WASHINGTON STATE UNIVERSITY



School of Engineering and Computer Science MECH 476: Advanced Manufacturing Engineering

Catalog Data: 476 AdVanced Manufacturing processes, including interrelationships between the properties of the material, the manufacturing processes and design of components. Credit not granted for both MECH 476 and MECH 576. Offered at 400 and 500 level. Typically offered Falt. Class Schedule: Three 50-minute lecture sessions per week, for one semester. Laboratory Schedule: None Prerequisites by Course: MECH 310 Prerequisites by Topic: 1. Overview of the various manufacturing processes. 2. The limitations and some of the critical factors about the processes. 3. Some of the design considerations for the processes to be used. 4. The relationship between the process and the processes. 3. Goven a drawing, or part, determine the processes and sequence used for manufacture. Textbook: Fundamentals of Modern Manufacturing: Materials. Processes, and Systems by Mikell P. Grover (6 ⁶ Edition, 2015) Course Coordinator: Dr. Dave Kim Course Objectives: 1. Describe advanced manufacturing processes for various engineering materials (powder metallurgy, 3D printing, non-traditional machining processes, etc.). 2. Provide manufacturing decision-making information by calculating fructure requirements 3. Demonstrate knowledge on how to improve manufacturing efficiency by analyzing and planning work flow, facilities layout, and resources. 4. Use the statistical processes. 0. Manufacturing grocesses corrol		
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Course Outcomes:	Students will be able to:	
	Assessed for Student Outcomes	1-d. Examine materials science and mechanics principles to solve manufacturing engineering problems.4-a. Assess lean manufacturing solutions in considerations of the global and economic impacts.
	Other	1-a. Demonstrate knowledge of chemistry, physics and/or engineering principles in advanced manufacturing processes.1-b. Evaluate manufacturing situations to define problems related production layout, planning, and capability.
Required or Elective Course:	e	Elective
Relationship of Course to Program:		Meets: Educational Objectives <u>1, 3</u> Student Outcomes <u>1, 4</u>
Prepared by:		Dr. Dave Kim Date: 4/6/2018 (4/23/18 mb)
Approved by USC:		4/16/2018