



ROBOTICS WORKSHOP

Hands-On Learning:

Learn to Teach Robotics
FIRST[®] LEGO[®] League Presentation

February 26, 2011
at
LEGOLAND[®] California

Attention FLL Coaches, Teachers and other robotics enthusiasts:

The Tufts University Center for Engineering Education and Outreach (CEEEO), and LEGO[™] Education developed materials used in this hands-on workshop at LEGOLAND California. Learn to teach robotics by doing it yourself! In addition, learn from presentations by robotics experts and experienced FIRST[™] LEGO League coaches. We cordially invite you to attend this workshop.

Workshop Purpose

To gather those who use or plan to coach FLL teams, use robotics to teach math or science, or learn more about robotics.

Hands-On workshops with LEGO MINDSTORMS NXT robotics kits.

Shared experiences, resources, strategies, tips, and tricks for coaching an FLL team or implementing LEGO NXT and MINDSTORMS in the classroom.

Meet fellow MINDSTORMS users and experts.



Workshop Schedule

8:00 - 8:30 am	Arrival, Welcome, Introductions
8:30- 11:30 am	Hands-on Workshop: Explore Robotics with LEGO NXT
11:30 - 12:30	Hosted Lunch: Fun Town Market
	Rotation Presentations
12:45- 1:30	1. FIRST LEGO League
1: 30 -2:15	2. Local Robotics Expert Presenter
2:15 – 3:30 pm	Hands-On Workshop: Explore Robotics with LEGO NXT
5:00 pm	LEGOLAND closes.

Workshop Registration

To register, call **760-438-LEGO**

Workshop fee \$ 75
Late registration after Feb 11 \$ 100

Lunch and parking included.

Print materials provided onsite.

Family and Friends LEGOLAND discount \$39

Workshop Location

LEGOLAND California
One LEGOLAND Dr.
Carlsbad, CA 92008

Questions? Call 760-438-LEGO or E-mail
lynn.crockett@LEGOLAND.com

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Welcome!

We look forward to a day of creative programming
and practical applications
for classroom and FIRST LEGO League robotics.

Arrival

From I 5, take Cannon Road exit East about 1/2 mile. Right on LEGOLAND Drive. Follow signs to LEGOLAND®. Parking is included in your ticket price. Please check in at the Guest Service window. A LEGOLAND Education staff person will escort the group into the Park and we will begin our day promptly.

PARTICIPANTS Please be at the Front Gate by 7:45.

Hands-On Robotics Session

Participants may work in pairs, or individually as space allows, on a robot and PC computer. Sessions begin with simple chassis building. The self-paced, facilitated sessions focus on NXT programming. Participants will be divided into Beginners and Intermediate or Advanced.

FIRST® LEGO® League

Creating a team, tips and tricks, fundraising, managing multiple teams.

Robotics Teams and Programs

FIRST LEGO League, Spring Showdown, Summer Robotics Camps

Food and Beverage

Lunch is included and vouchers for Fun Town Market will be distributed at the workshop. Food and beverages are available for purchase at restaurant venues around the park, starting at 10 a.m. The Market, near The Beginning, offers coffee, muffins, rolls, sandwiches, salads, and fruits. No food or drink is allowed inside the MINDSTORMS rooms.

Future Workshops

The next scheduled workshop for adults is **Saturday, September 24, 2011.**

To schedule a one-day custom workshop for students, please e-mail Lynn at lynn.crockett@legoland.com. Workshops focus on building and programming with NXT. Groups receive 2-3 hours of robotics facilitation. They will have full-day admission to LEGOLAND rides and attractions. Cost will be \$20 per student and \$26 per chaperone.

To sign up students for a Mon.- Fri. Robotics Summer Camp in July, 2011, please email Paul Kass at pkass@hartdistrict.org or a San Diego County YMCA.

Questions? Feedback?

Please contact Lynn Crockett, Education Programs Manager, at lynn.crockett@legoland.com



Robotics Workshop
Saturday, February 26, 2011

Agenda

Session A

8:00 – 8:30 am	Arrival, Welcome, Introductions	Lynn Crockett	MINDSTORMS Rm A
8:30 – 11:30 am	Hands-on Workshop: Explore Robotics with LEGO® NXT	Paul Kass David Calkins Evan Zhou Mike Crowley	MINDSTORMS Rms A&B
11:30 – 12:30 pm	Hosted Lunch		Fun Town Market
		<u>Rotation Presentations</u>	
12:45 – 1:30 pm 1:30 – 2:15 pm	FIRST LEGO League	Anna Lozar	MINDSTORMS Rm A
12:45 – 1:30 pm 1:30 – 2:15 pm	Organizing Robotics Teams and Programs	Paul Kass	Hero Factory
2:15 – 3:30 pm	Hands-On Workshop Session II	Paul Kass David Calkins Evan Zhou Mike Crowley	MINDTORMS Rms A&B
5:00 pm	LEGOLAND California closes.		



February 26, 2011

Instructors

David Calkins is a widely respected robot builder and expert. He's the California teacher consultant for LEGO® Education. He also teaches robotics and computer engineering at San Francisco State University, is the president of the Robotics Society of America, Founder of the international ROBOlympics competition, Program Chair of the RoboNexus Consumer and Entertainment Expo, and co-chair of the RoboSot competition for FIRA - the Federation of International Robosoccer Association. He was one of only ten US members of the Japanese Trade Association's Robotics Mission to Japan, an official US-Japanese robotics technology business development and research mission.

Mike Crowley: Mike is a Mathobotix Integrated Robotics Intern. He founded and lead a high school robotics team, as well as participated in robotics competitions. He is a student in Orange Coast College, majoring in robotics and engineering.

Paul Kass is a middle school math teacher and technology coordinator. He has been teaching for 17 years, and currently teaches at Placerita Jr. High in Newhall, California. Paul has been involved with the FLL program for eight years, and oversees four FLL teams. Paul is the tournament director for the SCV FLL Tournament and organizes the Robotics Spring Showdown at Placerita and LEGOLAND. Paul has created and runs weeklong robotics camps in the Los Angeles area and at LEGOLAND. Paul became involved with FLL when a group of former students involved with FIRST robotics asked him to sponsor a team which they would mentor.

Anna C. Lozar is the *FIRST* LEGO League (FLL) program manager for the Carlsbad Educational Foundation. Her role includes creating program structure, advising Carlsbad FLL teams and seeking community partnerships that support their FLL experience. Anna mentors the FLL team, "Bio-Storm," has coached her son's Jr.FLL team and several award-winning rookie FLL and non-FLL academic teams. Anna has been a LEGO robotics instructor in after-school and summer programs.

Anna earned a Bachelor of Science in Microbiology from the University of Illinois and a Master of Science in Molecular Biology from Northwestern University, where she was part of the team that discovered mutations in the gene associated with the familial form of Lou Gehrig's disease. She later accepted a Howard Hughes Medical Institute position in the Department of Molecular Medicine at the University of Massachusetts, where she worked on identifying genes involved in programmed cell death.

Anna helped to create and coordinate the science lab and grant-writing committee at her children's elementary school, and chaired a committee of parent volunteer grant-writers for Carlsbad schools.

Evan Zhou: Evan is a software engineer, STEM Mentor, Lego Mindstorms Programming Instructor at Mathobotix. He is graduate from California University, Fullerton with the Master's degree in Computer Science. Prior to Mathobotix Evan worked as a game developer in Sega for three years.