

Course Outcomes Guide (COG)

Course Title: EGT 231 Strength of Materials

Date: April 23, 2019

Course Team: Dr. Olu Bamiduro

Expected Learning Outcomes

1. Students will know **HOW** to apply the concepts of stress analysis, theories of failure and material science to analyze, design and/or select commonly used mechanical components.
2. Students will **UTILIZE** techniques, skills and modern engineering tools, such as MTS testing machine, necessary for modern engineering practice.
3. Students will **DEMONSTRATE** the application of mechanical engineering design theory to identify and quantify machine elements in the design of commonly used mechanical systems.
4. Students will **LEARN** to effectively communicate (in written and oral form) proper engineering practices as it relates to structural analysis

Assessment

The assessment of the course will be administered to all sections of EGT 231 by the below methods:

1. Examinations
2. Homework Assignments
3. Student assigned Chapter-Section Presentations

Validation

The following criteria will be used to validate EGT 231:

1. The ability to apply knowledge of mathematics, science, and engineering.
2. The ability to design and conduct experiments, as well as to analyze and interpret data.
3. The ability to identify, formulate, and solve engineering problems.
4. The ability to communicate effectively.
5. The ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Results Data may be seen in table below:

	FALL 2017	SPRING 2018	FALL 2018	SPRING 2019
# of Active Students	7	N/A	8	1
# unofficially walked away from class	N/A		N/A	N/A
% of success	83.3%		90%	100%
Final Exam Score (Average)	93.1%		77.5%	80%

Mean Course Grade	2.25		-	-
Areas of difficulty in course content	Analysis of Truss Structures		Stress – Strain Analysis	Bending Moment Diagrams

Follow-up (How have you used or how will you use the data to improve student learning?)
Diversify the auxiliary reading material will be of great help.

Budget Justification (What resources are necessary to improve student learning?)
Money should be allocated to buy supplies for the Mechanical Testing Machine.