
MET 4820 - Machine Systems

Fall 2026 Syllabus, Section 01, CRN 43018,

Credit hours: 3

Instructor

Michael Costarell

Professional Qualifications:

Bachelor of Engineering in Civil Engineering, Youngstown State University 1989

Master of Science in Mechanical Engineering, Carnegie Mellon University, 2000

Professor, MET Program Coordinator, Vice Chair of Academic Senate

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Professor Costarell

Public Instructor Information

Instructor Title: Professor, MET Program Coordinator, Vice Chair of Academic Senate Instructor

Professional Qualifications:

Bachelor of Engineering, Civil Engineering, Youngstown State University, 1989.

Master of Science, Mechanical Engineering, CMU, 2000

Instructor Office Location: Moser 4138

Instructor Office Phone: 330.941.3741

Course Description

4820. Machine Systems. Interdisciplinary capstone course. Analysis and design of complex machine systems incorporating previous coursework in solid mechanics, fluid power, machine design, and thermodynamics. Three hours lecture per week. Prereq.: Senior standing in MET and permission of instructor. Prereq. or Coreq.: MET 4870. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Design Guide 21	Duane Miller	

Design Guide 21 from AISC

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Tue	8/25	Project Review		
Thu	8/27	Welding Discussion		Design Guide 21
Tue	9/1	Design Criteria		
Tue	9/15	Task 1 is Due Task 2 Presentations		
Thu	9/17	Task 2 Presentations		
Thu	10/1	Task 3		
Tue	11/10	Task 4 Due		
Tue	12/1	Task 5 Final Paper		

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.