

**Course Objectives/Course Outline
Spokane Community College**

Course Title: Statics
Prefix and Course Number: CAD 136

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Determine resultants of vectors
- Determine equilibrium in structures
- Compute beam reactions
- Calculate equivalent loads for distributed loads
- Determine forces in truss members

Course Outline:

- I. Vector Force Systems
 - A. Types and characteristics of forces
 - B. Resultants, components, and moments of a force
 - C. Force couple systems
 - D. Parallel force systems
 - E. Equilibrium
 - F. Supports and reactions
 - G. Coplanar force systems
- II. System Loading
 - A. Single member loading
 - B. Multi-system loading
 - C. Full truss system loading
 - D. Internal member stresses
 - E. Sheave/Pulley/Cable systems
- III. Force Diagram Systems
 - A. Space diagrams
 - B. Free-body diagrams
 - C. Pin Isolation diagrams
- IV. Applied Problems