WASHINGTON STATE UNIVERSITY
VANCOUVER
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School of Engineering and Computer Science

MECH 211: Statics

Catalog Data:	**211 Statics** 3 Course Prerequisite: MATH 172 or 182 or concurrent enrollment; PHYSICS 201 or concurrent enrollment. Static equilibrium analysis of particles and rigid bodies, free-body diagrams, moment diagrams, friction, center of gravity, moments of inertia. Typically offered Fall.	
Class Schedule:	Three 50-minute lecture sessions per week, for one semester.	
Laboratory Schedule:	None	
Prerequisites by Course:	MATH 172 or 182 or concurrent enrollment; PHYSICS 201 or concurrent enrollment.	
Prerequisites by	Calculus and Physics	
Textbook:	Beer, F. P., Johnston, E. R., and Mazurek, D. F., *Vector Mechanics for Engineers: Statics*, 11th Edition, 2016, McGraw-Hill Publishing Company	
Course Coordinator:	Dr. Hamid Rad	
Course Objectives:	1. To develop the ability to apply mathematics and physics to solve basic engineering problems. 2. To provide a working knowledge of the fundamental principles of engineering mechanics that are required for solving statics problems.	
Topics Covered:	1. Vectors 2. Forces, moments and couples 3. Resultant force systems 4. Free-body diagrams and equilibrium 5. Truss analysis 6. Frame and machine analysis 7. Center of mass and centroids 8. Shear & moment diagrams 9. Principle second moments of area 10. Friction	
Lab Experiments	None	
Course Outcomes:	Students will be able to:	
	Assessed for Program Outcomes	1-a. Demonstrate knowledge of fundamental scientific and/or engineering principles such as Newton's first and third laws. 1-c. Use appropriate models such as equilibrium of particles and rigid bodies in 2 and 3 dimensions to formulate solutions. 1-d. Analyze complex systems such as machines and frames using math, science and engineering principles.
	Other	

Relationship of Course to Program:	Meets: Educational Objectives 1 Student Outcomes 1

Prepared by:	Dr. Hamid Rad	Date:	March 15, 2018 (4/10/18 mb)
Approved by USC:	4/9/18		