

Getting It* Done

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Administrator, Kay Ferrier
Dean, Economic Development
State Chancellor's Office

With ATTE Advanced Transportation, Technology & Energy

Tesla Roadster Highlight of Industry Tour

ATTE Directors quarterly meetings provide an opportunity for touring related businesses and operations to stay ahead of industry training requirements. Following our First Quarter 2007-2008 meeting, Tesla Motors in San Carlos conducted a tour for ATTE Directors and CCSF auto program faculty.

Tesla has generated enormous buzz in automotive and environmental circles. Auto enthusiasts appreciate the all-electric two-seat Roadster's **0-to-60 acceleration in 4 seconds** with only a 2-speed transmission – no reverse gear is needed as the electric motor simply operates backward. For the environmentally inclined, it offers **135 mpg equivalent efficiency** while traveling over 200 miles on each electric charge. The electric drive contributes to an overall “well-to-wheel” efficiency (conversion of energy extracted from the earth or sun to the road), more than twice that of the Prius, with a cost of only 2 cents of electricity per mile (compared to over 10 cents per mile in a typical, new production gasoline-powered car).

The car has been receiving accolades and superstar attention since its announcement. Time magazine identified the

roadster as one of the “**Best Inventions in 2006.**” All this, even though the first customer delivery is not expected until the end of this year. To date, approximately 600 orders have been received.

The ATTE tour focused on the design, production and service requirements for the Roadster. The aluminum body is assembled using aircraft-like construction techniques. This is combined with the 900 pound battery pack and other components on a steel frame. Although the design center is in San Carlos, the production is in Taiwan and the UK (through an agreement with Group Lotus). Future domestic production is likely to be in New Mexico. Service will be provided through the dealers, and **maintenance technicians will need to combine traditional skills (wheel & brakes, suspensions) with newer skills for maintaining the electric drive system components.**

Unfortunately, despite high interest, none of us on the tour was able to spring for a new Roadster at its present \$98,000 price. We await the reported 4-door family model at approximately half this price expected in a few years, or the even more-affordable third generation model when it arrives hopefully in the not-too-distant future.





NASA Eases Workload with ATTE

Sac City Airframe & Powerplant Students Work on Ex-airline DC-8

Miramar ATTE Expands Alternative Fuel Education

Education in alternative fuels and new transportation technologies is expanding at San Diego Miramar College. Working with San Diego Unified School District and industry partners, we created new education models as well as revived technology programs which had been discontinued.

Using a model program previously instituted between Mira Mesa High School and Miramar College, the ATTE program worked with Serra High School and its industry partner Toyota to reopen their automotive facility. College level courses, including an introduction to alternative fuels, continue as well. We expect to double the number of courses in the coming year and to include other technologies.

This model was also used at Patrick Henry High School for college credit patterned after Sacramento City College ATTE motorcycle technology program. While Scripps Ranch High School is in the process of reopening automotive facilities, the ATTE program assisted students in transportation for college-level courses at Miramar campus.

We were among an array of industry partners to successfully reopen automotive facilities at Crawford High School. Through the assistance of this partnership Crawford will likely be on a fast track to become NATEF Certified.

As a result of these programs the Miramar ATTE program has been able to introduce advanced transportation technologies and fuels to between 200 to 300 new students in this year alone.

Lastly, the ATTE Program in conjunction with San Diego High School and New Leaf Biofuels has been asked to present their work on integrating academic and technology education through the use of curriculum involving biodiesel fuel at the California Green Schools Summit in December 2007.

For more information contact Gregory Newhouse at (619) 388-7673.

NASA, in conjunction with U.C. Davis, operates an ex-airline DC-8. Twenty-one years ago, the role of this transport-category aircraft forever changed. NASA acquired the aircraft to do groundbreaking scientific research utilizing scientists in various disciplines from U.C. Davis as well as selected scientists from other world-class universities.

The competition is intense, from scientists vying for one of the twenty or so slots available on each flight. These flights take place several times a year, to locations such as the Antarctic, Africa, Asia, Europe, and South America. Flights are conducted as low as 500 feet above the ground or ocean and as high as 42,000 feet.

One of the major areas of interest is Global Atmospheric and Oceanographic research. There is intense scientific study in areas such as global warming, current shifts, the jet stream, and worldwide air pollution.

A DC-8 is only slightly smaller than the Boeing 747. An aircraft of this size and complexity requires extensive maintenance and alteration between these scientific flights. Safety is, of course, of paramount importance. NASA employs five highly experienced Airframe and Powerplant mechanics to handle the maintenance as well as install and remove the ever-changing scientific research instrumentation.

Each of these installations is unique according to the scientist and project involved. These are cutting-edge, highly sophisticated, delicate measuring devices and other tools such as lasers, pressure and temperature instrumentation, air sniffers, and devices for tracking currents and temperatures of the ocean. There is no precedent for this type of work.

In order to alleviate the extensive workload on these highly skilled aircraft technicians, Sacramento City College's Aeronautics Department signed a Memo of Understanding to provide five of our best Airframe and Powerplant students. Each of these students is assigned to a different technician in order to work directly under their supervision.

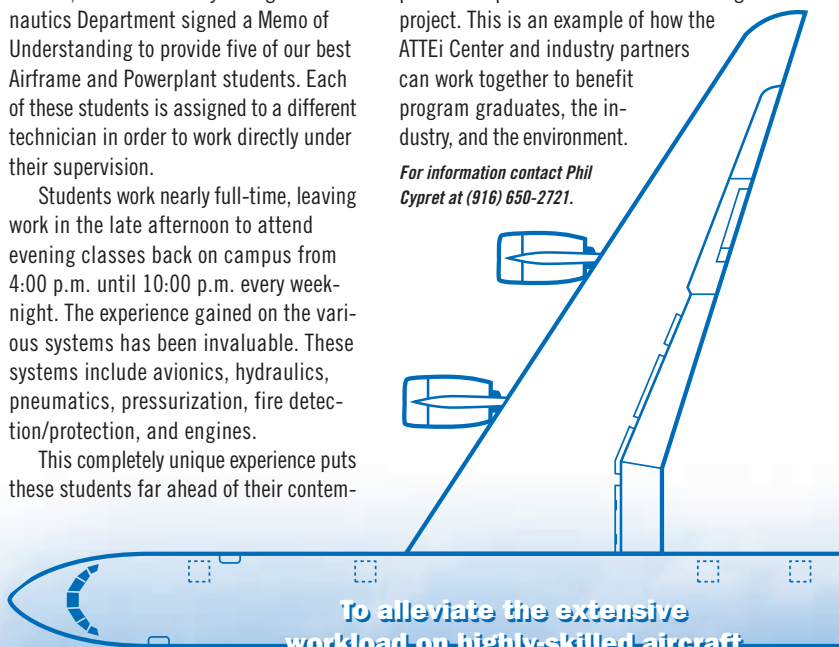
Students work nearly full-time, leaving work in the late afternoon to attend evening classes back on campus from 4:00 p.m. until 10:00 p.m. every week-night. The experience gained on the various systems has been invaluable. These systems include avionics, hydraulics, pneumatics, pressurization, fire detection/protection, and engines.

This completely unique experience puts these students far ahead of their contem-

poraries when seeking employment after graduation. Experience has not been the only benefit of the job. Students were paid very well and received a standard benefit package. Over the summer, the aircraft was deployed to Costa Rica, and yes, the students traveled with the aircraft. Hotel and meals were covered by per diem, as well as salary – not a bad summer job!

Upon graduation from the Aeronautics program two of the students were offered permanent positions with this continuing project. This is an example of how the ATTE Center and industry partners can work together to benefit program graduates, the industry, and the environment.

For information contact Phil Cypret at (916) 650-2721.



To alleviate the extensive workload on highly-skilled aircraft technicians at NASA, Sacramento City College's Aeronautics Department provided five of their best Airframe and Powerplant students.



GM Training to Fix it Right the First Time

The Advanced Transportation Technology and Energy Initiative at Fresno City College in partnership with Central Valley GM Parts & Service Managers Club and the Automotive Technology Department at Fresno City College has a unique opportunity to provide the necessary infrastructure for well-trained technicians by developing a GM performance-based training model. This program will support technicians, and local industry in the Central San Joaquin Valley by providing skilled entry-level automotive technicians and updating incumbent workers.

The General Motors (GM) performance-based training model is widely recognized as a GM industry standard for document-

ing proficiency of technicians. A standard performance based curriculum provides a path for service technicians to meet the requirements for GM's Dealer Minimum Divisional Service Training Standards. Without these courses, service technicians are uncertified to service the models that their dealerships sell. Performance-based training yields certified technicians who can meet the high standards required by General Motors and its dealers.

There are two General Motors (GM) Training Centers in California, a designated Training Center in Burbank, and a Satellite Training Center in Livermore, both are roughly 200 miles from the Central San Joaquin Valley. A Satellite Training

Center (STC) in the Central San Joaquin Valley will provide local training classes scheduled monthly in a \$12 million newly remodeled Fresno City College Automotive Technology Department with state-of-the-art automotive labs and classrooms.

A localized General Motors (GM) training center will enable our local dealerships to offer more technicians training previously denied by distance. By completing the training, technicians

will be better qualified to obtain positions that require more skills and expertise. More technicians certified to meet the high standards required by General Motors will enable dealers to offer improved service to their customers by *fixing it right the first time.*

“Performance-based training yields certified technicians who can meet the high standards required by General Motors and its dealers.”

For more information contact Roger Teschner at (559) 442-4600 x8559.



Rio Hondo College's Outstanding Training Summer

The Advanced Transportation Technologies Department at Rio Hondo has now acquired an Incumbent Workers Grant in the form of an IDRC grant.



- Our partners in this grant are the Southern California Transit Training Consortium, (SCRITTC) made up of 17 transit agencies and other Community Colleges. The grant will train transit workers to use new advanced technology skill sets. Clean fuel training for incumbent workers reaches 3,000-hour mark this summer at Rio Hondo College.

- Safe Bio-Diesel production; students created fuel from various sources in a laboratory environment.
- CNG/LNG training continues to be a popular course
- Digital Volt Ohm Meter, (DVOM) and Electrical system training. Intelligent Transportation Systems (ITS) and DVOM training went to Santa Clarita Transit through Rio Hondo College.
- The first DVOM training in northern part of the Los Angeles County was provided to anxious transit technicians in the new state-of-the-art GREEN center. Two days of intense training on ITS and DVOM operation highlighted the tour of this cities accomplishment to help the environment.

SEMPRA Energy provided the funding for Rio Hondo to offer the CNG school bus technician training this summer. This allows many school districts to take

advantage of the high level of current CNG technology training that Rio Hondo College provides.

School bus technician training was a priority this summer with Rio Hondo added training classes at the Lake Elsinore School District. Several other school districts sent technicians to the Clean Fuel CNG/LNG training at Lake Elsinore.

Riverside based Student Transportation of America sponsored training at two different yards to accommodate the CNG school bus training for City of Victorville, and Moreno Valley. College of the Desert



faculty also attended the training. A-Z Bus Sales also sponsored Fontana Unified School District, ABC Unified School District and AZ Bus personnel to attend the CNG school bus training.

Finally, Rio Hondo offered our annual summer high school instructor training. Topics this year ranged from BOSCH/Vetronix diagnostic equipment training, Bosch engine management drivability diagnosis, and the new Direct Injection/High Rail Pressure systems. The high school instructors also received two days of Emergency Response training for hybrid automotive platforms. Attendees anticipate this event every year. It is an opportunity for each instructor to bring back new skill sets to the high schools in the fall.

For more information contact Mike Slavich at (562) 908-3433.

From the Corporate to the Classroom

Greetings from College of the Desert. Let me introduce myself. I am Douglas Redman, the new automotive instructor at College of the Desert. For the past 5 years I have been working with Kia Motors America at their corporate offices in Irvine, CA as a technical training instructional designer, designing and developing automotive technical training curriculum. Our focus was on 1 to 3 day classes for Kia dealership technicians across the United States. Prior to my work with Kia I was with Mitsubishi Motors as an instructional designer. I spent 5 years at the Chrysler Training Center in Los Angeles, CA as an automotive



instructor. Before taking the job as a Chrysler instructor I was a mechanic for 10 years at a local Dodge dealership. Academically, I earned my AA in Automotive Technology from Fullerton College in 1994, my BA in Sociology from CSUF in 1998 and my MS in Instructional Design from CSUF in 2006.

For the longest time I have had the

desire to teach automotive at a community college but up until recently I felt there was more for me to learn on the corporate side. Well, I learned it all; or at least as much as I wanted to. Last semester I was given the opportunity to teach an automotive electrical course at Cypress College, and I loved it! I am excited to be part of an organization that is focused on helping individuals succeed in their career goals specifically in the automotive industry. It is equally exciting to know that this will in turn benefit the local and global communities. I am proud to be working at one of the 10 California Community Colleges that host a regional Advanced Transportation Technologies and Energy (ATTE) Center. My goal is to build on COD's prior success and strengthen the advanced

transportation/alternative fuels programs. In addition, I look forward to working collaboratively with the Center and the statewide initiative as we move into the alternative energy arena.

The people here at College of the Desert have been very supportive. I wish to thank Bill Kelley, John Jaramillo, Pam LiCalsi and her dedicated staff, and Peter Davis for making me feel welcome and for all their help in getting me started. Marty Orozco and John Frala have been getting me up to speed on CNG fleet training and I thank them for their efforts. I look forward to collaborating with all who share my passion for technical training: the designers, instructors, administrators, industry, and most importantly the students.

“It is equally exciting to know that this will in turn benefit the local and global communities.”

—Douglas Redman

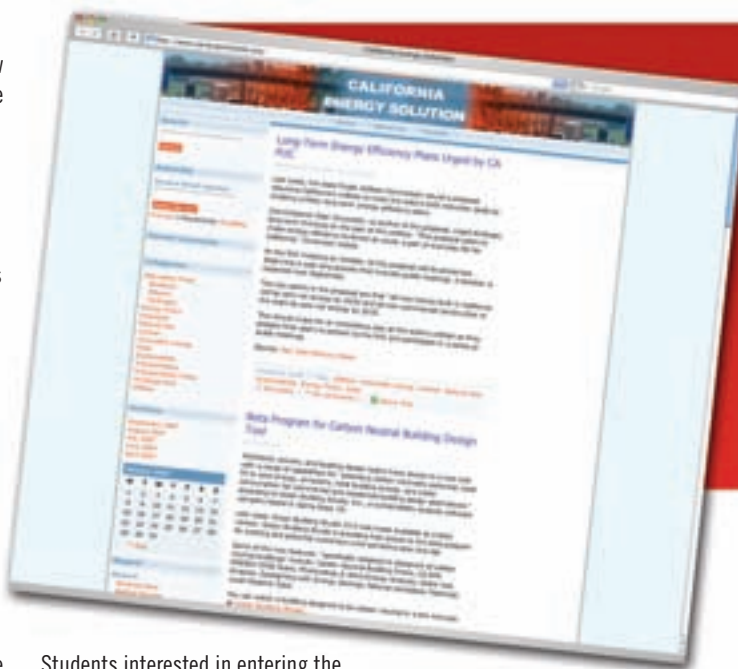
ATTE Launches Renewable Energy Blog

The Advanced Transportation Technology Program has launched a new BLOG – California Energy Solutions. The BLOG is focused on the development and deployment of renewable energy and alternative fuels in California. In addition to posted articles, the BLOG provides a forum for people to ask questions, share their opinion, or access meaningful data.

BLOG, an interview series and introductory online classes are being developed. The first interview focuses on renewable aspect of natural gas, natural gas as a vehicle fuel, and the economic and environmental benefits of the fuel. The first classes will be available at the beginning of the new year and will include an overview of renewable energy, green construct, and green building.

According to the West Valley College ATTE Director, “this site provides a learning opportunity where people can gather and share information. Students, industry, and individuals will benefit from flow of information.”

Students will be able to get data, ask questions, and gain a multitude of opinions about coursework subjects.



Students interested in entering the alternative energy field will be able to better understand the subject matter, while accessing information from people already in the industry.

The information will also support the decision making capacity of industry professionals and individuals who need information to make decisions regarding

their business or homes.

The site was launched without any promotion in June, in an effort to populate it. This fall will see the site promoted and guest Bloggers.

Visit the site at www.caenergysolutions.org, or to participate in the BLOG, contact David Esmaili at david_esmaili@westvalley.edu

“...focused on the development and deployment of renewable energy and alternative fuels in California.”



Advanced Transportation Technology & Energy Website:
<http://www.attcolleges.org>

Director: Peter Davis
Email: outrchpd@mac.com



Visit our website at www.cccewd.net

Incumbent Worker Training For California

The ATTEi Consortium has compiled thousands of hours of training and curriculum development for many alternative fueled fleets. The training programs have included training for Liquefied Petroleum Gas (LPG), Compressed Natural Gas (CNG), Liquid Natural Gas (LNG), hybrid vehicle technology, electrical systems, and vehicle electronic multiplexing. These courses reflect the consortium's effort towards meeting the immediate needs of business and industry. The training programs have been of a superior quality and well received. Moreover, ATTEi has had many successes during its 12 year life. However, the last two years have been extremely rewarding with the completion of the first and the inception of the second Sempra Energy training contract.

Cypress College ATTE Center has completed five training courses for Sempra Energy. The training contract is a joint partnership between Rio Hondo, Long Beach, Cypress, and College of the Desert. The establishment of the program has brought the ATTEi consortium \$125,000 in revenue. The training courses focus on alternative fuels technology for school buses, cities, and other vehicle fleets needing training in clean air technologies.

As technology has propelled itself exponentially, technicians have failed to arrive at the forefront of the technological explosion. Specifically, through development efforts and curriculum developed by Cypress College, hundreds of incumbent workers have been retrained. Cypress College has developed two training programs to serve the needs of the transit and school bus industries. The training programs cover the latest emissions certified version of the Cummins and John Deere Heavy Duty engines. Each training program covers 24 hours of instruction which includes lecture, and real world diagnostics.

Each of the courses developed may be taught in house or "on the road." However, since most fleet services are open 24 hours a day the ATTEi team works hard to accommodate the training need of each fleet. The Cypress College team is ready to train at a moments notice throughout the state. In fact, the Cypress College ATTE Center faculty has delivered training at the Orange County Transit Authority Garden Grove Base at 4 AM. While these cases are few, it demonstrates the versatility

"...the program has brought the ATTEi consortium \$125,000 in revenue."

and initiative of ATTEi members to bring economic and workforce development training programs throughout California.

As stringent emissions legislation moves forward, the Cypress College ATTE Center will continue to research the latest transportation technology available. This will facilitate quality training programs throughout California.

For more information contact Marty Drozco at (714) 484-7258.



Summer Camp 2007 Succeeds at Cerritos College

Stellar outreach effort to middle school and high school students! In July, the Cerritos College Southland/Cerritos Center for Transportation Technologies (SCCTT) launched its new and innovative "Summer Camp 2007" program. A total of four camps were held throughout July and the beginning of August, with each camp lasting one week. It was held on a college campus, however the students didn't look like college students, and they weren't. Summer Camp, 2007 was an outreach effort to middle and high school students in the local area. This program, one of the first of its kind, was created to generate interest for and create an awareness of power, energy, transportation and the environment.

The program was funded by a grant from Nissan North America, Inc. and is



a collaboration between the SCCTT, the Cerritos College Foundation, Cerritos College's Community Education, and the Southland Motor Car Dealers Association.

The emphasis was on clean and renewable energy sources and concepts including water, wind, and photovoltaic (solar) power. The students learned about vehicle fuel types including present and future alternative fuels, gasoline-powered vehicles vs. electric

vehicles and hybrids, intelligent transportation systems, and saving energy. Also covered was a unit on jobs in the transportation industry.

'This is the most fun class I've ever had!' Students were overheard making comments like, 'Great class!' and 'Will you be back next summer?' The Nissan grant paid the teacher's salary plus a wide array of demonstrator models, student experiment kits and teacher's aids.

Lab activities included scientifically-based testing and hands-on experiments and activities using clean-power model demonstrators. Students were led by SCCTT instructors in the fine points of clean and renewable energies, as well as alternative powered vehicles and fuels. The students then experimented with advanced transportation model vehicles

using hydrogen, solar and battery-powered systems. Also included was some time spent in learning about basic hand tools and how they pertained to cars. Students even had opportunity to remove and replace a vehicle tire, using an air impact gun for the wheel lug nuts.

"We were thrilled to welcome these students to our campus," said Eli Jaramillo, Advanced Transportation Technology and Energy program director for the SCCTT.

"As a college, we're honored to be a part of educating the next generation about energy, power, transportation, and the environment. These students represent an important link in the future of automotive design and the advanced transportation industry as a whole."

For more information contact Eli Jaramillo at (562) 860-2451 x2934.

LBCC Opens State-of-the-Art Maintenance Complex

On Monday morning, August 20, 2007, Long Beach City College's Pacific Coast Campus opened the doors for classes in its brand new Automotive Technology and Aviation Maintenance facilities.

The project began over four years ago to replace the structurally and esthetically outdated facilities which have been in service for over fifty years. State bond money was used to completely redesign and replace the existing buildings into a state-of-the-art complex that reflects cutting edge technologies

and standards used in industry today.

The Automotive Technology shop was modeled, with industry input, after an automotive dealership's service department. The Aviation Maintenance facility resembles a modern aircraft hanger that might be seen at any local airport. The Automotive Technology shop was designed and built to comply with stringent

NATEF standards and will showcase the recent certification of the department.

The Aviation Maintenance facility has met the rigorous standards set by the FAA and was certified to hold classes this fall semester. Faculty members of the Automotive Technology and Aviation Maintenance departments devoted weeks of their time this past summer in re-

locating all the equipment, tools and educational materials into the new facilities in order to assure that classes would begin in the fall without a hitch.

In keeping with technology, the Automotive Technology building incorporates multiple computer terminals which allow technicians to access online repair information from Mitchell On-Demand and Motor All-Data. The Automotive Technology complex includes two modern classrooms which are equipped with audio-visual equipment, compressed air supply, water, ventilation system and roll-up doors so that vehicles may be driven into the classrooms for hands-on demonstrations by the instructors. Long Beach City College is proud of their newest facility upgrades and welcomes back to the Pacific Coast Campus two programs that will continue to train our students in the upcoming years and provide valuable additions to the workforce in the Southern California region.

"...audio-visual equipment, compressed air supply, water, ventilation system and roll-up doors so that vehicles may be driven into the classrooms for hands-on demonstrations..."



Advanced Transportation Technology Centers

Cerritos Community College Center for Advanced Transportation Technology

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