Having worked in a variety of occupations, and having 20 years of experience in aerospace manufacturing, Lee Hilliard has always been fortunate to work with cutting-edge technology, remaining one step ahead in the fields of electronics and computer programming.

The late 1990s were a tough time for the aerospace industry, while he was working for an aerospace manufacturing shop. Business was slow, so Hilliard figured he could fall back on his computer background and decided to go back to school at College of the Canyons to further his education. Because of his background, he found himself finishing his course work in just two weeks and sought out individual classes to fill in the gaps. Both faculty and students saw how advanced he was. Other students sought out his help and the college offered him a paid job as a part-time lab tech, even before he earned his Associate Degree. In fact, a full-time lab tech position was created for him upon completion of that degree. Not one to sit idle, he also worked as a computer engineer in Los Angeles until COC happened to create a full-time faculty position. Additionally, he has a Bachelor in Science and Master’s in Industrial Technology from Fresno State University.

Because most CTE departments are run by only one person, he finds the most challenging part of his position being able to keep up with technology to keep the program viable. As Hilliard puts it, “Nobody’s going to hire you to take tests. That’s why we have a significant amount of equipment – to give students the hands-on experience needed to develop the necessary skills for the industry.”

One piece of equipment that Hilliard is particularly excited about is the Raspberry Pi: a credit-card-sized, single-board Linux computer, developed with the intention of promoting the teaching of basic computer science in schools. Candy company Cadbury has even capitalized on the technology, using Raspberry Pi controllers and Arduino single-board microcontrollers in a jacket outfitted with sensors that light up when the wearer eats two different Cadbury chocolate candies. Click here to see a video about Cadbury’s “Joy Jacket.”

“We can’t force these kids to use past technology to learn today’s industry,” he says. “Instead, we need to keep up and provide the latest and greatest.”

For all the hard work and long hours that go into running a one-man show, Hilliard says it’s all worth it for the enjoyment he gets when seeing “the light go on for students when they grasp a concept.”

“Education is the knowledge of how to use the whole of oneself. … A man is educated who knows how to make a tool of every faculty.” – Henry Ward Beecher

Along with belated “Happy New Year” wishes, I want to welcome you back to Career Insider. We’re looking forward to a busy, exciting year, and this is a great way of keeping you abreast of the fantastic opportunities available through our wide variety of Career Technical Education (CTE) programs.

There are more than 30 CTE programs offered at College of the Canyons, and while they encompass a broad spectrum of skill sets and focuses, they all have one common goal: training and preparing students for vibrant, successful careers.

With Career Insider we are dedicated to showcasing career opportunities available to students, what it takes to pursue those careers, and putting a spotlight on the professors who are providing a high-quality educational experience. We want to see students thrive in their journey toward success, and it’s my hope they take advantage of all that is available through our programs, resources, internship opportunities and more.

If you have an idea for something you’d like to see featured in a future edition, please contact me at kristin.houser@canyons.edu or (661) 362-3408.

Kristin Houser
Dean, Career Technical Education
kristin.houser@canyons.edu
661.362.3408
Have you ever wondered how something works, only to set about taking it apart to find out why? Or, are you interested in robotics technology? A career in electronic systems technology may be just the right fit! This program is fairly new and has been set up to train students for careers in the automation systems field (also known as robotics) and electronic services industries. The program provides the skills needed to maintain automated systems in real-world applications such as manufacturing, food processing, automatic bottling systems (i.e. Budweiser), sorting/baggage systems (i.e. FedEx, LAX), and amusement parks (i.e. Universal Studios or Six Flags Magic Mountain).

"One of the coolest jobs in the industry also happens to be one of the most overlooked: people don’t realize that somebody has to maintain the computers, pneumatics and controllers used in running amusement park rides and attractions,” explains Lee Hilliard, department chair of electronic systems. "Forget being a ticket taker or working fast food; this is a perfect example of a challenging job where one gets to work hands-on with the equipment. Of course, it helps to be someone who likes to tinker."

"Electromechanical" refers to the combining of electronic and mechanical parts plus computers and networks, for applications in devices such as robotics, automated assembly lines, prosthetics, terrestrial and space vehicles, animatronics, amusement park attractions, the arts, light and motion shows, and for whatever amazing, fun or creative use of electronics that the future will bring.

Students will need to understand energy-conversion processes and energy-transmission systems, as well as the installation and maintenance of equipment used in this field. College of the Canyons has an extensive array of the latest equipment and technologies to provide all students with the hands-on experience needed to master current high-demand skills. The rigorous course work prepares them for the industry certifications that are in the highest demand and provide excellent financial compensation.

Hilliard can’t stress enough the importance of hands-on experience. He refers to the equipment as “toys” and says the best part about program participation is getting to play with the “Toy Box.”

What does the future hold for the electronic systems industry? According to Hilliard, “more and more control via smart phones and other devices for maintenance purposes.” Remote accessibility plays a key role in being able to maintain control of your systems, even if those systems are sent overseas. This is all accessible via a network, over the Internet. Industry professionals will see smarter systems and better controls.

For more information about this program please contact Lee Hilliard, department chair, electronic systems, at Lee.Hilliard@Canyons.edu or (661) 362-5869.
According to the Bureau of Labor Statistics, there is a bright future in the electromechanical industry, and employment trends within the field are also on the rise, both locally and nationally, with California taking a slight lead over the national average. Employment in California is expected to rise by 8 percent between 2010 and 2020, compared to the national average of 2 percent.

Wages earned in California are ahead of the national average. Electrical and electronics engineering technicians in California earn $35,900-$92,400 per year, compared to $34,600-$83,100 per year nationally.

For more industry and career information, visit the following resources: O*NET OnLine at ONetOnline.org/, the Bureau of Labor Statistics at BLS.gov/ooh and California Career Café at www.CACareerCafe.com/explore.

Internship Opportunities

Calling political science, history, public relations, and social science majors! Interns will be mentored by field representatives for Assemblyman Scott Wilk and Congressman Howard “Buck” McKeon’s staff assistant to learn how government operates. No coffee fetching here; interns will be immersed in the day-to-day operations of politics.

Learn about....
- How state and federal government operates and current legislation
- Internship opportunities
- How to earn CSU-transferrable college credit for an internship
- How to apply

State Assemblyman Field Representative Internship Information Meeting
Wednesday, February 26th or Thursday, February 27th, 2014
12:30 pm – 1:30 pm
RSVP to internships@canyons.edu with “Field Rep RSVP" in the subject line and include the date you plan to attend.

Congressional Intern Internship Information Meeting
Wednesday, March 5 or Thursday, March 6, 2014
12:30 pm – 1:30 pm
RSVP to internships@canyons.edu with “Congressional RSVP” in the subject line and include the date you plan to attend.

All information meetings are held at the Valencia Campus
STCN-138 Private Dining Room #3
(The conference room located in the Cafeteria)

Courses offered in Electrical Systems

Basic Electronics (ESYST 101); Circuit Analysis (ESYST 102); Solid State Systems (ESYST 103); Digital Circuits (ESYST 104); Electromechanical Systems (ESYST 111); Industrial Robotics (ESYST 112); Industrial Controllers (ESYST 113); and Automated Systems (ESYST 114).

Occupational Profile: Electrical and Electronics Engineering Technicians

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Accounting | Administration of Justice | Administrative Assistant | American Sign Language Interpreting
Animation Production | Architectural Drafting | Automotive Technology | Commercial Photography
Computer Applications | Computer Networking | Culinary Arts | Customer Service | Early Childhood Education
Electronic Systems Technology | Emergency Medical Technician | Entrepreneurship and Small Business Management
Filmmaking | Fire Technology | Graphic & Multimedia Design | Hotel & Restaurant Management
Human Resources Management | Interior Design | Land Surveying | Manufacturing Technology | Marketing
Medical Laboratory Technician | Medical Office Administrative Assistant | Nursing | Paralegal Studies | Real Estate
Retail Management | Solar Energy Technician | Sound Arts | Sports Medicine | Video Game Animation
Water Systems Technology | Welding Technology | Wine Studies

REAL JOBS
NEED REAL SKILLS!
Career Technical Education Programs