Andrew Lankford
Room F145
Description: In this session you will dive deeper into 3-D Printing with how to incorporate 3D print into your classroom using Tinker CAD, fundraising and a Q & A session. We will be using Bambu Labs Printers in this session, but the information can be cross platforms and any 3D printers.

Session Title: Careertech Testing: From Creation to Credentialing
Presenter Name: Corey Clapp
Room F153
Description: All audiences are welcome to join this session to discover the comprehensive assessment services offered to Oklahoma technology center/partners by the CareerTech Testing Center (CTTC), a division of Oklahoma Department of CareerTech. Since 1985, CTTC has been providing standards and assessments for career and technology education programs. This session will cover CTTC's web-based delivery system, immediate results feedback, free study guides, proctoring solutions, and how these services can benefit your technology center.

Session Title: CO_2 Dragster Design for the Classroom and Competition
Presenter Name: Paul Wollenberg and Danny Pruett
Room F201
Description: Learn the basics about teaching, designing and building CO_2 dragsters in your classroom and for TSA competition. HS and MS advisors are welcome to attend.

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Presenter Name: Craig Anthony
Room F207
Description: This is an advanced High school aviation/aerospace course, with real dual credit opportunities for students who show an acumen and interest. It is a double blocked class with a full 2-year, Federal Aviation Administration-based classroom curriculum and a full 2-year Lab in which the students build an actual, full-sized FAA certified airplane, in school.

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Session Title: Taking Care of You While You Take Care of Them
Presenter Name: Trisha Swift
Room F216
Description: Teaching can be one of the most rewarding and exhausting jobs. Between lesson planning, student needs, and the constant pull in many directions, burnout can sneak up before you realize it. In this session, we will talk about how to spot the warning signs early, build simple routines to protect your energy, and find ways to stay grounded and motivated throughout the school year. You will leave with practical tools you can use to help you keep doing what you love without burning out in the process.

Session Title: Fab Lab Tulsa
Presenter Name: Dan Moran
Room F219
Description: Fab Lab Tulsa is a community makerspace and affiliate of the University of Tulsa located in the Kendall – Whittier neighborhood of Tulsa. Our makerspace utilized CAD software and digital fabrication technology to teach design thinking, problem solving, and skill building to audiences including youth, educators, community, workforce, and business segments. Come learn more about the Fab Lab and how it can be utilized within your program.

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Presenter Name: Dr. Sari McCoy, Ms. Susan Henderson, and Mrs. Kelly Newman
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Session Title: Building a Drone Program that Prepares Students for Careers
Presenter Name: Jenny Peters, PhD
Room G124
Description: Small, unmanned aircraft (drones) are a tool that is increasingly used across multiple industries. Aviation is not the only industry that students can use or fly drones. This presentation will showcase ways to build an aviation training program that will certify students to commercially fly unmanned aircraft, while also building soft skills and technical knowledge that apply across multiple industries including aviation and aerospace.

Session Title: Hands-on Middle School Career Exploration with SAM Labs; How Hands-On Learning Can Engage Intermediate Students
Presenter Name: Corey Abernathy and Morten Hagen
Room G125
Description: Participants will take part in a fun, hands-on workshop where they'll build real-world prototypes using sensors, motors, and other hardware, then bring their creations to life through coding. Along the way, we'll explore how these projects connect to real-world STEAM careers—giving students a window into fields like engineering, environmental science, architecture, and more. It's a playful, collaborative session that introduces practical ways to integrate coding, design thinking, and problem-solving into everyday instruction—while helping students see themselves in future career pathways. This session is designed for elementary, middle, and high school educators—no prior coding experience needed!

12:00 pm – 12:20 pm	***Technology Center Update Meeting*** Tonja Norwood *Room A150*
12:30 pm – 1:30 pm	***Technology Teachers Lunch Provided by OKACTE STEM Board*** Cafeteria
11:50 am– 1:00 pm	***Comprehensive Teachers Lunch Provided by OKACTE STEM Board*** Cafeteria

1:00 pm – 1:20 pm	***Comprehensive Teachers Update Meeting*** Tonja Norwood *Room A150*
1:30 pm – 2:15 pm	Networking with OKACTE STEM Regional Vice-Presidents Rooms: **A106** **Northeast Region**

1:00 pm – ***Comprehensive Teachers Update Meeting***
1:20 pm   Tonja Norwood
          Room A150

1:30 pm – Networking with OKACTE STEM Regional Vice-Presidents
2:15 pm   Rooms: **A106**   **Northeast Region**
                 A150   **OKC Metro**
                 A229   **Northwest Region**
                 F207   **Tulsa Metro**
                 F216   **Southwest Region**
                 F228   **Southeast Region**

2:25 pm – Networking with Program Area and Industry Partners
4:00 pm   Rooms: **A229**   **Aviation/Aerospace**
                 F153   **Biomed/Biotech**
                 A144   **Computer Science**
                 Cafeteria   **Gateway**
                 A150   **HS-MS Tech Engineering**
                 F211   **Math**
                 A106   **Pre-Engineering**
                 A114   **Robotics (Can also use the space outside of this room)**
                 F201   **Science**

4:00 pm   Conference Adjourns