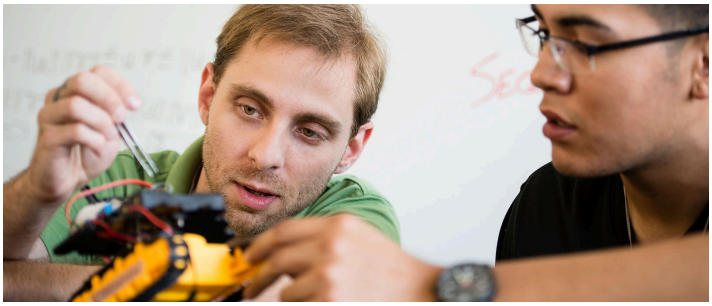
AUTOMATED MANUFACTURING, CERTIFICATE OF TECHNOLOGY



From Concept to Creation

San Jac's Engineering Technology program offers a practical, hands-on education grounded in applied science, math, manufacturing, and engineering principles. Students gain experience in areas such as design software, safety, materials, electronics, automation, robotics and quality assurance while working on real projects from start to finish. Graduates are prepared to serve as engineering technicians—bridging theory and application across sectors like aerospace, manufacturing, infrastructure, and more.

Career Opportunities and Income

Visit sanjac.edu (https://www.sanjac.edu/programs/areas-of-study/stem/engineering/) for information regarding career opportunities and potential earnings in the Greater Houston region.

Learning & Career Pathway

This learning pathway - a series of related and "stacked" certificates and degrees - includes the following awards. You can start at any point on the path and earn certificates on your way to completing the degree.

- Manufacturing Foundations, Occupational Certificate (https://publications.sanjac.edu/areas-study/science-technology-engineering-math/manufacturing-foundations-occupational-certificate/) (6 months)
- Automated Manufacturing, Certificate of Technology (p. 1) (1 year)
- Engineering Technology, Associate of Applied Science (https://publications.sanjac.edu/areas-study/science-technology-engineering-math/engineering-technology-aas/) (2 years)

Learning Outcomes and Career Skills

A student completing the last award in the pathway will be able to:

- Utilize the basic terminology, theories, and components of electricity and electronics in the application and operation of electronics and electrical systems.
- Conduct standard tests, measurements, and experiments to analyze and interpret the results.
- Design solutions for well-defined technical problems and assist with the engineering and manufacturing design of systems, components, or processes appropriate to solve well-defined mechanical engineering problems.
- Collaborate and communicate as a member of a technical team to function within the systems associated with the occupation and the business/industry.
- Apply written, oral, and graphical communication skills in well-defined technical and non-technical environments using appropriate technical literature.
- Produce and interpret various types of technical drawings including computer-aided design (CAD) for various occupational fields.
- Apply industry specific safety, codes, and standards in their work habits and characteristics.

External Learning Experiences

This program includes external learning experiences outside of the classroom, e.g., an internship, externship, clinical, practicum, or cooperative learning experience. Those experiences are typically on-site at a business or organization.

All students participating in external learning experiences are required to comply with the immunization requirements and policies of the external learning sites. Some learning sites outside the college have their own vaccination requirements. These rules come from those facilities and are not mandated from the college. Failure to meet those immunization requirements 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 external learning site.

Locations

- Central (https://www.sanjac.edu/about/locations/central/)
- South (https://www.sanjac.edu/about/locations/south/)

College Admission

San Jacinto College is an open admission institution. All students are welcome to apply and will be admitted to the College. You may begin the process on the College's "How to Apply (https://www.sanjac.edu/admissions/how-to-apply/)" webpage.

Program Admission

There are no additional admission requirements for the Engineering Technology program; you only need to complete your application to the College, as noted in "College Admission" above, and follow the enrollment steps.

Plan of Study

4ENGR-AM

First Year		
First Term		**Credits**
ENTC 1271	Introduction to Engineering Technology	2
ENTC 1347	Safety and Ergonomics	3
QCTC 1243	Quality Assurance	2
DFTG 1313	Drafting for Specific Occupations [1]	3
INTC 1307	Instrumentation Test Equipment	3
	Credits	**13**
Second Term		
METL 1401	Introduction to Metallurgy	4
INMT 1319	Manufacturing Processes	3
CETT 1302	Electricity Principles	3
RBTC 1305	Robotic Fundamentals	3

MFGT 1302	Introduction to Automated Manufacturing	3
	Credits	**16**
	Total Credits	**29**

[1] Students who have successfully completed ENGR 1304 may substitute this course for DFTG 1313 Drafting for Specific Occupations.

Capstone Experience: INMT 1319 Manufacturing Processes