

PROCESS TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE



Program Information

If you have a technical mind, you are in luck. Houston is home to the largest petrochemical and refining complex in the nation, and the demand for skilled process technicians continues to grow! Our graduates enter the workforce with the necessary skills that are highly prized by companies that continually hire students directly out of our program.

The San Jacinto College Associate of Applied Science (AAS) degree in Process Technology:

- Prepares students to become plant operators responsible for equipment, the hazards of the chemicals, and the chemistry and physics involved in process technology;
- Works in the LyondellBasell Glass Distillation Plant laboratory. This world-class plant offers real-world scenario experience as a fully functional unit. Most importantly, students will engage in a work-based learning environment that they will see in a plant environment. The learning experience is enhanced as the internal workings of the process are transparent. Thanks to industry support, this is another positive addition to the many labs dedicated to this program;
- Teaches students to read piping and instrumentation diagrams (P&IDs), identify and troubleshoot equipment, operate simulators, and as a capstone course, run the Propylene Glycol Distillation Unit, which is PTAC 2438 Process Technology III - Operations;
- Earns industry support as students graduating from the program are endorsed by the North American Process Technology Alliance (NAPTA);
- Is recognized by the Texas Skill Standard Board (TSSB). Upon graduation with an AAS in Process Technology, students will earn the Texas Skill Standards recognized program seal affixed to their AAS credential; and
- Has participated and won the NAPTA National Troubleshooting Competition Championship three years in a row 2017, 2018, and 2019. In 2020 the event was cancelled due to COVID. In 2022 San Jacinto College placed second.

Career Opportunities

Graduates of the San Jacinto College Process Technology program have the opportunity to work in:

- Chemical plants,
- Refineries,
- Wastewater treatment plants,
- Canneries,
- Pharmaceutical plants,
- Paper mills,
- Terminals,
- Pipelines, and
- Fuel storage depots.

Earning Potential

Chemical Plant and System Operators: \$82,415 per year¹

¹ Source: texaswages.com (<http://texaswages.com>), median salary Gulf Coast region, 2021

For more information, students may contact:

Department Chair - 281-998-6350, x1188 - Direct Line Office:
281-478-2712 - shawn.dickerson@sjcd.edu

Campus

Central Campus

Information

The Process Technology department is a direct link to the largest industry in the greater Houston area and the Texas Gulf Coast region. In the past, very little formal training was required prior to taking a job in the chemical process industry. However, companies in the Houston area now require more education for their entry-level technicians and are looking to community college graduates to meet those needs.

Students train in state-of-the-art process laboratory facilities similar to area refining and chemical plant environments. The College built its facility in cooperation with area petrochemical companies. San Jacinto College works closely with industry as a member of the North American Process Technology Alliance (NAPTA) to maintain a curriculum reflecting current technology standards.

Completion of the Process Technology curriculum can provide students with the technical skills required for entry-level positions as process technicians in petrochemical and related industries.

A Level 2 Certificate of Technology in Process Technology is still accepted by most of the industry; however, several industries have indicated they will hire only graduates with the Associate of Applied Science (AAS) degree. Future trends indicate that most of the petrochemical industry technicians will be required to have an AAS degree. Students who earn qualifications to be in the Chemical Lab Technician Specialty degree program after obtaining their AAS will sign up to pursue the Enhanced Skills Certificate (ESC). The student will then have the advantage of earning qualifications for being hired into either the operations division or laboratory department of a process plant because the ESC will make the student more marketable.

Students enrolling into San Jacinto College programs with external learning experiences (i.e., clinical, practicum, externship, cooperative, etc.) will be required to comply with the immunization requirements and policies of the clinical/external learning sites to engage in all clinical/external learning experiences. Vaccination requirements at clinical/

external learning sites are implemented pursuant to the independent authority of such facilities and are not mandated by San Jacinto College. Failure to meet the immunization requirements mandated by clinical/external learning sites may limit a student's ability to complete the program and/or may delay the student's graduation date. San Jacinto College does not process exemptions, and students should address potential vaccination exemptions directly with the clinical/external learning site.

Plan of Study

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First Term		Credits
PTAC 1302	Introduction to Process Technology	3
PTAC 1408	Safety, Health, and Environment I	4
TECM 1301	Industrial Mathematics ¹	3
SPCH 1311	Introduction to Speech Communication	3
Credits		13
Second Term		
PTAC 1432	Process Instrumentation I	4
PTAC 1410	Process Technology I - Equipment	4
CHEM 1305 & CHEM 1105	Introductory Chemistry I (lecture) and Introductory Chemistry I (lab) ²	4
ENGL 1301	Composition I	3
Credits		15
Summer Year One Term		
ETWR 1302	Introduction to Technical Writing ³	3
Credits		3
Third Term		
PTAC 2420	Process Technology II-Systems	4
SCIT 1418	Applied Physics	4
CTEC 2445	Unit Operations	4
Social and Behavioral Sciences or Government/Political Science or American History		3
Credits		15
Fourth Term		
PTAC 2438	Process Technology III - Operations	4
PTAC 2446 or CTEC 2487	Process Troubleshooting or Internship - Chemical Technology/Technician	4
PTAC 2314	Principles of Quality	3
Language, Philosophy and Culture (Humanities) or Creative Arts (Fine Arts)		3
Credits		14
Total Credits		60

Verification of workplace competencies.

Capstone Experience: PTAC 2438 Process Technology III - Operations

¹ Students desiring to obtain a baccalaureate degree should take MATH 1314 College Algebra. Students entering this program with MATH 1314 College Algebra may substitute this course for TECM 1301 Industrial Mathematics.

² The College encourages students to complete TECM 1301 Industrial Mathematics before taking CHEM 1305 Introductory Chemistry

I (lecture)/CHEM 1105 Introductory Chemistry I (lab) to be more successful in the Chemistry lecture/lab sections.

³ Students who have successfully completed ENGL 1302 Composition II or ENGL 2311 Technical and Business Writing may receive credit for ETWR 1302 Introduction to Technical Writing.