ENGINEERING: DRAFTING TECHNOLOGY, A.S.

The non-transfer Associates Degree in Engineering: Drafting Technology is designed to prepare students for entry into careers as an Engineering Technician, Survey Technician, CAD technician, or Geographic Information Systems Technician. The program provides students a strong background in engineering drawing technologies (e.g. CAD), engineering standards and practices, engineering data gathering, analysis, and composition of engineering reports. Students will learn how to apply engineering problem solving and design processes, while working as an individual and collaborating in teams. Field exercises, apprenticeships/ internships and practical guidance on special topics and projects provide students with real-world practical experience. Students who want to continue their education for greater salary and career advancement may use this program as a stepping stone potential transfer of units to 4-year degree programs in Civil or Mechanical Engineering, Surveying or other Engineering programs.

AS.ENGR

Program Map

Design Your Future!

Begin by exploring MSJC program maps to find career or transfer (https://msjc.emsicc.com/?radius=&region=All%20Regions) opportunities. Program maps show the recommended course sequence that leads to graduation or transfer. The maps were developed by program experts to give you the skills and knowledge you need to succeed.

- **Starting in Spring?** Choose Fall Semester 1 courses.
- **Are you a part-time student?** Start Fall Semester 1 courses and follow the course sequence.

Fall Semester 1		**Units**
ENGR-154	Computer Aided Drafting I	3
PHOT-125	Digital Photography Production I	3
ENGR-180	Introduction to Engineering	2
ENGL-101	College Composition	3
CSCR-116	Integrative Career/Life Planning (formerly GUID-116)	3
	Units	**14**
Spring Semester 1		
ENGR-155	Computer Aided Drafting II	3
ENGR-121	Introduction to Engineering Design	3
COMM-103	Interpersonal Communication	3
MATH-105	College Algebra	4
ENGR-121 or ENGR-164	Introduction to Engineering Design or Plane Surveying I	3
	Units	**16**
Fall Semester 2		
ENGR-122 or ENGR-565	Electronics for Engineering Technologists (formerly ENGR-522) or Plane Surveying II (formerly ENGR-165)	3
PS-101	Introduction to American Government and Politics	3
ART-108 or ART-120	Beginning Drawing or 2D Design	3
ENGR-549	Work Experience Education: Engineering Technology	3
ENGR-566 or ENGR-756	Legal Aspects of Surveying (formerly ENGR-166) or SolidWorks I	3
	Units	**15**
Spring Semester 2		
GEOG-101	Physical Geography	3
ANTH-102	Cultural Anthropology	3
PS/ETHS-103	Ethnic Politics in America	3
GEOG-115 or ENGR-757	Introduction to Geographic Information Science or Microstation I (formerly ENGR-157)	3
ENGR-567 or ENGR-523	Global Positioning Systems for Surveying (formerly ENGR-167 Global Positioning Systems) or Computer Integrated Manufacturing (formerly ENGR-123)	3
	Units	**15**
	Total Units	**60**

Other Notes: Surveying, Land Use, GIS electives: ENGR-164, ENGR 565, ENGR 566, ENGR 567, and GEOG 515. Drafting Specialist electives: ENGR-121, ENGR 756, ENGR 757. Electronics/Electrical Design electives: ENGR-121, ENGR-122, ENGR 523

Note: AREA G (Math Competency) can be demonstrated by a high school math course at or above the level of Algebra 2 with a grade of C or better.

Requirements

An Associate Degree in this program requires students to complete MSJC's local General Education, Option A, by fulfilling all general education areas. In addition, students must complete all major requirements and complete an overall total of 60 degree applicable units with a minimum 2.0 GPA.

Course	**Title**	**Credits**
MSJC General Education Option A (https://catalog.msjc.edu/degrees-certificates-curricula/general-education-option-a/)		**24**
Required Engineering Courses		**11**
Electives Engineering Courses		**6**
Electives (as needed to reach 60 units)		

Course	**Title**	**Credits**
Required Courses		
ENGR-154	Computer Aided Drafting I	3
ENGR-155	Computer Aided Drafting II	3
PHOT-125	Digital Photography Production I	3
ENGR-180	Introduction to Engineering	2
Elective Courses		
Select 6 units of the following:		6
ENGR-756	SolidWorks I	
ENGR-757	Microstation I (formerly ENGR-157)	

	ENGR-164	Plane Surveying I
	ENGR-565	Plane Surveying II (formerly ENGR-165)
	ENGR-566	Legal Aspects of Surveying (formerly ENGR-166)
	GEOG-115	Introduction to Geographic Information Science
	ENGR-567	Global Positioning Systems for Surveying (formerly ENGR-167 Global Positioning Systems)
	ENGR-181	Statics
	ENGR-182	Strength of Materials (formerly Strength and Materials)
	ENGR-121	Introduction to Engineering Design
	ENGR-122	Electronics for Engineering Technologists (formerly ENGR-522)
	ENGR-523	Computer Integrated Manufacturing (formerly ENGR-123)
	ENGR-124	Civil Engineering and Architecture (formerly ENGR-524)
	ENGR-549	Work Experience Education: Engineering Technology
	ENGR-299	Special Projects: Engineering
Total Units		**17**

Career Exploration

Discover information about careers that interest you!

1. Take a **Career Quiz (https://msjc.emsicc.com/assessment/)** to learn about yourself and receive career suggestions based on your interests.
2. Search available **in-demand jobs (https://msjc.emsicc.com/browse-careers/)** in your career areas of interest and find up-to-date salaries and education requirements.
3. Find the **MSJC Program (https://msjc.emsicc.com/browse-programs/)** that connects your interests to a career.

Note: There are no guaranteed positions for students completing these programs. Education and work experience required will vary by employer. The salary and benefits for specific occupations will be dependent on work experience, education, background, and employer.