Engineering Technology

San Jacinto Campus
(951) 487-MSJC (6752)
1-800-624-5561
Dean of Instruction, Career Education & Categorical Programs (951) 487-3441

Menifee Valley Campus
(951) 672-MSJC (6752)
1-800-452-3335

Degree(s)

Transfer:
None
See:
A.A. in Liberal Arts - Business & Technology Emphasis

Non-Transfer:
A.S. in Engineering: Drafting Technology^4402 AS ENGR
(with General Education Requirements Option A)

Certificate(s)

Certificate in Engineering: Drafting Technology^22130 CT ENGR

Employment Concentration Certificate(s)

Green Collar Manufacturing^9999 ECC ENGR.GCM
Manufacturing Quality Assurance^9999 ECC ENGR.QA
Small Wind Energy Technology^9999 ECC ENGR.SWET
Solar Photovoltaic Technology^9999 ECC ENGR.SPT
Solar Thermal Technology^9999 ECC ENGR.STT
Surveying^9999 ECC ENGR.S

Program Description

The Engineering: Drafting Technology Program is a non-transfer program offering an A.S. degree, one certificate, and six employment concentration certificates. Many courses do, however, transfer to four year college and universities. The program will prepare students for a career in civil engineering, architecture, surveying, and manufacturing processing. Students become familiar with computer hardware and software programs which will assist in the aerospace industry to construction. The manufacturing courses allow students to step into jobs which concentrate in Small Wind Energy Technology,
Solar Photovoltaic Technology, Solar Thermal Technology, Green Collar Manufacturing and Manufacturing Quality Assurance. For individuals currently working within these fields, there may be potential for salary and/or career advancement.

**Career Opportunities**

All career opportunities listed are representative careers in each field. There are no guaranteed positions for students completing these programs. [See: www.onetonline.org]

**Non-Transfer Degree**
Surveying Technician, Engineering Technician, CAD Technician, GIS Technician

**Certificate**
Engineering Technician, Surveying Technician, CAD Technician, Geographic Information System Technician

**Employment Concentrations**
As these fields continue to emerge current occupational information will become available.

**Green Collar Manufacturing**
Manufacturing Quality Assurance

**Small Wind Energy Technology**
Solar Photovoltaic Technology

**Solar Thermal Technology**
Adjuster, Distributor, Electrician helper, Installer, Maintenance, Repairer, Retrofitter, Salesperson, Tester

**Surveying**
Surveyor, Surveying and Mapping Technician, Geographic Information System Technician

**Transfer Preparation**
MSJC offers a range of course work to prepare students to transfer to four-year colleges and universities. Courses that fulfill major requirements for an associate degree in this program might not be the same as those required for transfer into the major at a four year university. All four-year institutions prescribe their own standards for course evaluation and admissions. Prospective transfer students are advised to research careers, degrees and majors in the Career/Transfer Center, access www.assist.org, review the MSJC catalog and meet with a counselor to expedite their transfer plan.

**Learning Outcomes**
- Demonstrate knowledge of mathematics, surveying, computer automated drafting, and machining to apply this knowledge to proper engineering use within the workforce.
- Solve surveying engineering problems in practice by applying fundamental knowledge of mathematics, statistics, and science by using modern surveying engineering techniques, skills, and tools.
- Demonstrate knowledge and understanding of important characteristics of traditional manufacturing production methods including both basic engineering and technological aspects.

**Degree**
An Associate in Science degree in Engineering: Drafting Technology is available to students completing the certificate in Engineering: Drafting Technology and meeting all other MSJC General Education Option A requirements.

**Certificate**
Certificate in Engineering: Drafting Technology (19 units)
Competency in English and math is required prior to completing a certificate. This may be accomplished by testing or completion of ENGL-101 and MATH-096.

**Required Courses (16 units)**
- ENGR-154 Computer Aided Drafting I 3 units
- ENGR-155 Computer Aided Drafting II 3 units
- ENGR-164 Plane Surveying I 4 units
- GEOG-115 Introduction to Geographic Information Science 3 units
- PHOT-125 Digital Photography Production I 3 units

**Elective Courses (3 units)**
- ENGR-156 SolidWorks I 3 units
- ENGR-157 Microstation I 3 units
- ENGR-167 Global Positioning Systems 4 units
- ENGR-180 Introduction to Engineering 3 units
- ENGR-181 Statics 3 units
- ENGR-182 Strength and Materials 4 units

**Employment Concentrations**

**Green Collar Manufacturing (15 units)**
- ENGR-106 M.S.S.C. High-Performance Manufacturing 3 units
- ENGR-107 Total Quality Management 3 units
- ENGR-114 Machine Tool Technology 3 units
- ENGR-116 Energy Efficiency and Construction Methods 3 units
- SEMA-100 Our Sustainable Future 3 units

**Manufacturing Quality Assurance (12 units)**
- ENGR-106 M.S.S.C. High Performance Manufacturing 3 units
- ENGR-107 Total Quality Management 3 units
- ENGR-108/MGT-108 Organizational Behavior 3 units
- ENGR-109 Manufacturing Inspection Techniques and Applications 3 units

**Small Wind Energy Technology (15 units)**
- ENGR-107 Total Quality Management 3 units
- ENGR-114 Machine Tool Technology 3 units
- ENGR-116 Energy Efficiency and Construction Methods 3 units
- ENGR-119 Small Wind Energy Installation 3 units
- SEMA-100 Our Sustainable Future 3 units
### Instructional Programs

#### Solar Photovaltaic Technology (15 units)

- **ENGR-107** Total Quality Management 3 units
- **ENGR-114** Machine Tool Technology 3 units
- **ENGR-116** Energy Efficiency and Construction Methods 3 units
- **ENGR-117** Solar Photovaltaic Installation 3 units
- **SEMA-100** Our Sustainable Future 3 units

#### Solar Thermal Technology (15 units)

- **ENGR-107** Total Quality Management 3 units
- **ENGR-114** Machine Tool Technology 3 units
- **ENGR-116** Energy Efficiency and Construction Methods 3 units
- **ENGR-118** Solar Thermal Installation 3 units
- **SEMA-100** Our Sustainable Future 3 units

#### Surveying (14-15 units)

- **ENGR-164** Plane Surveying I 4 units
- **ENGR-165** Plane Surveying II 4 units
- **ENGR-166** Legal Aspects of Surveying 3 units
- **ENGR-167** Global Positioning Systems 4 units
- or
- **GEOG-115** Introduction to Geographic Information Science 3 units

**Note:** Every effort has been made to keep program information current. Please use this information as a guide and consult with the chair of the department/program or an MSJC counselor.