



CENTER FOR PETROCHEMICAL, ENERGY, AND TECHNOLOGY

 SAN JACINTO
COLLEGE

*A national leader in innovative
petrochemical manufacturing
workforce training*



ABOUT SAN JACINTO COLLEGE

While it's well known that the petrochemical industry needs more workers, what it really needs is a more skilled workforce. San Jacinto College proudly continues to be the industry's training hub.

San Jacinto College has served as the training leader for the petrochemical, energy and technology workforce in the greater Houston area for more than 40 years. With four campuses located throughout East Harris County, the College serves as a training hub to the largest petrochemical manufacturing complex in the United States, and second largest in the world with 90 industries and 130 plants. The College plays a vital role in helping the region become the "Energy Capital of the World."

With San Jacinto College's upcoming \$60 million Center for Petrochemical, Energy, and Technology, the industry will benefit with a strengthening of training in key petrochemical manufacturing areas. The College relies on industry feedback by inviting representatives to be a part of its Petrochemical Advisory Council. Formed by San Jacinto College Chancellor Dr. Brenda Hellyer, the Council includes leaders from the petrochemical industry and plant managers. The Council is tasked with assessing the curriculum, equipment and planning for the Center.

 SAN JACINTO
COLLEGE
Your Goals. Your College.





- ▶ A 2017 Aspen Institute Rising Star award winner, placing San Jacinto College among the top five in the nation of more than 1,100 community colleges
- ▶ One of 30 community colleges in the U.S. to be named a Gates Foundation-funded Pathways Project college
- ▶ Top selection in the U.S. by the Gates Foundation Frontier Set for research on student success and college completion
- ▶ Process technology program endorsed by the North American Process Technology Alliance (NAPTA)
- ▶ Process technology team of students and faculty first in the U.S. in troubleshooting at 2017 NAPTA Troubleshooting Competition
- ▶ Second-largest producer of process operator associate degree graduates in the U.S.
- ▶ 15th in the U.S. in granting associate degrees across all disciplines
- ▶ 15th in the U.S. by the Brookings Institute for value of technical degrees

PETROCHEMICAL ADVISORY COUNCIL MEMBERSHIP

- Austin Industrial
- Dow Chemical Company
- East Harris County Manufacturers Association (EHCMA)
- Economic Alliance - Houston Port Region
- INEOS
- Infinity - Wood Group
- ISC Constructors LLC
- Kaneka North America
- Kuraray America - Eval
- Lubrizol
- LyondellBasell
- R. Boeding Group LLC
- Rizzo & Associates
- Shell Deer Park
- Turner Industries
- Zachry Group



FACILITY FEATURES

Largest petrochemical training facility in Gulf Coast Region with approximately 145,000 square feet

Exterior glycol distillation unit used to teach process operations and develop troubleshooting skills for entry, advanced credit students and incumbent workers

Newest industry-standard software, equipment and technology

Instrumentation/ analyzer technology and non-destructive testing training labs

Multifunctional glass pilot lab for training process systems

Conference, training and assembly spaces designed to accommodate academic, community and industrial functions

Electrical power labs for teaching industrial electrical equipment function and maintenance

State-of-the-art control room to operate the Glycol Distillation Unit developed with industry to optimize safety, efficiency and ergonomic human factors

Process simulation training facilities

Corporate training and professional development facilities designed to complement many aspects of the petrochemical manufacturing industry, such as process technology, instrumentation and controls, electrical power, fixed and rotating equipment technology, process reliability, non-destructive testing and others



PROGRAMS AND TRAINING

The Center for Petrochemical, Energy, and Technology is being designed to develop and train the current and future workforce needs of the petrochemical industry. Students can earn associate degrees and certificates with hands-on experiences through technical training with an emphasis on soft skills and safety. Customized and proprietary training can be developed and delivered by the Continuing and Professional Development division.

- Electrical Technology
- Process Technology
- Instrumentation / Analyzer Technology
- Non-Destructive Testing
- Continuing and Professional Development (CPD) training

3,600+

students train annually in electrical technology, process technology, instrumentation, and non-destructive testing

MEETING THE DEMAND IN PETROCHEMICAL

San Jacinto College is working side by side with industry partners to train the next generation workforce. Graduates leave the College with the skills necessary to obtain jobs in their chosen career fields. With programs in process technology, instrumentation and craft trades, San Jacinto College ensures workers are certified and on their pathway to high-paying jobs in high-demand fields.



SAN JACINTO COLLEGE PETROCHEMICAL AND MANUFACTURING CERTIFICATE AND DEGREE PROGRAMS

- Air Conditioning Technology
- Electrical Technology
- Electronics
- Engineering Design Graphics (Drafting)
- Environmental Health and Safety Technology
- Instrumentation / Analyzer Technology
- Non-Destructive Testing
- Pipefitting Fabricator
- Process Technology
- Welding



COMMUNITY AND INDUSTRY PARTNERS

A half-century of innovation, inclusion and extraordinary growth mark the history of San Jacinto College. The College evolved from one location in urban Pasadena to four campuses and 10 extension centers serving the Greater Houston community. Today, approximately 45,000 credit and non-credit students discover their career pathways at San Jacinto College. To support their success, the College invested nearly \$400 million in the last decade to build first-class facilities and partnerships to inspire the next generation of leaders, managers and employees. The College's investment in the Center for Petrochemical, Energy, and Technology is specifically designed to expand training with partners. These partners include:

- Air Products
- Albermarle
- Arkema
- Associated Builders and Contractors
- Austin Industrial
- BASF
- Brock
- Celanese Chemicals
- Chevron Phillips Chemical
- Covestro (formerly Bayer)
- CMEF (Construction and Maintenance Education Foundation)
- Dianal America
- Dixie Chemical
- Dow Chemical Company
- DuPont
- East Harris County Manufacturers Association
- Eaton
- Enterprise Products
- ExxonMobil
- Flint Hills Resources
- Fluor
- Hexion
- Hunter Buildings
- INEOS
- Infinity - Wood Group
- Kaneka North America
- Kuraray
- Lubrizol Corporation
- LyondellBasell
- Noltex
- Oxiteno
- Oxychem
- Pentair
- Phillips 66
- Sasol Chemicals
- Shell
- Texmark Chemicals
- Total Petrochemicals
- TPC Group
- Turner Industries
- Valero Refining
- Zachry Group



"The petrochemical industry is in need of a skilled workforce. Now, applicants who want jobs in petrochemical need to have two-year associate degrees, and this is very different than how it was in the past."

-Randy Boeding, independent consultant with the R Boeding Group, LLC

"San Jacinto College has one of the most reputable process technology training programs in the country. The faculty are well known for their instruction, and students graduate well prepared for work in the industry."

-Daniel Presswood, San Jacinto College process technology graduate, 2017

"In my opinion, the new petrochemical training facility is an incredible example of education getting it right. It will do two things - directly support the main economic engine in the region and prepare people for careers. A facility like this will ensure that this region maintains its edge in developing a qualified workforce."

-Chad Burke, president and CEO of the Economic Alliance Houston Port Region



LEADERSHIP SUPPORT

Financial gifts, and equipment funding and donations demonstrate leadership and provide the support necessary to ensure the Center for Petrochemical, Energy, and Technology meets the dynamic requirements of business and industry. A menu of Leadership Support levels has been developed to provide interested individuals and organizations with an opportunity to contribute and participate in a manner that is appropriate for them. Each gift is provided appropriate recognition on-site and throughout all materials and marketing related to the Center.



TITLE GIFT: \$5 million Naming the Center for Petrochemical, Energy, and Technology

- Provides critical financial support for the Center
- Demonstrates industry and community leadership of the highest level
- Receives marquee recognition at the Center
- Receives title recognition in materials, marketing and activity related to the Center
- Provides maximum high-profile/name-recognition exposure to students, the general public, current workers and affiliates

PETROCHEMICAL COMMONS HALL: \$2 million

The front entrance of the Center for Petrochemical, Energy, and Technology provides the ideal location for on-going exhibits featuring programs and courses and providing facilities for industry, business, and community exhibitions. An example of the types of activities that could be held in this location include large-scale, seated events or trade shows.

Naming the lobby/exhibition hall:

- Provides financial support critical for the Center
- Provides immediate high-profile exposure to all visitors, students, existing petrochemical workers and industry leaders
- Provides recognition on signage and all materials and marketing related to the lobby exhibit hall of the Center for Petrochemical, Energy, and Technology



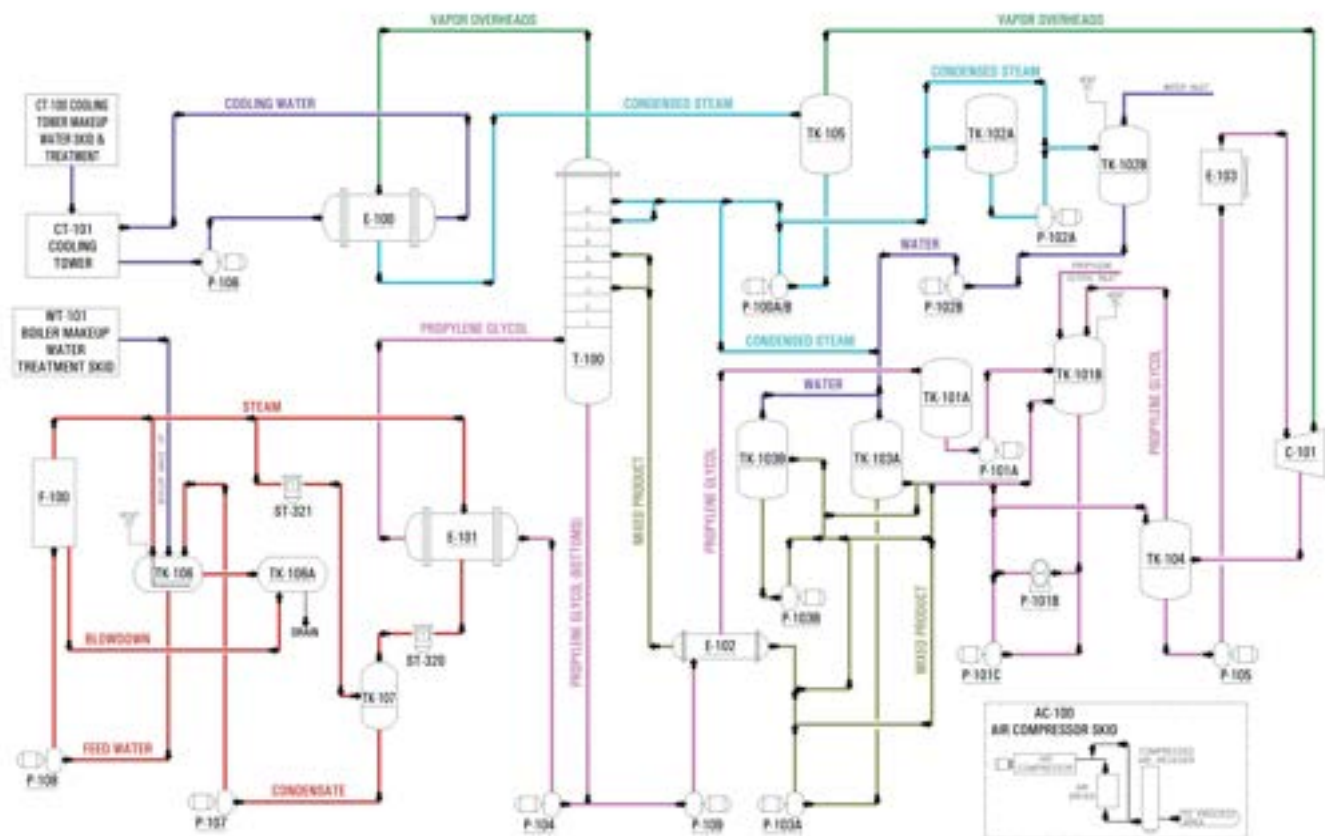


ENDOWMENT FOR QUALITY & SUSTAINABILITY: \$2+ million

With the changes that constantly arise in technology and process improvements, it is critical that equipment and faculty remain current to provide the best training possible. This endowment provides a unique and ongoing opportunity to provide essential resources for equipment and technology enhancements, upgrades to remain current with industry standards, and support for faculty and staff development. Donations to this endowment will ensure that the Center for Petrochemical, Energy, and Technology and its faculty and staff remain at the forefront of related business and industry trends and needs.

GLYCOL DISTILLATION UNIT: \$2 million

Designed by industry engineers, this exterior unit will consist of a 30-foot distillation column to separate glycol and water. Included in this operating unit will be a tank farm, gas fired boiler, cooling tower, pumps, exchangers and instrumentation necessary to operate the separation process. All process unit systems will be industrial grade on an 8,000-square-foot layout. The control system and student work stations will be located indoors in the Control Room. The process control system will be Delta V. Students will operate the process unit in tandem with other students operating in the field at the Glycol Distillation Unit. Additional students will monitor and operate the system from the Control Room.





CONTROL ROOM: \$1 million

Designed as the heart of operations, using industry standards and specifications, the Control Room for the Glycol Distillation Unit will feature a state-of-the-art operations center where the Delta V distributed control system is monitored and controlled. This will provide a unique opportunity for faculty to simulate complex, customized troubleshooting and safety of operations scenarios for students and corporate trainees in a secure but realistic environment.



PROCESS SIMULATOR LAB: \$1 million

Located adjacent to the Control Room, the Process Simulator Lab will allow process simulation for multiple scenarios. Process simulation uses software that creates a real-life representation of chemical, physical, and other technical processes in unit operations including refining, distillation columns, reactors, and batch processing.

GLASS PILOT PLANT LAB: \$500k

This lab is a demonstration lab and classroom that provides training on process systems and concepts of mass and energy balance. All vessels and tanks will be constructed out of glass for visibility and connected with stainless tubing. Major pieces of equipment will include a cooling tower, tank farm, trayed and packed columns, reboilers, reactors, exchangers, condensers and pumps.





CRAFT TRAINING CENTER: \$500k

The Craft Training Center offers both credit and noncredit courses for workforce development and industry contract training. Designed to be flexible, this facility will feature a high-bay industrial lab with overhead utilities and several classrooms. The new center will offer courses using nationally standardized NCCER (National Center for Construction Education and Research) curriculum such as pipefitting, millwright, boiler-making and industrial maintenance.

SKILLS LABS FOR SPECIFIC TRAINING: \$100k - \$250k

All skills labs have been designed by industry subject matter experts. Special emphasis in the design process was created to be realistic hands-on training experiences and align technical skills with an understanding of theory.

Naming and/or equipment donation. See cut sheets for lab descriptions.

- Process Technology Labs
- Instrumentation and Analyzer Technology
- Electrical Labs
- Non-Destructive Testing Labs

HALLWAYS: \$100k (x4)

Provide a directional identity for one of the Center's four major hallways. Make sure you are a part of almost every conversation!





281-998-6150

www.sanjac.edu

Connect with us on        

A special thanks to our industry partners and Brazosport College.

The San Jacinto College District is committed to equal opportunity for all students, employees and applicants without regard to race, creed, color, national origin, citizenship status, age, disability, pregnancy, religion, gender, sexual orientation, gender expression or identity, genetic information, marital status or veteran status in accordance with applicable federal and state laws. The following College official has been designated to handle inquiries regarding the College's non-discrimination policies: Vice President of Human Resources, 4620 Fairmont Pkwy., Pasadena, TX 77504; 281-991-2659; Sandra.Ramirez@sjcd.edu.