

California State University, Chico
Department of Mechanical and Mechatronic Engineering and
Sustainable Manufacturing

**SMFG 490, Manufacturing Fundamentals and Practice,
Section 01, Spring 2019**

Instructor(s):	All SMFG faculty based on expertise
Class days and times:	W, 5:30-7:20pm Lecture
Classroom:	Langdon 104
Prerequisites:	Graduating within 12 months

Course Usage of Blackboard Learn

Copies of the course syllabus may be found on Blackboard Learn. You are responsible for regularly checking the online resources, which is accessed through the Chico State Portal at <http://portal.csuchico.edu>. Support materials for the course may be provided via the portal and it is expected that you will either have hardcopies or electronic access to the materials during in-class activities.

Course Description and Goals

Review of manufacturing technology fundamentals and foundation for professional practice. Current topics in manufacturing. Preparation and encouragement for the Fundamentals of Manufacturing Examination.

Course Content Learning Outcomes

Upon successful completion of this course, students will be able to:

- A. Solve problems in the areas of mathematics, applied science, engineering science, materials, product/process design and development, manufacturing process applications and operation, production system and equipment design and development, automated systems and control, quality and continuous improvement, manufacturing management, and personal effectiveness.
- B. Pass the Society of Manufacturing Engineers (SME) Fundamentals of Manufacturing exam.

Required Texts/Readings

Textbook

Required: Rufe, P. (2013). *Fundamentals of manufacturing*, 3rded. Dearborn, MI: Society of Manufacturing Engineers. ISBN-13: 978-0872638709

Classroom Protocol

It is expected that students are in-class prior to each class, as the class will start promptly at the scheduled time.

The use of technology is encouraged for in-class coursework and activities, however extra-curricular activities (phone calls, texting, email, web surfing, etc.) are not allowed during class. Students violating this policy will be asked to leave as they are potentially distracting to their colleagues who are engaged in learning.

Communication

If you need to meet or contact me outside of class hours please attend office hours or email sbrogden@csuchico.edu. If you have questions for a specific instructor, please contact them.

In the event that I need to contact the class members for matters between class meetings (schedule, assignment, or class changes, etc.) it will be done via Blackboard Learn or your university email account linked to the Portal. University policy requires students to monitor campus email accounts and it is suggested that you set up email forwarding if you have another preferred email account.

Dropping and Adding

You are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. found <http://www.csuchico.edu/catalog/>. You should be aware of the deadlines and penalties for adding and dropping classes.

Assignments and Grading Policy

Course is Credit/No Credit Grading

BOTH items A and B below must be fulfilled to receive credit:

- A) Score 60% or above on the one-hour, open-book, open-note "Prep Exam,"
and
- B) take the SME Fundamentals of Manufacturing Certification (CMfgT) Exam given during the Final Exam time scheduled for this course.

Students scoring below 60% on the "Prep Exam" will be given an Incomplete ("I").

Students receiving an "I" may remove it and receive credit for the course by accomplishing

one of the following (within one year):

- a) present their passing SME score report (CMfgT Certification notice), *or*
- b) score 60% or above on a 'Make-up Exam' in July, *or*
- c) retake the SME CMfgT Exam (\$35.00 fee) *and* present their SME Certification notice.

Notes:

SME Exams:

CMfgT online exam for student members - \$95

CMfgT Online exam for student nonmembers - \$195

SME student membership - \$20

SME professional membership - \$138

Submit all checks and paperwork in class (payable to SME) **by Wednesday, April 3.**

University Policies and Campus Resources

Academic integrity

Students are expected to be familiar with the University's Academic Integrity Policy. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found at:

<http://www.csuchico.edu/sjd/integrity.shtml>.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Students with disabilities requesting accommodations must register with the DSS Office (Disability Support Services) to establish a record of their disability. Special accommodations for exams require ample notice to the testing office and must be submitted to the instructor well in advance of the exam date.

IT Support Services

Computer labs for student use are located on the first and fourth floor of the Meriam Library, Room 116 and 450, Tehama Hall Room 131, and the Bell Memorial Union (BMU) basement. You can get help using your computer from IT Support Services; contact them through their website, <http://www.csuchico.edu/itss>. Additional labs may be available to students in your department or college.

Student Services

Student services are designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. Students can find support for services such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. Student services information can be found at:

<http://www.csuchico.edu/current-students>.

Americans with Disabilities Act

If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Accessibility Resource Center (ARC) as they are the designated department responsible for approving and coordinating

reasonable accommodations and services for students with disabilities. ARC will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations.

Accessibility Resource Center

<http://www.csuchico.edu/arc>

530-898-5959

Student Services Center 170

arcdept@csuchico.edu

Student Learning Center

The mission of the Student Learning Center (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college course work by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The SLC is online at <http://www.csuchico.edu/slc>. The University Writing Center has been combined with the Student Learning Center.

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(Note: subject to change with fair notice.) List the agenda for the semester including when and where the final exam will be held.

Week	Date	Topics, Readings, Assignments, Deadlines
1	1/23	Brogden- Course Introduction and Practice Test
2	2/6	Anderson – Mathematics and Physics Chapters 1, 2, 3, 4, 5
3	2/13	Anderson – Mathematics and Physics Chapters 1, 2, 3, 4, 5
4	2/20	Greene – Polymer Materials and Processes Chapters 14, 31, 32, 33, 34
5	2/27	Anderson –Physics and Engineering Science Chapters 6, 7, 8, 9, 10
6	3/6	Greene – Chemistry, Materials, Nondestructive Testing Chapters 11, 12, 15, 16, 50
7	3/13	Brogden – Metals, Manufacturing Processes

Week	Date	Topics, Readings, Assignments, Deadlines
		Chapters 13, 23, 24, 25, 26
8	3/20	Spring Break
9	3/27	Brogden –Manufacturing Processes, Jig & Fixture Design Chapters 27, 28, 29, 30, 38
10	4/3	Brogden/Pooler – Automated Systems & Controls, Metrology Chapters 41, 42, 43, 44, 45, 49
11	4/10	Greene– Product Design Chapters 17, 18, 19, 20, 21, 22 (Exam Fee Due)
12	4/17	Koehler/Greene – Production Planning and Logistics Chapters 35, 36, 37, 39, 40
13	4/24	Koehler – Manufacturing Management Chapters 51, 52, 53, 54, 55, 56
14	5/1	Anderson/Koehler – Quality, Personal Effectiveness Chapters 46, 47, 48, 57
15	5/8	Brogden – “Prep Examination” (Scored the same day)
16	5/15	All Faculty – Prep Exam Review Session/Q&A
17	5/22	National CMfgT Exam 3-6pm OCNL 438 (tentative)