

MFGT 372	Composites Material/Processing	3.0 Inq
Prerequisites: MFGT 218.		
MFGT 389	Directed Manufacturing Exp	3.0 FS
Prerequisites: Approval of faculty internship coordinator prior to off-campus assignment.		
MFGT 472	Advanced Composites	3.0 Inq
Prerequisites: MFGT 218.		
MFGT 474	Polymer Flow Analysis	3.0 Inq
Prerequisites: MFGT 218.		
MFGT 476	Polymer Design and Tooling	3.0 Inq
Prerequisites: MFGT 218, MFGT 360. Recommended: MFGT 474.		
MFGT 478	Elastomers	3.0 Inq
Prerequisites: MFGT 218.		

**Grading Requirement:**

All courses taken to fulfill major course requirements must be taken for a letter grade except those courses specified by the department as Credit/No Credit grading only.

**Advising Requirement:**

Advising is mandatory for all majors in this degree program. Consult your undergraduate advisor for specific information.

**The Minor in Manufacturing**

**Course Requirements for the Minor: 23–26 units**

The following courses, or their approved transfer equivalents, are required of all candidates for this minor.

**3 courses required:**

MFGT 160	Manufacturing Processes	3.0 FS
MFGT 451	Quality Management	3.0 FS
Prerequisites: SCMS 306 or faculty permission.		
This course is also offered as SCMS 451.		

SCMS 306	Operations Management	3.0 FS
Prerequisites: Business Administration or Business Information Systems status required for business majors. Completion of General Education Breadth Area A4 requirements required for all majors.		

**1-2 courses selected from:**

CIVL 110	Graphics for Civil Engineers	2.0 FS
Prerequisites: High school trigonometry and algebra.		

OR		
CMGT 110	Construction Graphics	3.0 FS

**OR (take both of the following courses)**

MECH 100	Graphics I	1.0 FS
Corequisites: MECH 100L.		
MECH 100L	Graphics I Laboratory	1.0 FS
Corequisites: MECH 100.		

**1 course selected from:**

MATH 107	Finite Math for Business	3.0 FS *
Prerequisites: Completion of ELM requirement.		
MATH 119	Precalculus Mathematics	4.0 FS *
Prerequisites: Completion of ELM requirement, and either 1/2 year of high school trigonometry or MATH 118.		
MATH 120	Analytic Geometry and Calculus	4.0 FS *
Prerequisites: Completion of ELM requirement; both MATH 118 and MATH 119 (or high school equivalent); a score that meets department guidelines on a department administered calculus readiness exam.		

**1 course selected from:**

BADM 103	Statistics of Business & Econ	3.0 FS
Prerequisites: For Business Administration majors: MATH 107. For others: Completion of General Education Breadth Area A4 requirement.		
CIVL 302	Engineering Econ & Statistics	3.0 FS
Prerequisites: MATH 121, junior standing.		
MATH 105	Statistics	3.0 FS *
Prerequisites: Completion of ELM requirement.		
MATH 108	Statistics of Business & Econ	3.0 FS
Prerequisites: For business administration students: MATH 107. For other students: completion of General Education Breadth Area A4 requirement.		

**1 course selected from:**

CMGT 457	Project Control and Scheduling	3.0 SP
Prerequisites: CMGT 450.		
MECH 440A	Mech Engr Design Project I	3.0 FA WP
Prerequisites: ENGL 130 (or its equivalent) with a grade of C– or higher, MECH 200, MECH 340, MFGT 160. Recommended: CIVL 302, MECA 380, MECH 308, MECH 338.		
MECA 440A	Mechatronic Engr Design Proj I	3.0 FA WP
Prerequisites: ENGL 130 (or its equivalent) with a grade of C– or higher, EECE 344, MECH 340, MFGT 160. Recommended: CIVL 302, MECA 380.		
MFGT 350	Industrial Supervision	3.0 SP
Prerequisites: Junior standing.		
MGMT 303	Survey of Management	3.0 FS
SCMS 443	Prod Mgmt & Control Systems	3.0 FS
Prerequisites: SCMS 306.		

**1-2 courses selected from:**

MFGT 216	Introduction to Plastics	3.0 FA
Prerequisites: CHEM 107 or CHEM 111. Recommended: CHEM 108, MATH 105.		

OR

MFGT 260	Material Removal	3.0 FA
Prerequisites: MFGT 160. Recommended: PHYS 202A.		

**OR (take both of the following courses)**

MECH 200	Graphics II	2.0 FS
Prerequisites: MECH 100 and MECH 100L.		

MFGT 201	Graphics Applications for Mfg	2.0 SP
Prerequisites: MATH 105, MECH 200.		

**The Faculty**

**Manufacturing Technology**

- Scott Brogden**, 2006, Lecturer A, BS, CSU Chico.
- Leonard W. Fallscheer**, 1979, Assoc Professor, MA, CSU Chico.
- Joseph P. Greene**, 1998, Professor, PhD, U Michigan.
- Daren Otten**, 2005, Lecturer A, MS, CSU Chico.
- Dirk Vanderloop**, 1997, Lecturer C, DPA, USC.

**Emeritus Faculty**

- Bill Wesley Brown**, 1967, Professor Emeritus, EdD, U Missouri.
- Robert Wesley Donoho**, 1970, Professor Emeritus, PhD, Kansas State U.
- Ronald Walter Hall**, 1968, Professor Emeritus, EdD, Arizona State U.
- R. Lee Koenig**, 1986, Professor Emeritus, MA, San Jose State U.
- William J. McNelley**, 1969, Professor Emeritus, PhD, Oregon State U.
- Winfield R. Rummell**, 1968, Professor Emeritus, EdD, Arizona State U.
- George P. Waldheim**, 1985, Professor Emeritus, EdD, SUNY Buffalo.
- Jesse D. Wallace**, 1958, Professor Emeritus, MA, U Missouri.

**Manufacturing Technology Course Offerings**

Please see the section on “Course Description Symbols and Terms” in the *University Catalog* for an explanation of course description terminology and symbols, the course numbering system, and course credit units. All courses are lecture and discussion and employ letter grading unless otherwise stated. Some prerequisites may be waived with faculty permission. Many syllabi are available on the Chico Web.

**MFGT 160 Manufacturing Processes 3.0 Fa/Spr**

This course is designed to familiarize the student with the basic concepts of manufacturing engineering, i.e., an understanding of the common manufacturing materials and processes, and the knowledge to solve manufacturing problems. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see the *Class Schedule*.

**MFGT 198 Special Topic 1.0–3.0 Inquire**

Prerequisites: To be established when course is formulated. Special topic generally offered one time only. Different sections may have different topics. See the *Class Schedule* for specific topic being offered. This course may be repeated for a maximum of 21 units to be counted toward the major. 1.0 hours activity.

**MFGT 201 Graphics Applications for Manufacturing 2.0 Spring**

Prerequisites: MATH 105, MECH 200. Advanced solid modeling techniques, quality assurance (inspection, metrology, coordinate measuring machines, statistical process control, six sigma), and design considerations (design for manufacturing, rapid prototyping). 1.0 hours discussion, 3.0 hours laboratory.

**MFGT 216 Introduction to Plastics 3.0 Fall**

Prerequisites: CHEM 107 or CHEM 111. Recommended: CHEM 108, MATH 105. Survey of polymer chemistry, mechanical properties, and industrial processing of thermoplastics. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see the *Class Schedule*.

**MFGT 218 Polymer Materials 3.0 Spring**

Prerequisites: MFGT 216. Recommended: CHEM 108. Study of engineering thermoplastic materials, thermoplastic blends, elastomers, and thermoset composites. Investigation of injection molding, and structural foam. Introduction to plastic flow analysis. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see the *Class Schedule*.

**MFGT 260 Material Removal 3.0 Fall**

Prerequisites: MFGT 160. Recommended: PHYS 202A. A study of the industrial applications of material-removal technology. Emphasis will be placed on the management of the application of the technology. Units involving the physics of metal-cutting, cutting-tool materials and geometry, conventional and semi-automatic machine tools, and cost-estimating are included. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see the *Class Schedule*.