



WELCOME

WELCOME TO THE SHPE PRE-COLLEGE PROGRAM! Today we hope to motivate you to excel in your current academic journey, reach new collegiate aspirations and explore Science, Technology, Engineering, and Math (STEM) related careers. Learn more about SHPE Jr. by contacting programs@shpe.org.

WE HOPE YOU HAVE AN AMAZING DAY!

Society of Hispanic Professional Engineers

13181 Crossroads Parkway North, Suite 450

City of Industry, CA 91746

www.shpe.org

Presented by SHPE and the following Partners and Sponsors:



ENGINEERING DESIGN CHALLENGE

**Led by Ten 80 Education
University of Missouri-Kansas City, Student Union
Thursday, November 2, 2017**

Time	Workshop 1	Workshop 2	Workshop 3
9:00am - 9:45am	Registration & Breakfast Room 401 - Foyer		
9:45am - 10:10am	Welcome Room 401AB		
10:15am - 11:15am	RACE A Room 401D	BEAT B Room 401C	GAME C Room 401AB
11:20am - 12:20pm	RACE C Room 401D	BEAT A Room 401C	GAME B Room 401AB
12:25pm - 1:20pm	Lunch Room 401AB		
1:25pm - 2:25pm	RACE B Room 401D	BEAT C Room 401C	GAME A Room 401AB
2:30pm - 3:30pm	Final Challenge Prep Room 401AB		
3:30pm - 4:30pm	Judging Room 401AB		
4:30pm - 5:00pm	Closing Room 401AB		

You will rotate between three different exciting workshops: GAME, BEAT and RACE. For the final challenge, you will compete against your fellow classmates in a pit stop challenge and relay race.

RACE

The racing industry is driven by marketing as much as by engineering and innovations in energy, materials, manufacturing and software. There can be over 300 people on each successful racing team; only one of those is the driver. It takes teamwork to be a successful leader in this high-tech space. In the RACE workshop you'll cultivate teamwork and leadership skills while exploring fundamental variables in race performance (and driving 1:10 scale RC cars)!

BEAT

You'll explore the fundamental alphabet of all electronics: binary code ... and you'll do it with a beat. Binary code is where software meets hardware. In BEAT, e-origami and breadboard circuits will help demystify this topic while bringing out your artistic side.

GAME

In GAME you'll learn about the concept of DESIGN and how it applies to SO many different careers and personal pursuits. You'll put design concepts to work by designing a table-top or computer game that could actually go into production.

HIGH SCHOOL TRACK WORKSHOPS

Engineering Leaders

U.S. Army

To lead well you must first bring a team together. In this workshop, you will explore core leadership concepts. Then via small group discussion you will analyze leadership challenges, related to science, technology, engineering and math (STEM) scenarios and learn how to apply these concepts to achieve successful outcomes.

Spuds to Subs

Navy Civilian Careers

Neutral buoyancy—what is it? How do we make an object neutrally buoyant? Why do we want objects to be neutrally buoyant? We'll use potatoes as our "submarine" to accomplish several hands-on engineering challenges around the concept of neutral buoyancy.

Pathways

SHPE

Have you ever started in one direction, and before long, the trajectory of your life simply changed course? In this workshop, we will uncover the different pathways that lead to STEM majors. We will work together to discover themes, patterns, stories, and connections in our lives for the purpose of understanding careers in STEM and how our own identities and stories help us define unique STEM career pathways.

The Truth About College

SHPE

A moderated round table where you will be able to have open conversations with undergraduate students about college life and the college environment.

HIGH SCHOOL TRACK

**Kansas City Convention Center
Friday, November 3, 2017**

Time	Workshop 1	Workshop 2	Workshop 3	Workshop 4	Workshop 5
8:00am - 8:30am	Registration & Breakfast				
	Room 2103C - Foyer				
8:30am - 9:00am	Welcome				
	Room 2103C				
9:05am - 9:55am	Engineering Leaders A	Spuds to Suds B	Pathways C	The Truth About College D	College & Career Fair E
	Room 2102B	Room 2101	Room 2105	Room 2104B	Room 2104A
10:00am - 10:50am	Engineering Leaders E	Spuds to Suds A	Pathways B	The Truth About College C	College & Career Fair D
	Room 2102B	Room 2101	Room 2105	Room 2104B	Room 2104A
10:55am - 11:45am	Engineering Leaders D	Spuds to Suds E	Pathways A	The Truth About College B	College & Career Fair C
	Room 2102B	Room 2101	Room 2105	Room 2104B	Room 2104A
11:50am - 12:40pm	Lunch				
	Room 2103C				
12:45pm - 1:35pm	Engineering Leaders C	Spuds to Suds D	Pathways E	The Truth About College A	College & Career Fair B
	Room 2102B	Room 2101	Room 2105	Room 2104B	Room 2104A
1:40pm - 2:30pm	Engineering Leaders B	Spuds to Suds C	Pathways D	The Truth About College E	College & Career Fair A
	Room 2102B	Room 2101	Room 2105	Room 2104B	Room 2104A
3:00pm - 4:00pm	Campus Tour				
	University of Missouri, Kansas City				



MIDDLE SCHOOL TRACK WORKSHOPS

Circuits

Science City

You will design, prototype and gain a practical understanding of electricity as you use modular electronic component blocks to build circuits and add them onto forms you have created to solve a problem.

Gross Science

Science City

Add some gross to your Science City experience. Discover some gruesome tricks and mix up some ooey, goopy messes. Investigate the real science behind some spooky fakes.

Green Engineering Challenge

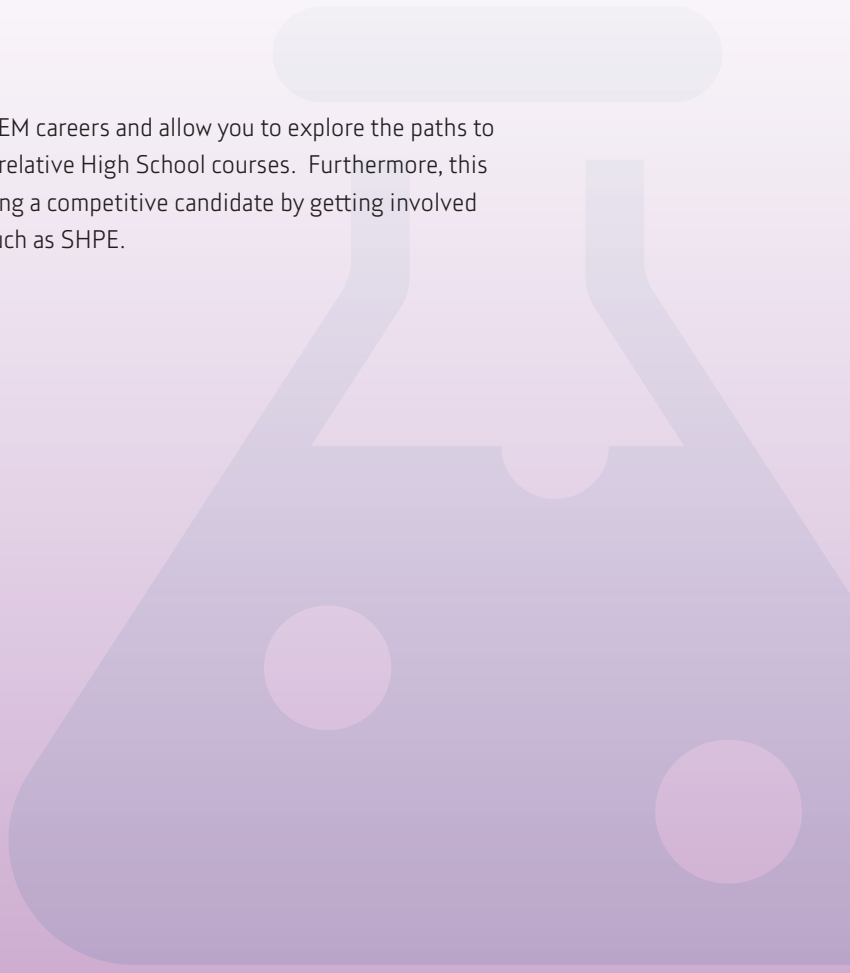
Science City

The Green Engineering Challenge allows you to apply and adapt your programming skills while problem-solving your robot through missions related to renewable energy.

Map It Out

SHPE

This workshop will introduce you to different STEM careers and allow you to explore the paths to reaching these careers by familiarizing you with relative High School courses. Furthermore, this workshop will also stress the benefits of becoming a competitive candidate by getting involved in extracurricular activities and organizations, such as SHPE.



MIDDLE SCHOOL TRACK

Science City at Union Station Friday, November 3, 2017

Time	Workshop 1	Workshop 2	Workshop 3	Workshop 4	Workshop 5
8:00am - 9:00am	Registration & Breakfast				
	Regnier Extreme Screen Theatre Lobby - Union Station				
9:00am - 9:30am	Welcome				
	Regnier Extreme Screen Theatre - Union Station				
9:50am - 10:50am	Circuits A	Gross Science B	Green Engineering Challenge C	Map It Out D E F	Open Exploration G H I
	Maker Studio Lower Level	Test Kitchen Lower Level	Engineerium Lower Level	Regnier Extreme Screen Theatre - Union Station	Science City
10:50am - 11:20am	Open Exploration				
	Lower Level				
11:20am - 12:20 pm	Circuits G	Gross Science H	Green Engineering Challenge I	Map It Out A B C	Open Exploration D E F
	Maker Studio Lower Level	Test Kitchen Lower Level	Engineerium Lower Level	Regnier Extreme Screen Theatre - Union Station	Science City
12:20pm - 1:00pm	Lunch				
	Regnier Extreme Screen Theatre - Union Station				
1:00pm - 2:00pm	Circuits D	Gross Science E	Green Engineering Challenge F	Map It Out G H I	Open Exploration A B C
	Maker Studio Lower Level	Test Kitchen Lower Level	Engineerium Lower Level	Regnier Extreme Screen Theatre - Union Station	Science City
2:10pm - 3:00pm	Movie, "Dream Big: Engineering Our World" 3D				
	Regnier Extreme Screen Theatre - Union Station				
3:00pm - 3:30pm	Closing				
	Regnier Extreme Screen Theatre - Union Station				

Key

Blue	Group A
Gold	Group B
Green	Group C
Orange	Group D
Pink	Group E
Purple	Group F
Red	Group G
Silver	Group H
Yellow	Group I

**A SPECIAL THANK YOU TO ALL OUR 2017 SHPE
PRE-COLLEGE PROGRAM SPONSORS AND PARTNERS**

HIGH SCHOOL TRACK

Workshop/Hands-On Activity Sponsors

Navy Civilian Careers

U.S. Army

COLLEGE & CAREER FAIR EXHIBITORS

Amazon

The Boeing Company

UMKC School of Computing and Engineering

University of Arkansas

University of Kansas School of Engineering

University of Maryland College Park A. James Clark School of Engineering

U.S. Army

ENGINEERING DESIGN CHALLENGE

University Host

UMKC School of Computing and Engineering

A SPECIAL THANK YOU TO THE 2017 SHPE PRE-COLLEGE PROGRAM COMMITTEE

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