

Teacher Externships

January 2018

RESOURCE TOOLKIT



OKLAHOMA STATE DEPARTMENT OF
EDUCATION
— CHAMPION EXCELLENCE —

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“Every day of my externship, I saw the math and science I taught
in class being applied to real-life situations”

– Beth Bryan, Edmond Sequoyah Middle School (July 2017)

PROGRAM INCEPTION

The summer teacher externship is a product of the Oklahoma State Department of Education's Teacher Shortage Task Force. When task force members representing business and community became aware of the state's teacher shortage, they asked what they could do to help. That initial question in 2016 led to a larger conversation about supporting a high-quality education for Oklahoma students.

Providing a summer teacher externship gives teachers insight and skills to share with their students. When business leaders learned that teachers could expose students to future career opportunities, they rallied around the idea. The first business to take action was Terracon. With a resource toolkit provided by the OSDE, Phil Wood, CEO at Terracon in Oklahoma City, hosted a paid teacher externship in summer 2017.

Program Mission:

Our mission is to connect business leaders with teachers to transform the classroom experience, inspiring students to become the next generation of innovators. This program places committed teachers into paid externships in companies in STEM fields so they can experience first-hand what careers might look like for their students. Through their job experiences, these teachers develop the ability to make their teaching come alive in order to inspire their students.

Externships serve as a professional development vehicle for teachers to learn about the industry related to their campus programs. By engaging with and in industry-based practices, teachers are better able to craft curriculum that is meaningful and relevant.

Program Goals:

1. Career Exploration

Preparing students for the future workforce is a tremendous responsibility being placed upon the classroom teacher. This exploration requires exposing students to the skills expected from industry as a member of a global community. As STEM education becomes a topic of national importance, teachers need to increase the use of authentic learning experiences for students in the classroom. This real-world application is accomplished by giving teachers the tools and resources to continuously develop their own skills and knowledge in STEM methods, teaching techniques and relevant use of problem solving processes.

2. Engineering Design and 21st Century Skills

Teachers need to have experience and understanding of how 21st century skills and the engineering design process are being utilized in the corporate workforce to solve technological challenges. By using teacher externships as a professional development model, teachers gain first-hand knowledge of how companies are using the engineering design process and 21st century skills to be competitive in the workforce. The externship, along with targeted professional development, creates opportunities for improved teaching practices through increased frequency of STEM-teaching techniques in the classroom.

PROCESS TIMETABLE

January - May	• Application Process
June - August	• Externship
September - December	• Extending the Experience

Application Process

- Template provided for business to add logo and description
- OSDE promotes the program via newsletter and social media
- Establish the application window
- OSDE or business will collect applications and begin selection process
- OSDE or business notifies teachers of acceptance

Externship –

- OSDE STEM team pre-virtual meeting with teachers
- HR onboarding at business
- Externship experience with support from OSDE STEM team (emphasizing impact on classroom instructional practices)
- OSDE STEM team post-virtual meeting with teachers

Extending the Experience –

- OSDE and business network with the classroom teacher, sharing resources and making site visits.

SAMPLE APPLICATION



2017 Summer Teacher Externship Application

(Partnership with Terracon and the Oklahoma State Department of Education)

ABOUT TERRACON:

Terracon is a consulting engineering firm that has provided quality engineering services to clients since 1965. From its roots in geotechnical engineering (the study of the physical properties of soil and rock to support man-made structures), Terracon has evolved into a successful multi-discipline firm specializing in environmental, facilities, geotechnical and materials services for private and public sector clients. Market sectors served: commercial and retail development, transportation, state and local government, energy, industrial, healthcare, and telecommunications, among others. Terracon currently operates more than 130 offices nationwide with more than 3,500 employees and ranks 32nd on Engineering News-Record's list of the Top 500 Design Firms in the nation (www.terracon.com).

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SAMPLE APPLICATION

SCHEDULE AND COMPENSATION: (select one)

July 10 – July 21, 2017 8:30 AM – 12:30 PM	\$15.00 hourly
July 24 – August 4, 2017 8:30 AM – 12:30 PM	\$15.00 hourly

PROGRAM GOALS:

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SAMPLE APPLICATION

OSDE SUPPORT:

The OSDE STEM Team is equipped to bring focus to the experience so that it has impact on classroom instructional practices.

STEM Educator Externship Expectations:

- Pre-Virtual Meeting - Educators participating in STEM externship will be prompted with things to look for that might connect to their STEM classroom.
- Weekly Inspection/Reflection Questions - Educators participating in STEM externships will respond to weekly questions that allow for reflection on the experience regarding practical application and inspection of their classroom practice.
- Post-Virtual Meeting - All educators participating in STEM externships will be prompted to reflect on connections to their STEM classrooms and ways in which they can share those reflections with a broader audience of educators through blog posts, podcasts or videos.

SAMPLE APPLICATION

EXTERNSHIP APPLICATION COMPLETION:

Name:

Date of Birth:

U.S. Citizen:

Home Address:

School Information:

Phone:

E-mail:

Externship selected: July 10 – 21 or July 24 – August 4

Education/Degrees:

Employment/Teaching Background:

Previous and Current course(s) and grade level(s) taught:

List any professional development, awards, research or other information you would like us to consider.

SAMPLE APPLICATION

Rank your proficiency in the following skills and computer programs:

	No Experience	Little Experience	Proficient	Advanced
Word Processing				
Power Points				
Excel Spreadsheets				
Blogging				
Social Networking				
Skype				
Programming				
Online Surveys				
Databases				
Online Video Sharing				

List any applicable math, science, technology, vocational skills or experiences (lab research, outdoor field research, computer programming skills, mechanical and/or engineering experience, etc.)

SAMPLE APPLICATION

What would you like to know or learn through this externship?

If offered this externship, how do you foresee using knowledge gained from this experience in your classroom setting?

Provide two references:

**SUBMIT APPLICATION to Robyn Miller at
Robyn.Miller@sde.ok.gov by 11:59 PM, Friday, June 30, 2017
Teacher Externs will be named by July 5, 2017**

VETTING AND SELECTION PROCESS

The OSDE or the business can manage vetting and selecting. The process used by the OSDE is below:

- **Five-member committee established**
- **Committee chair creates a table or spreadsheet of applicants for review**
- **After review, members vote on top # from applicant pool**
 - **Considerations: representatives**
 - **from a variety of districts**
 - **with gender diversity**
 - **with variety of years of experience**
 - **who well-articulated learning and use of externship**
- **Teachers are notified of acceptance or non-acceptance**

OSDE STEM-Team Support

Pre-Virtual Meeting:

Things to Look For:

- Look for the diversity of careers/majors exhibited
- Look for the diversity in levels of degrees
- Look for the ways in which problem solving, data analysis and critical thinking are engaged in by employees.
- Look for ways in which you will share your experiences with students in your classroom.
- Look for ways in which science and mathematics content are utilized in application by employees

During Externship:

Week One Reflection Questions:

- To what extent are science content and practices present and applied in the work of Terracon?
 - Here, science is considered to be the study of the natural world, including laws of nature. It is both a body of knowledge and a process – scientific inquiry
- How are different sciences utilized in the work (Life Science, Physical Science and Earth Science)?
- In what ways do employees purposefully create and operate technology?
 - Here, technology refers to the people, organizations, knowledge, processes and devices that go into creating and operating technological artifacts. Much of modern technology is a product of science and engineering, and technological tools are used in both fields.

- In what ways are engineering knowledge and design present? How are science and mathematics concepts utilized to inform the design work?
 - Here, engineering is considered to be both a body of knowledge – about the design and creation of human-made products – and a process for solving problems. Engineering utilizes concepts in science and mathematics as well as technological tools.
- To what extent are mathematics content and practices present and applied in the work?
 - Here, mathematics refers to the study of patterns and relationships among quantities, numbers and space. Logical arguments themselves are part of mathematics as along with the claims.

Week Two Reflection Questions:

- How has your thinking about the discipline you teach changed through your externship experience?
- How do you plan on connecting your students to your experiences in the externship?
- How would you explain STEM in the real-world to your students based on your externship experience?

Post-Virtual Meeting:

Networking Follow-up

- Classroom implementation strategies
- Connection with other teachers via blog and social media
- Scheduled site visits if possible

CONTACT INFORMATION

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