CET 125 Statics and Strength of Materials for CET

Course Description: A course on applying physical principles to solve problems of equilibrium and behavior in civil engineering structures. Topics include: force resultants, equilibrium, truss analysis, direct stress, bending stress, beam behavior, and combined stress.

Prerequisites(s): MAT 121 **Corequisite(s):** None

Lecture Hours: 3	Lab Hours: 3	Credit Hours: 4
Lab Fee: $105	Supplemental Fee: $0	Purpose:
☐ Transfer Assurance Guide Course (TAG)	☐ Transfer Module Course (TM)	
Course Format: Lec/Lab	Grading: A/B/C/D/F/I	
Delivery Method: X Web	□ Hybrid	X Classroom
Semesters Offered: □ Fall	X Spring	X Summer

Course Primary Text:

Applied Statics and Strength of Materials	Edition: 2nd
Author(s): Thomas Burns	
Publisher: Cengage	

Supplemental Materials:

None

Course Outcomes:

1	ABET (B), Reinforced: - Students reinforce an ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.
2	ABET (C), Introduced: - Students are introduced to standard tests and measurements, and how to to conduct, analyze and interpret experiments.
3	ABET (E), Reinforced: - Students reinforce an ability to identify, analyze, and solve narrowly defined engineering technology problems.
4	ABET (H), Reinforced: - Students reinforce an understanding of and a commitment to address professional and ethical responsibilities, including a respect for diversity.
5	ACCE 8, Reinforced: Discuss basic principles of ethics in the construction industry.
6	ACCE 12, Introduced and Reinforced: Recognize the basic principles of structural design.

Course Topics:

Week 1	Introduction and Review, Forces and Resultants (Chapter 1, 2)

Week 2	Forces and Resultants Continued (Chapter 2)
Week 3	Equilibrium (Chapter 3)
Week 4	Equilibrium (Chapter 3), Test 1
Week 5	Truss Analysis (Chapter 4)
Week 6	Truss Analysis (Chapter 4), Test 2
Week 7	Centroids (Chapter 6)
Week 8	Moment of Inertia (Chapter 7), Test 3
Week 9	Stress, Strain, Modulus of Elasticity (Chapter 8)
Week 10	Thermal Deformation, (Chapter 10)
Week 11	Test 4, Shear and Moment Diagrams (Chapter 11)
Week 12	Shear and Moment Diagrams (Chapter 11), Bending Stress
Week 13	Beams, Bending Stress, Shear Stress, Deflection (Chapter 12)
Week 14	Beam Deflection, Combined Stress (Chapter 13)
Week 15	Combined Stress, Test 5

Methods of Evaluation/Assessment

5 Tests = 75%
2 Lab reports = 10%
1 Course Project = 15%

Course Keeper: T. Burns

Date Completed: 8-21-13
Updated: September 16, 2016
Updated: February 17, 2018
Updated: March 15, 2019, Carol Morman