Program

BS in Manufacturing Technology
Minor in Manufacturing

This multidisciplinary program is designed to prepare men and women to meet the growing need for manufacturing professionals. The curriculum emphasizes laboratory experiences organized to provide students with a working knowledge of traditional and computer-aided design and production tools. The program is built on a foundation of lower-division math, science, economics, and manufacturing concepts. Upper-division manufacturing technology (MFGT) classes integrate the foundation into a unified body of knowledge on the management of materials, processes, costs, and personnel. In addition to this core curriculum, the program currently offers a range of lab courses in three high demand areas:
- Computer-Integrated Manufacturing
- Metals Processing
- Polymer/Plastics Processing

The Minor in Manufacturing is specially designed to complement business and engineering majors.

The Manufacturing Technology Program is professionally accredited by the National Association of Industrial Technology (NAIT) and the Foundry Educational Foundation (FEF).

Career Outlook

Job opportunities are available throughout the manufacturing sector—in large and small, local and national organizations involved in the full range of operations—from research and development through mass production. Although the program is designed to educate students as technical managers, graduates are employed in numerous capacities. Starting salaries for MFGT graduates in 2001 averaged $49,800 per year for these representative entry-level positions:
- Applications/Manufacturing Engineer
- Manufacturing Manager
- Project Manager
- Production Planner/Supervisor/Manager
- Quality Assurance Specialist
- Technician
- Technical Sales Representative
- Tooling Designer
- Vocational Instructor

Industrial Support

Many organizations actively support the program by sponsoring projects, funding research, donating equipment and materials, and hiring students. The program’s partners are exemplified by the Manufacturing Technology Advisory Board. Its twelve members provide direction and guidance from their vantage point as senior managers in industry.

Student Organizations

Student chapters of professional organizations play a key role in developing well-rounded individuals with leadership, managerial, social, and technical skills. The most active groups in the program are:
- Society of Manufacturing Engineers (SME)
- Society of Plastics Engineers (SPE)

These student organizations arrange and sponsor guest speakers, field trips, social activities, and professional certification exams. Manufacturing students also compete and excel in regional and national design and fabrication competitions.

Scholarships

In addition to university-wide scholarships, Manufacturing students are eligible for twelve to fifteen special scholarships each year. The individual awards range from $100 to $1000 and are based on academic performance/improvement, participation in activities, leadership qualities, and/or financial need.

Internships

On-campus work experience is available through a limited number of part-time production jobs and sponsored projects in the program’s labs. Many students also take advantage of cooperative education/internship opportunities available through the university’s Office of Experiential Education. These are full-time, semester and/or summer positions with well-known companies. Participants gain professional experience and earn salaries of $2500-$3500 per month as well as upper-division elective course credit.
THE BACHELOR OF SCIENCE IN MANUFACTURING TECHNOLOGY

The manufacturing technology faculty are committed to preparing graduates for a variety of manufacturing careers, ranging from research and development to mass production. The faculty provide students with a broad undergraduate experience in math, science, business, and the humanities, as well as laboratory courses with a practical, applications orientation. The knowledge and skills gained will enable students to qualify to become Certified Manufacturing Technologists (CMfgT) after passing a comprehensive examination administered by the Society of Manufacturing Engineers (SME).

Manufacturing Technology Program Goals

The program's objectives are best framed in terms of the following goals for its graduates.

1. First and foremost, CSU, Chico manufacturing technology graduates will have a thorough understanding of how products are designed, produced, and tested.
2. They will have a thorough understanding of contemporary manufacturing processes, particularly for parts consisting of metals and polymers.
3. They will understand the fundamental behavior of various materials and the testing used to determine material properties.
4. They will have an understanding of project management, quality assurance methods, and the economic issues involved in manufacturing.
5. They will be familiar with contemporary computer applications and process automation, including the use of sensors, actuators, and controllers to automate machines and processes.
6. They will be practiced at communicating their ideas in oral, written, and graphical form.
7. They will be able to function effectively as team members.
8. They will develop an appreciation for the individual, society, and human heritage, and they should be aware of the impact of their products on humankind and the environment.

Total Course Requirements for the Bachelor's Degree: 128 units

See “Requirements for the Bachelor’s Degree” in The University Catalog for complete details on general degree requirements. A minimum of 40 units, including those required for the major, must be upper division.

The department has prepared a suggested Four Year Advising Plan to help students meet all graduation requirements within four years. Please request a plan for your major adviser or view it and other current advising information on the CSU, Chico Web.

General Education Requirement

Manufacturing Technology is a major with modifications to the university’s General Education Requirements. The following requirements, together with the approved General Education courses (marked with an * below), fulfill the General Education Requirement.

1. Select three courses, one from each of Core Areas A1, A2, and A3.
2. Select one course from Breadth Area B2.
3. Select one course from Breadth Area C1 or C2 or C3.
4. Select one course from Breadth Area B2.
5. Select two courses from the same Upper-Division Theme. (Consult with an adviser or the Class Schedule to determine which two courses in the theme you select meet the Upper-Division Theme Requirement for Manufacturing Technology majors.)

Cultural Diversity Requirement: 6 units

Complete two Cultural Diversity courses, one Ethnic and one Non-Western. (See the “Bachelor’s Degree Requirements” section.) Both courses must also satisfy one of the General Education requirements in order for 128 units to fulfill all requirements for the Manufacturing Technology degree.

American Ideals Requirement: 6 units

This requirement is normally fulfilled by completing HIST 050 and POLS 055. For other alternatives, see the “Bachelor’s Degree Requirements” section.

Lower-Division Requirements: 45-46 units

13 courses required:
- MATH 009 Survey of Calculus 3.0 FS *
- MATH 010 Analytic Geometry and Calculus 4.0 FS *
- MATH 025 Engineering Graphics 2.0 FS
- MFGT 041 Introduction to Plastics 3.0 FA
- MFGT 051 Intro Manufacturing Engineering 3.0 FS
- MFGT 054 Material Removal 3.0 FA
- MATH 005 Statistics 3.0 FS *
- MATH 006 Precalculus Mathematics 4.0 FS *
- ECON 002 Principles of Macro Analysis 3.0 FS *
- ECON 003 Principles of Micro Analysis 3.0 FS *
- CHEM 027 Gen Chem for Applied Sciences 4.0 FS *
- CHEM 028 Organic Chem for Applied Science 4.0 FS *
- ECE 031 Electrical & Electronics Tech 3.0 SP
- PHYS 002A General Physics 4.0 FS *
- PHYS 002B General Physics 4.0 FS
- PHYS 002A General Physics 4.0 FS *
- PHYS 002B General Physics 4.0 FS

1 course selected from:
- MATH 006 Precalculus Mathematics 4.0 FS *
- MATH 009 Survey of Calculus 3.0 FS *

Upper-Division Requirements: 53 units

14 courses required:
- MFGT 104 Materials & Quality Testing 3.0 SP
- MFGT 105 Engineering Graphics 2.0 FS
- MFGT 124 Solids Modeling for Manufacture 3.0 FA
- MFGT 141 Polymer Materials 3.0 FA
- MFGT 156 Computer-Aided Manufacturing CAM 4.0 SP
- MFGT 210 Industrial Safety Management 4.0 FS
- MFGT 216 Indus Mgmt/Supervision/Inspect 3.0 SP
- MFGT 222 Manufacturing Automation Systems 3.0 FA
- MFGT 250 Fluid Metallurgy 3.0 SP
- MFGT 257 Advanced Laboratory Practices 2.0 FS
- MFGT 280 Capstone A: Project Management 3.0 FA
- MFGT 281 Capstone B: Manufacturing Tooling 3.0 SP
- MFGT 290 Manufacture Fundamentals & Pract 1.0 SP
- MFGT 290 Manufacturing Tooling 3.0 SP
- MFGT 290 Operations Management 3.0 FS

See “Mathematics and Writing Requirements” in The University Catalog. Writing proficiency in the major is a graduation requirement and may be demonstrated through satisfactory completion of a course in your major which has been designated as the Writing Proficiency (WP) course for the semester in which you take the course. Students who earn below a C- are required to repeat the course and earn a C- or better to receive WP credit. See The Class Schedule for the designated WP courses for each semester. You may not earn credits for these courses unless you have passed ENGL 001 (or its equivalent) with a C- or better before you may register for a WP course.

Course Requirements for the Major: 98-99 units

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

Literacy Requirement:

See “Mathematics and Writing Requirements” in The University Catalog. Writing proficiency in the major is a graduation requirement and may be demonstrated through satisfactory completion of a course in your major which has been designated as the Writing Proficiency (WP) course for the semester in which you take the course. Students who earn below a C- are required to repeat the course and earn a C- or better to receive WP credit. See The Class Schedule for the designated WP courses for each semester. You must pass ENGL 001 (or its equivalent) with a C- or better before you may register for a WP course.

Prerequisites:

- MATH 009 Survey of Calculus
- MATH 010 Analytic Geometry and Calculus
- MATH 025 Engineering Graphics
- MFGT 041 Introduction to Plastics
- MFGT 051 Intro Manufacturing Engineering
- MFGT 054 Material Removal
- MATH 005 Statistics
- MATH 006 Precalculus Mathematics
- ECON 002 Principles of Macro Analysis
- ECON 003 Principles of Micro Analysis
- CHEM 027 Gen Chem for Applied Sciences
- CHEM 028 Organic Chem for Applied Science
- ECE 031 Electrical & Electronics Tech
- PHYS 002A General Physics
- PHYS 002B General Physics
- PHYS 002A General Physics
- PHYS 002B General Physics
- ECE 031 Electrical & Electronics Tech
- MFGT 104 Materials & Quality Testing
- MFGT 105 Engineering Graphics
- MFGT 124 Solids Modeling for Manufacture
- MFGT 141 Polymer Materials
- MFGT 156 Computer-Aided Manufacturing CAM
- MFGT 210 Industrial Safety Management
- MFGT 216 Indus Mgmt/Supervision/Inspect
- MFGT 222 Manufacturing Automation Systems
- MFGT 250 Fluid Metallurgy
- MFGT 257 Advanced Laboratory Practices
- MFGT 280 Capstone A: Project Management
- MFGT 281 Capstone B: Manufacturing Tooling
- MFGT 290 Manufacture Fundamentals & Pract
- MFGT 290 Manufacturing Tooling
- MFGT 290 Operations Management

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### Manufacturing Technology

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Notes</th>
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<tr>
<td>MEE 138</td>
<td>Introduction to Fluid Mechanics</td>
<td>3.0</td>
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<tr>
<td>MEE 261</td>
<td>Mechanical Vibrations</td>
<td>3.0</td>
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<td>MFGT 051</td>
<td>Manufacturing Engineering</td>
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<td>ENGL 001</td>
<td>English Composition</td>
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<tr>
<td>MEE 242</td>
<td>Manufacturing Systems and Process Control</td>
<td>3.0</td>
<td></td>
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<tr>
<td>MEE 259</td>
<td>Manufacturing Design and Control</td>
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**3 courses selected from:**

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<tr>
<td>MFGT 142</td>
<td>Plastics Processing &amp; Manufacture</td>
<td>3.0</td>
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<tr>
<td>MFGT 147</td>
<td>Composites Material &amp; Processing</td>
<td>3.0</td>
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<tr>
<td>MFGT 152</td>
<td>Material Joining</td>
<td>3.0</td>
<td></td>
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<td>MFGT 242</td>
<td>Polymer Flow Analysis</td>
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<tr>
<td>MFGT 243</td>
<td>Polymer Design and Tooling</td>
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<td>MFGT 247</td>
<td>Advanced Composites</td>
<td>3.0</td>
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<tr>
<td>MFGT 258</td>
<td>Concurrent Engineering</td>
<td>3.0</td>
<td></td>
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<tr>
<td>MFGT 289</td>
<td>Industrial Internship</td>
<td>3.0</td>
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**Advising Requirement:**

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

### THE MINOR IN MANUFACTURING

Course Requirements for the Minor: 23-24 units

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

**4 courses required:**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tr>
<td>M E 025</td>
<td>Engineering Graphics</td>
<td>2.0</td>
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<td>MFGT 051</td>
<td>Intro Manufacturing Engineering</td>
<td>3.0</td>
<td></td>
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<tr>
<td>POMG 143</td>
<td>Operations Management</td>
<td>3.0</td>
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<td>MFGT 246</td>
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**1 course selected from:**

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<th>Course Code</th>
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<tr>
<td>MATH 007A</td>
<td>Analytic Geometry and Calculus</td>
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<tr>
<td>MATH 007B</td>
<td>Analytic Geometry and Calculus</td>
<td>4.0</td>
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<tr>
<td>MATH 009</td>
<td>Survey of Calculus</td>
<td>3.0</td>
<td></td>
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<tr>
<td>MATH 045</td>
<td>Finite Mathematics for Business</td>
<td>3.0</td>
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<tr>
<td>BADM 003</td>
<td>Statistics of Business &amp; Econ</td>
<td>3.0</td>
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**1 course selected from:**

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<td>E 121</td>
<td>Engineering Economy &amp; Statistics</td>
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<tr>
<td>MATH 005</td>
<td>Statistics</td>
<td>3.0</td>
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<tr>
<td>MATH 047</td>
<td>Statistics of Business &amp; Econ</td>
<td>3.0</td>
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<tr>
<td>MATH 043</td>
<td>Statistics of Business &amp; Econ</td>
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**1 course selected from:**

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<td>M 238A</td>
<td>Mech Engr Design Project I</td>
<td>3.0</td>
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<tr>
<td>M 001</td>
<td>(or its equivalent) with a grade of C- or higher</td>
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<tr>
<td>M 138</td>
<td>(or its equivalent) with a grade of C- or higher</td>
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**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 adviser for specific information.

### 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.

**MGFT 021 Industrial Design Documentation**

This course is designed to familiarize students with the use of detail and presentation drawings in industry. Computer Aided Design and Drafting (CADD) will be an integral part of this course. It includes documenting a three dimensional CAD model, geometric dimensioning and tolerancing, and the production of drawings for mechanical, electrical, architectural, and facilities planning. 2.0 hours discussion, 3.0 hours laboratory. Formerly ITEC 021.

**MGFT 041 Introduction to Plastics**

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. Formerly ITEC 041.

**MGFT 051 Introduction to Manufacturing Engineering**

3.0 Fall

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. Formerly ITEC 051.

**MGFT 054 Material Removal**

3.0 Fall

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. Formerly ITEC 054.

**MGFT 104 Materials and Quality Testing**

3.0 Spring

Study of the manufacturing, processing, applications, and testing of common industrial materials, including metals, polymers, ceramics, and composites. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule. Formerly ITEC 104.
MFGT 124 Solids Modeling for Manufacturing 3.0 Fall
Prerequisites: M E 025. This course provides a survey of 3D computer-aided design (CAD) systems that focus on mechanical manufacturing. Wireframe, surface, and solids modeling systems as well as detail drawings derived from their 3D databases will be covered. An in-depth exposure to geometric dimensioning and tolerancing (GD&T) of these annotated drawings will also be included. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule.

MFGT 141 Polymer Materials 3.0 Fall
Prerequisites: MFGT 041. 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. Formerly MFGT 144.

MFGT 142 Plastics Processing and Manufacturing 3.0 Spring
Prerequisites: MFGT 041. Study of plastics manufacturing, plastics processing, plastics compound- ing, plastic flow analysis, gating systems, tool design, data acquisition, experimental design, tooling, and processing equipment for injection molding, extrusion, compression molding, thermforming, and rotational molding, 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule.

MFGT 147 Composite Materials & Processing 3.0 Inquire
Prerequisites: MFGT 141. Study of thermoplastic and thermoset composites and materials and processing with epoxy, polyester, and polyurethane reinforced with glass, kevlar, carbon fiber, and cored materials. Introduction to composites tool design and processing, including compression molding, resin transfer molding, hand lay-up, and vacuum assisted molding. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule.

MFGT 152 Material Joining 3.0 Inquire
Prerequisites: MFGT 051. A study of the industrial applications of material-joining technology directed toward managing the applications of the processes. Units including adhesive bonding, mechanical fasteners, and welding are included, along with metallurgy, specimen testing, and cost estimating. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule. Formerly ITEC 152.

MFGT 156 Computer-Aided Manufacturing (CAM) 4.0 Spring
Prerequisites: MFGT 056, MFGT 124. A study of the concepts involved in programming computer numerically controlled (CNC) machines. This course includes integration of computer-aided manufacturing (CAD/CAM). 3.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule. Formerly ITEC 256.

MFGT 198 Special Topics 1.0-4.0 Inquire
Prerequisites: To be established when course is formulated. This course is for special topics offered as 198A-D for 1.0 to 4.0 units respectively. Typically the topic offered is on a one-time-only basis and may vary from term to term and be different for different sections. See The Class Schedule for specific topic being offered. Normally taught by professionals from the field. Formerly ITEC 198.

MFGT 199 Special Problems 1.0-3.0 Inquire
Prerequisites: Senior standing, approval of supervising faculty member. This course is an independent study of special problems and is offered as 199A-C for 1.0 to 3.0 units respectively. You must register directly with a supervising faculty member. Designed to allow senior students time to pursue an independent study problem within their areas of interest. Prior approval of definition of problem, method of problem-solving, and form of final report required. Credit/no credit grading only. Formerly CME 199.

MFGT 210 Industrial Safety Management 4.0 Fa/Spr
Prerequisites: ENGL 001 (or its equivalent) with a grade of C- or higher; junior standing. A study of effective industrial safety management practice and the philosophy and principles of industrial accident prevention. Coverage includes examination of current industrial safety practices and federal and state programs designed to improve safety in an industrial environment, instruction in effective technical safety documentation—gathering, organizing, and reporting industrial safety data. This is a writing proficiency, WP, course, a grade of C or better certifies writing proficiency for majors.

MFGT 216 Industrial Management, Supervision, and Inspection Procedures 3.0 Spring
Prerequisites: Junior standing. Current supervisory and managerial procedures used in industry for supervisors, managers, field and sales representatives, and inspectors. Formerly ITEC 216.

MFGT 232 Manufacturing Automation Systems 3.0 Fall
Prerequisites: ECE 031, MFGT 156. This course provides an in-depth study of the programming and function of industrial robots and other automation systems used in modern manufacturing environments. Concepts include end effector design, material movement, storage and retrieval systems, programmable logic controllers, and vision systems. Lecture, demonstrations, and laboratory exercises designed to promote understanding of manufacturing automation. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule. Formerly MFGT 281.

MFGT 242 Polymer Flow Analysis 3.0 Inquire
Prerequisites: MFGT 141. Investigation of polymer flow principles and testing standards for injection molding, blow molding, and extrusion. Development and construction of injection molding and extrusion dies using computer analysis programs and metal removal machines. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule.

MFGT 243 Polymer Design and Tooling 3.0 Inquire
Prerequisites: MFGT 141, MFGT 156. This course familiarizes students with techniques for managing technical safety documentation—gathering, organizing, and reporting industrial safety data. This is a writing proficiency, WP, course, a grade of C or better certifies writing proficiency for majors.

MFGT 250 Fluid Metallurgy 3.0 Spring
Prerequisites: MFGT 104. Recommended: MFGT 156. A study of metal-casting technologies directed at the management of a metal-casting plant. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule. Formerly ITEC 150.

MFGT 254 Advanced Composites 3.0 Inquire
Prerequisites: MFGT 141. Study of rubber-like materials, including thermoplastic rubbers, thermoset rubbers, silicones, thermoplastic elastomers, and urethanes. Investigation of tooling and processing of elastomers. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule.

MFGT 255 Fluid Metallurgy 3.0 Spring
Prerequisites: MFGT 104. Recommended: MFGT 156. A study of metal-casting technologies directed at the management of a metal-casting plant. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule. Formerly ITEC 150.

MFGT 256 Advanced Laboratory Practices 2.0 Fa/Spr
Prerequisites: Senior standing, faculty permission. Provides advanced and qualified students an opportunity to do individual special interest study and practice toward gaining proficiencies in the student's area of specialization. You may take this course more than once for a maximum of 6.0 units.

MFGT 258 Concurrent Engineering 3.0 Inquire
Prerequisites: M E 025, MFGT 051. A study of the concepts of concurrent process and product design using computer-aided design, computer-aided engineering, and computer-aided manufacturing techniques (CAD/CAE/CAM). Focus will be primarily on the design and manufacture of mechanical parts and assemblies, including the use of rapid prototyping and rapid inspection, 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule. Formerly ITEC 258.

MFGT 280 Capstone A: Project Management 3.0 Fall
Prerequisites: Senior standing. This course familiarizes students with techniques for managing technical projects while they design, plan, and implement a capstone manufacturing project through the mock-up stage, to be continued in MFGT 281. Students work in groups on projects of mutual interest to gain experience in planning and updating schedules. Students learn to define requirements, estimate and manage resources, and structure decisions and trade-offs. Emphasis is placed on group dynamics in communication and problem solving, 2.0 hours discussion, 2.0 hours activity. Special fee required; see The Class Schedule.

MFGT 281 Capstone B: Manufacturing Tooling 3.0 Spring
Prerequisites: MFGT 141, MFGT 156, MFGT 280. Continuation of the capstone manufacturing project from MFGT 280. Students design, fabricate, test, and evaluate production tooling used in the manufacture or assembly of metal or plastic parts in their capstone projects. Must be taken the semester immediately following MFGT 280. 2.0 hours discussion, 3.0 hours laboratory. Special fee required; see The Class Schedule. Formerly MFGT 255.
MFGT 289  Industrial Internship  3.0  Fa/Spr
Prerequisites: Approval of faculty internship coordinator prior to off-campus assignment. Manufacturing experience in an industrial setting which provides an opportunity to apply academic learning to professional practice. Minimum duration of 400 hours of work under the direct supervision of an on-site manufacturing supervisor. On completion of the internship, a written report prepared under the direction of a faculty member is required. May be taken only once for credit. Credit/no credit grading only.

MFGT 290  Manufacturing Fundamentals and Practice  1.0  Spring
Prerequisites: Graduation in MFGT expected within 12 months. Review of manufacturing technology fundamentals and foundation for professional practice. Current topics in manufacturing. Preparation and encouragement for the Fundamentals of Manufacturing Examination. 2.0 hours activity. Credit/no credit grading only.

MFGT 298  Special Topics  1.0-3.0  Inquire
Prerequisites: Senior standing. This course is for special topics offered as 298A-C for 1.0 to 3.0 units respectively. Typically the topic is offered on a one-time-only basis and may vary from term to term and be different for different sections. See The Class Schedule for the specific topic being offered. This course is normally taught by professionals from the field. Formerly ITEC 298.

MFGT 299H  Honors Project  3.0  Inquire
Prerequisites: Completion of 12 units of upper-division MFGT courses, faculty permission. Open by invitation to MFGT majors who have a GPA among the top five percent of MFGT students, based on courses taken at CSU, Chico. This is an Honors in the Major course; a grade of B or higher in 6 units of MFGT 299H certifies the designation of “Honors in the Major” to be printed on the transcript and the diploma. If taken twice, prerequisite to the second semester is a grade of B or higher in the first semester. Each 3-unit course will require both formal written and oral presentations. You may take this course more than once for a maximum of 6.0 units.

MFGT 397  Advanced Topics in Manufacturing Technology  1.0-3.0  Inquire
Prerequisites: To be established when course is formulated. This course is for special topics offered as 397A-C for 1.0-3.0 units respectively. Typically a topic is offered on a one-time-only basis and topics vary from term to term and from section to section. See The Class Schedule for the specific topics being offered.

MFGT 398  Independent Study  1.0-6.0  Inquire
Prerequisites: Approval from supervising faculty member. This is a graduate-level independent study offered as 398A-C for 1.0-3.0 units respectively.

MFGT 399  Master’s Study  1.0-6.0  Inquire
Prerequisites: Approval from supervising faculty member. This course is a master’s study offered as either a Master’s Thesis, identified as 399A-F for 1.0-6.0 units respectively, or as a Master’s Project, identified as 399G-L for 1.0-6.0 units respectively.