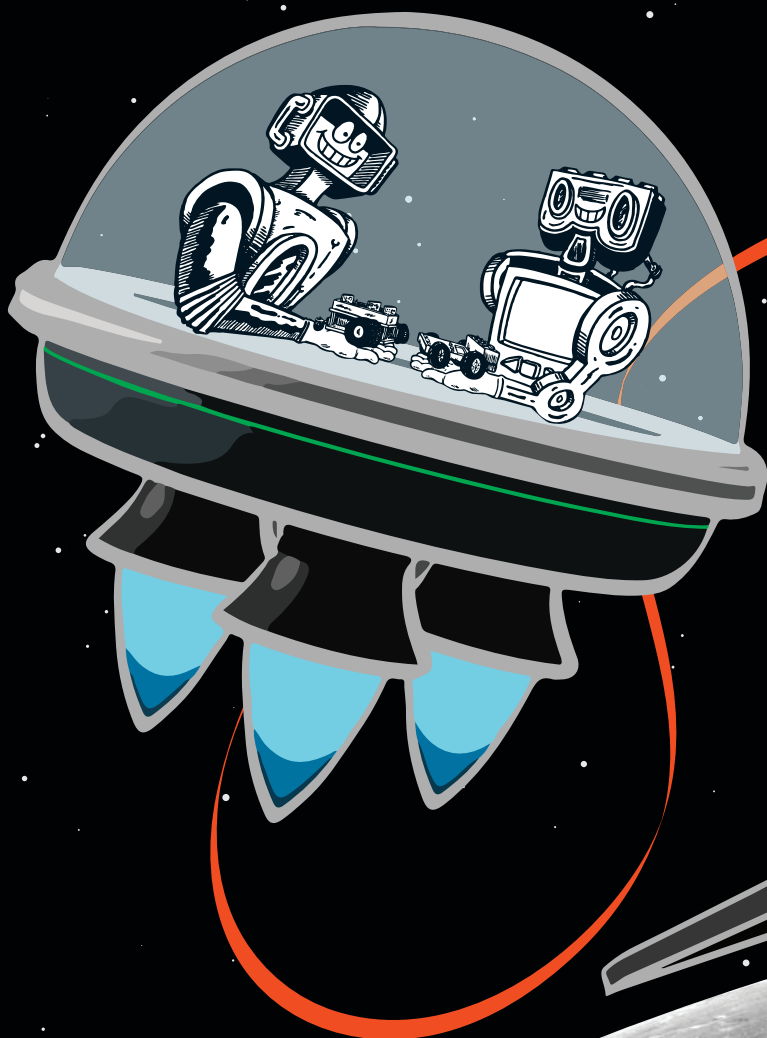


2019



NEBRASKA ROBOTICS EXPO



CEENBoT™
SHOWCASE

**CREATIVE VISUAL
ARTS EXPO**

**FIRST®
LEGO®
LEAGUE**



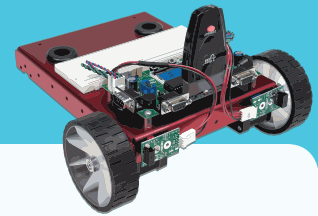
#NERoboticsExpo
neroboticsexpo.unl.edu

UNIVERSITY OF
Nebraska
Lincoln

Saturday, February 16, 2019
Strategic Air Command & Aerospace Museum
Ashland, Nebraska

UNIVERSITY OF
Nebraska
Omaha

CEENBoT™ SHOWCASE



Welcome to Nebraska Robotics Expo

The Expo represents a collaborative effort between the SPIRIT Project and the Nebraska 4-H Youth Development project, and *FIRST*® LEGO® League to create an outstanding robotics competition for about 1,000 of our local and greater Nebraska area youth. As you cheer on our future scientists and engineers, we encourage you to visit the CEENBoT™ Showcase, *FIRST* LEGO League events, sponsor booths, and museum exhibits.

The CEENBoT Showcase features a custom robot developed through the SPIRIT project called the 324 CEENBoT. This “open-source” robot has a totally new and enhanced platform featuring multiple autonomous programming options that include a TI Graphing Calculator Interface, a Graphical Programming Interface (GPI), and programming in the C language with an Application Programming Interface (API).

Public Invited to Play

A feature of the showcase is the CEENBoT Games, open to the general public, including kids of all ages! We have booths set up for anyone to explore the 324 CEENBoT. Come play games such as Bowling, Distracted Driving, Rodeo BoT Style, Precision Driving, Putt Putt, PlinkBoT, Figure 8 and more.

Creative Visual Arts Expo

Again this year at the 2019 Nebraska Robotics Expo — we are excited to have the Creative Visual Arts Expo featuring robotic-inspired art pieces selected from 100+ entries created by K-12 students from five participating schools! This year's Creative Visual Arts Expo continues a growing robotics art display at the Nebraska Robotics Expo, showcasing student creativity and their understanding of robotics at the intersection of art and science. The coordinator for this event, Tom Orange, is hosting robotic art demonstrations during the day inside the entrance of Hangar A (see page 5).

The CEENBoT Showcase

The 2019 Nebraska Robotics Expo marks the eleventh season for the CEENBoT Showcase. There are 96 teams participating this year from 20 Nebraska elementary, middle, and high schools and organizations. This year we celebrate the theme of “Space.” We invite you to take in the many activities and enjoy this day of excitement and anticipation as our youth demonstrate the possibilities of STEM achievement and creativity in the context of robotics.

About CEENBoT Robotics

The CEENBoT Robotics program has its roots in the SPIRIT grant project, which stands for the Silicon Prairie Initiative for Robotics in Information Technology. The SPIRIT program was funded by the National Science Foundation (NSF) and has provided the instructional foundation needed to help teachers to use educational robotics to teach important science, technology, engineering, and mathematics (STEM) concepts. The current CEENBoT Robotics program combines the technical expertise of engineering professors and staff in the University of Nebraska–Lincoln Department of Electrical and Computer Engineering with the educational expertise of professors and staff in the College of Education at the University of Nebraska at Omaha.

This collaboration has created a national educational STEM robotics curriculum for middle schools.

About the SPIRIT Program

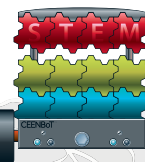
Through the initial funding for the SPIRIT program, more than 500 teachers have been trained in NSF extended workshops and graduate courses, and more than 300 Internet-based lesson plans have been created. Teacher surveys and student assessments have documented significant growth in problem-based learning, robotics, electronics, and engineering design. Educators are encouraged to check out the extensive SPIRIT website at the following URL: tekbot.unl.edu/SPIRIT2. Participating schools and teams for this year's Expo are listed on page 3.



2019 CEENBoT Showcase Teams

School	Division	Team Name
Academy Science	HS	Academy A
Bellevue West HS	HS	Hyper T-Bird
	HS	USS Thunderbird
Bennington MS	MS	The Hunter
EVVMS	MS	Aanya Mishra
	MS	Clap Clap Dough
	MS	Double Trouble
	MS	Gucci EVVMS Supreme Squad!
	MS	Robots goin' PEW
	MS	S.K.Y.
	MS	Sweeping the Competition!
	MS	Triple Threat Brownies
	MS	Unicorn Rebel Pirates
	MS	Wonder Bread
	MS	Jacob Strufing
Gretna Public	Elem	ACE Girl Power 2.0
	Elem	ACE High Tech Potatoes
	Elem	ACE Red Rovers
	Elem	ACE Robotic Champions
	Elem	ACE T.A.G.
	Elem	Super WomenZ
Guardian Angels CC	HS	GACC Bluejays 1
	MS	GACC Bluejays 2
	MS	GACC Bluejays 3
	MS	GACC Bluejays 4
	MS	GACC Bluejays 5
	MS	GACC Bluejays 6
Kennedy Elementary	Elem	Tiny Tigers
	Elem	Kennedy Nation
	Elem	MTM Tiger Nation
	Elem	Tiger Engineers
Lewis & Clark Middle	MS	Explorers
	MS	Lewis & Clark's Robotics Club
	MS	Pathfinders
	MS	Pioneers
	MS	Pride
Madison Public	HS	Dragon Tail
	HS	Fire Dragon
Millard North Middle	MS	Allos
	MS	Apaloosas
	MS	Cheval
	MS	Lystros
	MS	Mousers
	MS	Mustangos
	MS	Mustangs
Mission Middle	MS	Robots 4 Life
	MS	S.P.A.C.E.
	MS	Spirits
	MS	T.M.N.T.
Nelson Mandela Elem	Elem	AmazinKats
Oakdale	Elem	Barking Robots

School	Division	Team Name
Oakdale (continued)	Elem	Galaxy 9
	Elem	Mr. Monkeys Magical Martian Tigers
	Elem	Oakdale Rogue 1
	MS	Oakdale Rogue 2
	Elem	Robo Potatoes
	Elem	Team Orion
	Elem	The Beastly Bosses
	Elem	The Black Panthers
	Elem	Tigers in Space
Rockbrook	Elem	Rockbots A
	Elem	Rockbots B
	Elem	Rockbots C
	Elem	Rockbots D
	Elem	Rockbots E
Scotus CC	HS	Rocks 1
	HS	Rocks 2
	MS	Rocks 3
Spring Lake Magnet	Elem	Shooting Stars 1
	Elem	Shooting Stars 2
	Elem	Shooting Stars 3
	Elem	Puma 1
	Elem	Puma 2
	Elem	Puma 3
St. Bernadette School	MS	The Fluffy Tiger-Muffins
Westside	MS	WCS 1
	Elem	WCS 2
	Elem	WCS 3
	Elem	WCS 4
Willa Cather	MS	Boys With Bots
	Elem	Cather Design & Drive
	Elem	Cather Rockin Programmers
	Elem	Cather STEM Stars
	Elem	Cather's Coding Kids
	Elem	Cather's Steamin Engineers
	MS	CeenBots On the Go
	MS	Motorized Mustangs
	MS	Motorized Programmers
	MS	Mustang Robotics
	MS	Programing Dream Tea
	MS	Programing Dream Team
	MS	Remote Drivers
	HS	Two Girls & a Bot
York HS	HS	York Blue
	HS	York Gold
	HS	York White



Science
Technology
Engineering
Mathematics

CEENBoT Showcase



Strategic Air Command & Aerospace Museum

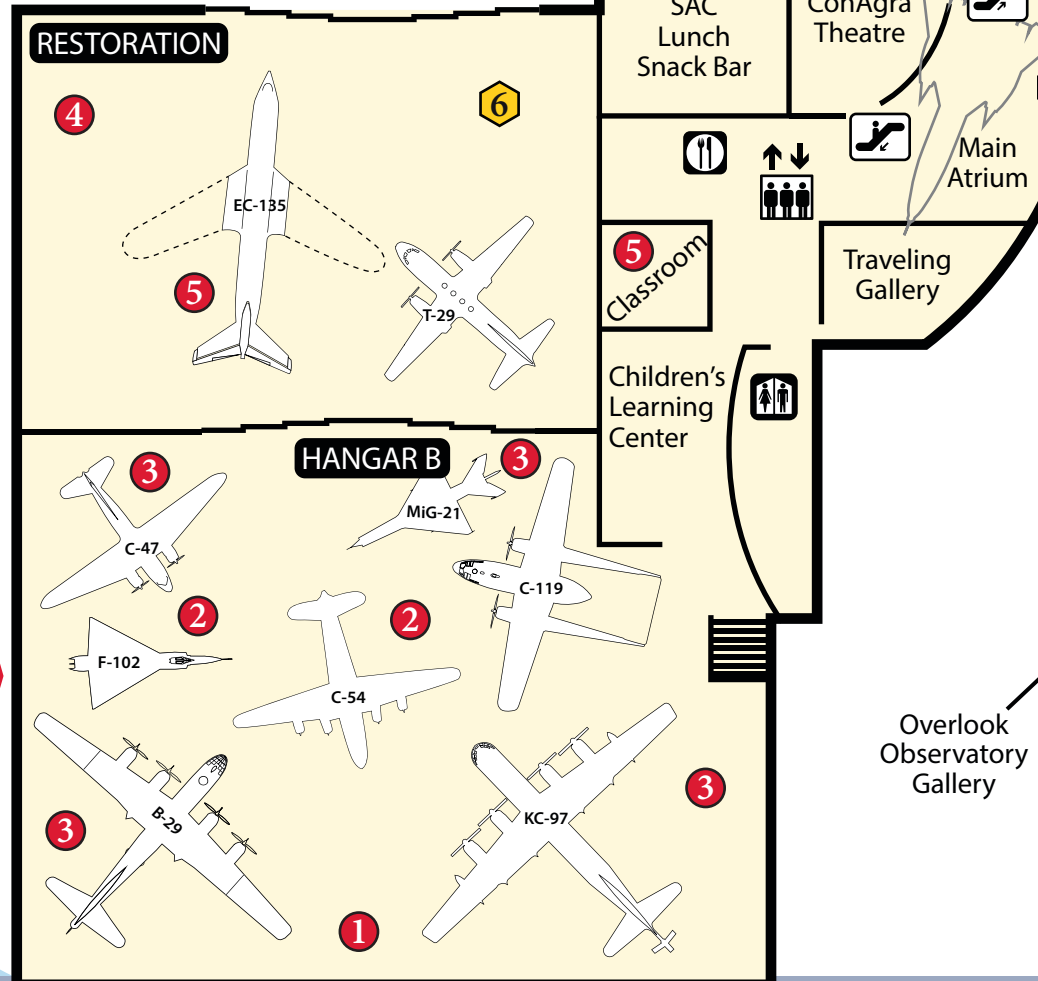
sacmuseum.org

Schedule of Events

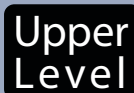
- 7:30 am Team Check-In
- 8:30 am Opening Ceremony (Main Atrium)
- 9:00 am *FIRST* LEGO League events begin (Hangar B & Restoration Hangar)
- 9:00 am CEENBoT Showcase events begin (Hangar A)
- 9 am - 3 pm Free Events and Activities (see page 5)
- 4:00 pm *FIRST* LEGO League Closing Ceremony (Hangar B)
- 4:00 pm CEENBoT Showcase Closing Ceremony (Hangar A)

FIRST LEGO League: Hangar B

- 1 Robot Game Tables
- 2 Practice Tables
- 3 Pit Tables
- 4 Volunteer Area
- 5 Judging Area
- 6 Registration Tables



Lower Level

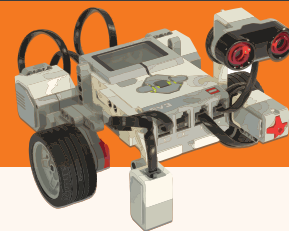


- 1 School Team Area
- 2 Charging Stations
- 3 Practice Area
- 4 Tech Repair
- 5 Competition Arenas
- 6 Navigational Course
- 7 Driving Course
- 8 Autonomous Course
- 9 Awards Stage
- 10 CEENBoT Registration

Viewing and hands-on learning opportunities for robotics and STEM.

5

FIRST® LEGO® LEAGUE



About Nebraska 4-H

The mission of Nebraska 4-H is to empower youth to reach their full potential working and learning in partnership with caring adults. Nebraska 4-H strives to help young people achieve their greatest potential by introducing high-quality youth development experiences into the lives of Nebraska youth and families. Engagement in 4-H results in youth who are making positive decisions related to their health and their future goals. Further, they are advocates and leaders determined to leave a lasting impact on Nebraska.

Learn more about Nebraska 4-H at 4h.unl.edu.

About FIRST®

FIRST® (For Inspiration and Recognition of Science and Technology) was founded in 1989 by inventor Dean Kamen to inspire young people's interest and participation in science and technology. Based in Manchester, NH, FIRST is a 501(c)(3) not-for-profit public charity. FIRST is supported by a strong network of sponsors and volunteers.

FIRST provides the FIRST Robotics Competition and FIRST Tech Challenge for students in grades 7-12, the FIRST LEGO League for grades 4-8 (ages 9 to 14), and the FIRST LEGO League Jr. for grades K-3 (ages 6 to 10). For more information, visit 4h.unl.edu/first-robotics.

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FIRST LEGO League

Children are immersed in real-world science and technology challenges as part of the FIRST LEGO League Program. Teams build LEGO-based robots and develop research projects. Through their participation, children develop valuable life skills and discover exciting career possibilities while learning that they can make a positive contribution to society.

Children ages 9 to 14* get to:

- Strategize, design, build, program, and test a robot using LEGO MINDSTORMS® technology
- Create innovative solutions for challenges facing today's scientists as part of their research project
- Apply real-world math and science concepts
- Develop employment and life skills, including critical thinking, time management, collaboration, and communication while becoming more self-confident
- Engage in team activities guided by FIRST LEGO League Core Values
- Become involved in their local and global community
- Choose to participate in official tournaments and local events coordinated by their community

* ages 9 to 16 outside the U.S. and Canada.

LEGO, MINDSTORMS, and their respective logos are registered trademarks of the LEGO Group.

FIRST LEGO League in Nebraska

The FIRST LEGO League Planning Committee gives special thanks to the Nebraska 4-H Foundation for sponsoring FIRST LEGO League, including awards, audiovisual equipment and operation, volunteer hospitality, and volunteers.

We also thank all judges, referees, coaches, and adult volunteers. You make FIRST LEGO League possible for Nebraska!



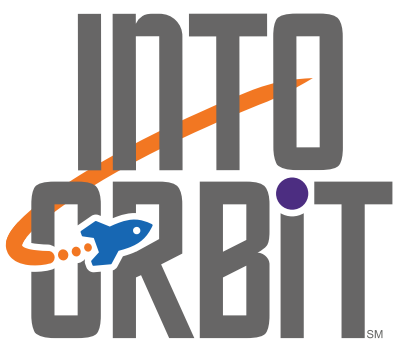
2019 FIRST LEGO League Teams

Number	Team Name	Team City
169	Chewbacca Bots	Omaha
450	Space Socks	Humboldt
1386	KCHS Stars 1	Kearney
1387	KCHS Gold 1	Kearney
1809	Sour Patch Kids	Mound City, MO
1971	Data Dragons	Omaha
3775	Mindstormers: Neon Edition	West Point
5105	Astrovarks	Lincoln
5443	Tech Trackers	Lincoln
5553	A'ROR'N Bots	Aurora
5947	Space Bones	Hubbard
7411	Papillion Middle School	Papillion
7690	East Butler TigerBots*	Brainard
7693	Super Scouts Purple	Bellevue
8657	Orbots	Council Bluffs, IA
8664	Space Invaders	Council Bluffs, IA
10988	Dream Dogs	Louisville
11680	Kimbots	Kimball
12168	Team Kobra Kai	South Sioux City
13813	Pioneer Bots Purple	Nebraska City
14117	Spartabots I	Grant
14206	Super Scouts White	Bellevue
15021	Nerdy Ninjas 2.0	Bellevue
15458	Central Sandhills MechTechs*	Thedford

Number	Team Name	Team City
15990	Return of the T-Rexes	Omaha
21217	DIGI-MINDS	Henderson
22288	Galaxy Group	Beatrice
22943	Spartabots II	Grant
24620	The Fermi Bubbles*	Omaha
25020	Astro Hackers	Henderson
25704	Fearsome Peeps	Lincoln
25988	Lego Ninjas	Columbus
26458	Space Force	Wayne
26485	S.N.A.C.K.S.	Wayne
26880	Pioneer Bots Gold	Nebraska City
27146	Hyannis Sandbots	Hyannis
28655	GR Overdrive	Rushville
28695	Rebel Robotics Orange*	Norfolk
31616	Bulldog Droids	North Platte
34234	Blazing Tiger Bot Builders	Mitchell
37470	Gizmo Gang	Omaha
38866	We are Peter 1	Lincoln
38867	We are Peter 2*	Lincoln
39347	ROBO NINJAS**	Ogallala
39750	Team SA*	Council Bluffs, IA
39903	Legion of Legos*	Wayne
42104	Dynamic Duo	Columbus
42233	Rebel Robotics Black	Norfolk
43708	Monarch Bots	David City

* Global Innovation Award Candidate

** Global Innovation Award Candidate Only



Get involved with FIRST LEGO League:

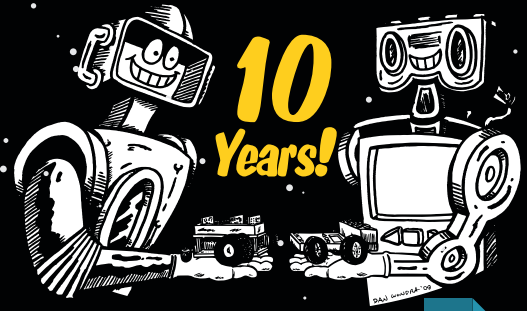
Contact Brandy W. Schulze
Nebraska FIRST LEGO League Affiliate Partner
4-H Youth Development
University of Nebraska-Lincoln
bwagner5@unl.edu
(402) 472-9023

Or visit 4h.unl.edu/first-robotics

FIRST Core Values

- **Discovery:** We explore new skills and ideas.
- **Innovation:** We use creativity and persistence to solve problems.
- **Impact:** We apply what we learn to improve our world.
- **Inclusion:** We respect each other and embrace our differences.
- **Teamwork:** We are stronger when we work together.
- **Fun:** We enjoy and celebrate what we do!

Special Thanks:



Our Event Sponsors

GOLD

(\$2,500 +)



SILVER

(\$1,000 +)



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Coordinating Organizations



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