Los Angeles Trade-Technical College
Utility/Energy Sector Initiative – Programs and Activities

Trade-Tech – A Leader in Workforce Development

Los Angeles Trade-Technical College (LATTC, Trade-Tech) has an 85+ year history of educating and preparing the Los Angeles workforce for careers in industries that fuel the regional economy. LATTC has taken a proactive role in developing innovative programs in the Utility/Energy sector in Los Angeles and in California and is recognized as a workforce development leader in this industry sector. Other colleges, utilities, energy companies and governmental agencies request assistance from LATTC to develop programs and fill their growing employment needs. Just recently, in May 2010, The President’s Roundtable selected Los Angeles Trade-Technical College for the Energy Star Award for Education, recognizing the college as a national leader in providing education and training opportunities to support the green economy. And the Workforce Strategy Center (WSC), a non-profit headquartered in New York City selected LATTC to be a case study for a national green workforce development report.

This document provides an overview of all the activities and programs the College has actively conducted as part of its utility/energy sector-based initiative.

Utility/Energy Certificates, Degrees, and Courses

Nineteen (19) utility/energy-related certificate and/or degree programs have been developed and/or are being offered at LATTC as follows (note: certificates, degrees, and courses related to green careers are highlighted in green):

- Chemical Technology Certificate and AS Degree with an Emphasis in Environmental and Industrial Laboratory Testing
- Supply Water Technology AS Degree with an Emphasis in Water Purification
- Wastewater Technology AS Degree
- Hybrid & Electric Plug-In Vehicle Technology Certificate of Achievement
- Renewable Energy AS Degree with emphasis in Solar Thermal
- Renewable Energy AS Degree with emphasis in Solar PV
- Solar Thermal Installation and Maintenance Technician Certificate of Achievement
- Renewable Energy AS Degree with emphasis in Energy Efficiency
- Solar PV Installation and Maintenance Technician Certificate of Achievement
- Renewable Energy Generation, Transmission, and Distribution AS Degree with emphasis in Powerline Mechanic
- Weatherization and Energy Efficiency Certificate of Achievement
- Energy Systems Technology fundamentals Certificate of Achievement
- Powerline Mechanic Certificate of Achievement
- Utility Industry Fundamentals Certificate of Achievement
- Process Technology Certificate and AS Degree
- Electrical Construction and Maintenance Certificate, AA, and AS Degree
- Street Maintenance Technology Certificate and AA Degree
- Electrical Lineman Apprenticeship Certificate
- Operation & Maintenance Engineer: Steam Plant Certificate
- Operations/Maintenance Engineer Apprenticeship Certificate

*Note: Certificate/degree is pending California Community College Chancellor Office approval

The college has also developed and now offers over 50 courses incorporating clean and green content and practices such as: Weatherization Energy Efficiency Practices, Energy Auditing, Green Building Basics for Developers, Renewable Energy Systems, Sustainable Lighting Principles and Practices, Thermal Energy Storage and Heat Recovery, Solar Systems Technology, and Waste Reduction and Recycling to name a few. These courses are offered as “stand alone” courses and/or as a series of courses leading to certificates, degrees, and program options.

In addition, the Construction, Design, and Manufacturing department has a proud history of being one of the oldest programs at the college, is the largest community college construction-technology program in the state, and is the primary post-secondary organization educating the trades-related workforce for the utility/energy sector. Forty-one degree and certificate programs and over 250 courses are offered in twenty-six disciplines within the department including: Carpentry; Electrical Construction and Maintenance (General) and Electrical Construction and Maintenance (Construction Technologies); Basic Electrician Trainee, Motor Control, National Electric Code, Programmable Logic Controllers, Voice Data Video and Fire Life Safety Technician; Operation and Maintenance Engineer Steam Plant; Plumbing; Street Maintenance Technologies; Refrigeration and Air Conditioning Mechanics; and Welding Gas and Electric to name a few. On average, there are over 6,600 enrollees in these courses/programs each semester.

Utility Sector Intermediary for Los Angeles and California

Trade-Tech has been selected to serve as the intermediary for workforce development for the utility/energy sector in Los Angeles by the LA Workforce Systems Collaborative. The college has expanded its intermediary role to serve the utility/energy sector throughout the state of California. Here are some examples of the intermediary work being conducted by the college (note: those activities aimed at the “greening” of the energy/utility sector are highlighted in green).

Recent Accomplishments and Accolades–

- Convenor of the Los Angeles Infrastructure and Sustainable Jobs Collaborative - The Regional Economic Development Institute
Los Angeles Trade-Technical College, Division of Workforce and Economic Development
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(REDI), in the Division of Workforce and Economic Development at Los Angeles Trade-Technical College, serves as the “intermediary” for the utility/energy sector-based initiative in the Los Angeles Region. In this role, REDI established the LA Infrastructure and Sustainable Jobs Collaborative and is responsible for hosting meetings, conducting workforce research activities, facilitating program development activities, coordinating training and education programs, and other workforce development activities to ensure the mission and objectives of the Collaborative and the utility/energy sector-based initiatives are met.

- Completed a comprehensive report on the economic and employment potential of the utility industry in Los Angeles and related workforce development issues. The report also includes a brief synopsis of the “greening” of the utility sector and projected workforce demand. The report is available online at: http://www.lattc.edu/dept/lattc/WED/files/UtilityIndustryReport_July_08.pdf

- Completed the development and launch of The Utilities and Construction Prep (UCP) Program, a seven-week intensive program that addresses basic skills in math and English, as well as, work readiness and financial literacy in the context of preparing for careers in the utility sector (and related construction sector). The UCP Program has been featured in the report “Contextualized Teaching and Learning: A Faculty Primer. A Review of Literature and Faculty Practices with Implications for California Community College Practitioners”. And most recently the program was highlighted in a national report by The Workforce Alliance (“California’s forgotten middle-skill jobs: Meeting the demands of a 21st Century Economy) as an “exemplary middle-skill education and training opportunity that serves diverse populations”. The UCP Program, by design, reaches out to the most under-served, under-prepared, and disconnected communities and populations and seeks to provide a pathway out of poverty and to self-sufficiency and personal and professional success. To date, UCP has over 100 program completers with over 80 participants attaining employment or continuing into a post-secondary career path. More information on the program is available online at: http://college.lattc.edu/ucp/

- Commissioned the completion of the report “Clean Technology Workforce Challenges and Opportunities” to determine workforce development needs of the emerging clean technology cluster in Los Angeles and Orange County region. The report is available online at: http://www.lattc.edu/dept/lattc/WED/files/Clean_Technology_Report.pdf

- Completed a comprehensive report entitled the “Strategic Opportunity to Build a Green Workforce in Los Angeles” which examines occupational opportunities from the “greening” of the utility and construction industries. The report is available online at: http://www.lattc.edu/dept/lattc/WED/files/Sustainable_Workforce_Report_latestl_draft%5B1%5D.pdf

- Completed the development of the Solar PV Installation and Maintenance Technician Certificate of Achievement program comprised of a series of solar PV courses, core courses are NCABCEP (North American Board of Certified Energy Practitioners) approved. In addition, the college developed and offers a Fundamentals of Solar Electricity program (1 course, 54 hours) that prepares individuals to be able to take the NABCEP Photovoltaic (PV) Entry Level Certificate of Knowledge test. The program was launched/piloted in fall, 2008.

- Developed and launched the Powerline Mechanic course and Certificate program. This 600 hour, one semester course/program prepares students to be a electrical powerline mechanic. The goal of the program is to produce candidates for an Electrical Distribution Mechanic (EDM) training program. Development of basic skills needed to be successful trainees is emphasized. A 175 hour power pole-climbing certificate of completion is granted to students who successfully complete the course. More information on the program is available at: http://college.lattc.edu/cdm/program/electrical-lineman-training-program/. In summer, 2010 the College launched the female lineworker program with the aim of recruiting and training women for this exciting, non-traditional career.

- Completed the development of a Weatherization and Energy Efficiency Certificate of Achievement program with substantial assistance from the Southern California Gas Company. The short-term, certificate program includes a series of courses for individuals interested in employment as weatherization and energy efficiency specialists. The courses are developed both for new building professionals and for professional builders/contractors already in the workforce in need of these skills. Individuals will be prepared to be weatherization, energy efficiency, retrofit technician, home improvement retrofit trainees, residential air sealing technicians, and insulation installers. The Certificate includes 15 units of coursework.

- Designed, programmed, and implemented the Summer Green Youth Jobs Program. The summer program enabled 115 area youth in 2009 and 147 youth in 2010 to obtain instruction in weatherization, construction techniques, and green community-based research and then be placed in a 120 hour paid internship experience with partners such as the Southern California Gas Company (and its subcontractors), Habitat for Humanity, Community Coalition for Responsibility Development, and Success A New Beginning, Inc. (SANBI).

- Facilitator of California Utilities Diversity Council (CUDC) Green Jobs Study - The Regional Economic Development Institute (REDI) was selected by the CUDC to facilitate the design and implementation of a green jobs study. The purpose of the “Green Jobs Study of Investor Owned Utilities (IOUs) Operating in California”, is to engage key stakeholders of the utility industry—including all variety of entities that comprise the sector—in describing the requisite
workforce to support their green-related initiatives.

**Participant in State and National Workforce Development Initiatives in Energy/Utility Sector**

- **California Advanced Lighting Control Training Partnership (CALCTP)** – the college participated in this project that developed standardized lighting control education and training programs throughout the state of California—these lighting control systems are designed to significantly increase energy efficiency.

- **Member of the California Energy & Utility Consortium (CEUC)** – the college is an active participant in the CEUC, created by the California Community College Chancellor’s Office to address common statewide workforce needs from all of the major utilities. The CEUC, and the college, is currently working collaboratively to establish standards for curriculum for powerline systems certificate and degree programs.

- **Green For All’s national Green Pathways Out of Poverty Community of Practice** – the college is a member of this national community of practice which includes a number of green workforce development agencies across the nation engaged in sharing best practices in green utility/energy education and training.

- **National Commission on Energy Policy’s Task Force on America’s Future Energy Jobs** – Vice President, Marcy Drummond, participated on The Task Force on America’s Future Energy Jobs, convened by the Commission, which examined the ability of the current worker training and education system in the United States to provide a workforce with the ability to maintain a highly reliable, economically affordable electric power system while modernizing the nation’s electric generating infrastructure to support an advanced, low-carbon energy portfolio. The Commission recently published the final report resulting from the Task Force’s work which is available on their website at: [http://bipartisanpolicy.org/library/report/task-force-americas-future-energy-jobs](http://bipartisanpolicy.org/library/report/task-force-americas-future-energy-jobs)

- **Working Group for the Green Pathways to Postsecondary Success project** facilitated by the Corps Network. The project and working group, funded by the Bill & Melinda Gates Foundation and W. K. Kellogg Foundation, aims to deepen the understanding of the most effective and promising models and strategies that build on-ramps to and encourage persistence in and completion of postsecondary education including those leading to a green credential and career for low-income, disconnected youth and young adults.

**Labor Partnerships**

- **LATTTC Serves as the Local Education Agency for Regional Apprenticeship Program Sponsors** – Trade-Tech college has a long history of serving as the LEA (Local Education Agency—an education agency authorized by law to provide related and supplemental instruction for apprentices in the state of California; California Code of Regulations, Title 8, Section 236) for several regional, registered apprenticeship program sponsors including those most closely aligned with the utility/energy industry such as: Operations and Maintenance Engineers, Local 501; SCADA (Glendale, Burbank, and Pasadena Lineman and Cable Above Ground Cable Splicers); Burbank Water and Power Electrician and Test Technician; Steam-Refrigeration-Air Conditioning-Pipe Fitters Local #250; HVAC-R Technicians, Local #40 IBEW; and SETC-UCLA Carpenter, Electrician, Plumber and HVAC apprenticeship program.

- **LATTTC Partners With Local Labor Organizations on Workforce Development Education & Training Initiatives** – Trade-Tech has/is partnered with labor organizations to develop several education and training programs including: (1) partnering with IBEW Local 18 - LADWP (Los Angeles Department of Water and Power) Joint Training Institute; IBEW Local 11; California Building and Construction Trades Council to develop and implement the Utilities and Construction Prep (UCP) Program; (2) partnering with IBEW Local 18 - LADWP (Los Angeles Department of Water and Power) Joint Training Institute to conduct Electrical Craft Helper (ECH) courses both at LADWP power plant sites and at LATTCC; (3) and collaborating with IBEW Local 18 - LADWP (Los Angeles Department of Water and Power) and the City of LA department on the Energy Efficiency City Hall Working Group in which IBEW Local 18 and LATTCC jointly develop and offer training to individuals in Utility Pre-Craft Trainee occupation to obtain weatherization, energy efficiency, and solar photovoltaic skills and competencies.

- **LATTTC Partners with National Labor Organizations on Workforce Development Education & Training Initiatives** – The College is partnering with the Utility Workers Union of America (UWUA) to provide training programs for both new, entry and incumbent workers at their Local 132. Currently the College is providing two types of training programs. For incumbent, meter readers the college is providing short-term training to assist them with transitioning to other utility-related occupations. These programs include plumbing, small appliance repair, call center operations, and basic electricity. For new, entry workers; Trade-Tech is providing several 10 – 12 week training programs to prepare individuals for entry-level gas, water, and electrical positions.

**K12 Partnerships**

The college has established numerous K12 partnership programs with the primary aim of increasing students’ awareness of utility/energy careers, for improving preparatory skills for college and career particularly for trade and STEM careers, and for increasing students’ participation in STEM education programs, with a particular focus on sustainability. Below are examples of such partnerships.

- **LATTTC is a collaborative partner in the LAUSD, "I’m a Student Exploring Excellence (iSEE)" program** to engage, expose, and challenge LAUSD high school youth to explore architecture, engineering and construction to pursue career opportunities and college units in these areas. Over 250 students have participated in the program since its inception in spring, 2008. Courses completed at Trade-Tech incorporate...
sustainability principles and practices.

- Since 2008, over 3,500, LAUSD middle and high school students have participated in career exploration and/or current enrollment activities at the college to promote career exploration and opportunities in Construction, Utilities, Engineering and other Career Technical Education areas. The program and its supportive services have been funded through a US Department of Education After School Enrichment Program Grant, a US Department of Education HSI STEM Grant, and the California Community College CTE Collaborative Grant. Students are introduced to various “green” education and training programs at the College.

- In summer 2010, 225 high school students from over 20 local high schools participated in our Bridges to Success five-week Science Technology Academy funded by the US Department of Education’s STEM Hispanic Serving Institution (HSI) Grant. All students were exposed to innovative, project-based instructional strategies in science and technology programs at Trade-Tech. In addition to the application of science, math and technology, students had the opportunity to learn about “Green Initiatives” through their class projects and activities including: students in Architecture learned about architecture designs that help to conserve energy along with Eco-friendly development; students in Welding Technology learned how to build go karts with one being solar powered and another bio-diesel powered; A group of students created an informational website to educate their peers about water conservation and what they are able to do in order to help; and a group of students created an informational website to educate their peers about the impact of discs (CDs, DVDs, etc.) on our environment along with information about what they can do to help minimize the impact.

Utility/Energy Sector Grant Activities

Los Angeles has secured over 30 grants and contracts to support its utility/energy sector-based education and training activities, as well as, has engaged with other partnership organizations as their primary education/training partner. Much of the funding for these activities has occurred as either part of the American Reinvestment and Recovery Act and/or funding directly from green legislation in the state of California. These grants, contracts, and partnerships are listed below.

- Bank of America Foundation – a portion of the grant is aimed utility/sector workforce development
- Los Angeles Department of Water and Power – sustainability education planning grant
- City of Los Angeles Community Development Department - utility sector contract
- California Public Utilities Commission Low Income Energy Efficiency Program
- California Clean Energy Workforce Training Program
- Governor’s Green Jobs Corps - in partnership with Los Angeles Community College District
- EPA Brownsfield - in partnership with Los Angeles Conservation Corps
- Summer Youth Green Jobs Program - in partnership with Los Angeles Community College District
- U.S. Youthbuild - in partnership with Coalition for Responsible Community Development
- U.S. Department of Labor VWIP - in partnership with U.S. Vets (http://www.usvetsinc.org/)
- U.S. Department of Labor Green Jobs Training Initiative – in partnership with Coalition for Responsible Community Development
- U.S. Department of Labor, Pathways out of Poverty – in partnership with the Los Angeles Community College District
- Southern California Edison Green Jobs Education Training Initiative
- City of Los Angeles, Community Development Department, High Growth Sector Initiative/Green Retrofit – in partnership with PACE and Los Angeles Community College District
- City of Los Angeles, Community Development Department, High Growth Sector Initiative/Clean Manufacturing – in partnership with Community Career Development
- Southern California Green Jobs Initiative – Trade Tech received $100,000 in scholarships for low-income students in green jobs workforce education programs.
- National Science Foundation $24.5 million grant to establish the Center for Energy Efficient Electronics Science at UC Berkeley. Trade-Tech is one of six partnering higher education institutions in the grant including UC Berkeley, Massachusetts Institute of Technology, Stanford University, Contra Costa College, and the Tuskegee Institute in Alabama.
- Jewish Free Loan Association (JFLA) – Green Loan Fund for Residence and Business Environmental Upgrades. As part of the upgrade program, JFLA has partnered with Trade-Tech to administer energy audits free of charge by students in the college’s energy efficiency training programs, for work experience credit.
- Sempra Energy Foundation – Trade-Tech received $25,000 in scholarships for low income students in green jobs workforce education programs.
- Kresge Foundation – to fund the Initiative for Intercollegiate Innovation (i3) at Trade-Tech with the purpose of strengthening the capacity of community colleges to design and deliver state-of-the art education and training programs that have been modeled at Los Angeles Trade-Technical College, particularly the green workforce development programs.
- US Department of Energy – to fund the establishment of the Weatherization and Energy Efficiency Training Center at LATTC.