PROGRAM DETAILS

PURPOSE	Inspire, highlight and create awareness of career pathways, opportunities and education spanning Science, Technology, Engineering and Math (STEM). Develop a student's ability to achieve a STEM career. Design and build a VEX robot for class competition.
DESIGN	A hands-on, active, rewarding project based program. Develop critical, creative and innovative reasoning skills. Encourage student interest in a STEM education.
DEPARTMENTS	Computer Aided Design and Drafting Electronics / Computer Hardware Technology Engineering Technology (Project Lead The Way - PLTW) Manufacturing / Machine Tool Technology
ELIGIBILITY	Open to all ECC students and high school students. Applicants must have completed the 9th grade by July. There is no prerequisite course required to apply.
COST	FREE: Funding provided by a federal HSI STEM grant.
SCHEDULE	July 5, 2016 through July 28, 2016 Monday through Friday (Fri. field trips: 8th, 15th, 22nd) 9:00 a.m. to 1:00 p.m. (Fri. field trips: 9 a.m. to 5 p.m.)
LOCATION	El Camino College, 16007 Crenshaw Blvd. Torrance, CA Industry Technology Education Center, Room # ITEC 229
APPLICATION / ADMISSION	**APPLICATION DEADLINE: MONDAY, MAY 30, 2016.** Admission decision notifications are emailed to all applicants Friday, June 3, 2016.
INSTRUCTOR / COORDINATOR	Glen Chapple, email: gchapple@elcamino.edu UCLA Electrical Engineering, ECC Mathematics Alumnus

- Students will learn to solve problems and develop solutions used in real-world applications found in day-to-day life and the workplace

- Students will gain hands-on experience, critical thinking skills and good interpersonal abilities sought by technical industry today

- Students will learn to understand and be able to articulate the interdisciplinary aspects of STEM used in technical industry today

- Students will learn that science and mathematics are foundational, and engineering and technology add value to those foundations

Are you ready to START?   We are ready to start helping you!

PROGRAM OUTLINE

Week 1
- Introduction to robotics and robot design
- "Magic of Science" presentation
- Science topics and measurements, units and conversion factors
- Principles of Engineering (POE)
- Computer Hardware Technology
- Unmanned Aerial Vehicles (Drones)
- "Electromagnet" project

Week 2
- Robot motion, power and sensors
- Introduction to Engineering Design (IED)
- Computer Aided Design/Drafting (CADD)
- Computer Integrated Manufacturing (CIM)
- Electronics and Manufacturing Technology
- 3D Printing (Additive Manufacturing)
- "Electric Telegraph" project

Week 3
- Robot control, logic and programming
- Engineering Design and Development (EDD)
- Machine Tool Technology (MTT)
- Engineering topics
- Mathematics topics
- Virtual Reality (VR) and Augmented Reality (AR)
- "Electric Motor" project

Week 4
- Robot testing and practice for competition
- Robotics PowerPoint presentations
- Robotics team competition and awards
- Industry and college tours
- STEM education success tips
- STEM career pathways
- Certificate of completion awards

APPLY ONLINE (CLICK HERE)

www.elcamino.edu/academics/indtech/start