MECH 3751L - Stress and Strain Analysis 1 Laboratory

Fall 2026 Syllabus, Section 04, CRN 41319,

Credit hours: 1

Instructor

Anthony Viviano

Email: avviviano@ysu.edu

Public Instructor Information

Instructor Title: Anthony Viviano, P.E.
Instructor Professional Qualifications:

Professional Engineers License PE.72316

Consulting, VECOR,LLC.
Master's, Mechanical Engineering, Youngstown State University
Bachelor's, Mechanical Engineering, Youngstown State University

Instructor Office Location: *Moser 2530*
Instructor Office Phone: *(330) 941-3017*

Course Description

3751L. Stress and Strain Analysis 1 Laboratory. Transmission and reflection photoelasticity. State and dynamic strain gage applications using computer-aided data acquisition. Three hours laboratory per week. Concurrent with MECH 3751. 1 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	"Shigley's Mechanical Engineering Design", 2024 Edition	Richard Budynas & Keith Nisbett	9781266929892

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Thu	8/27	Handout	Review of Statics and Internal Force Diagrams	
Thu	9/3	Lab-1 Handout	Lab 1: Photoelasticity	Review Homework
Thu	9/10		Lab 1: Photoelasticity	
Thu	9/17	Lab-2 Handout	Lab 2: Photoelasticity	Lab 1 Homework
Thu	9/24		Lab 2: Photoelasticity	
Thu	10/1	Lab-3 Handout	Lab 3: Photoelasticity	Lab 2 Technical Memo
Thu	10/8		Lab 3: Photoelasticity	
Thu	10/15	Lab-4 Handout	Lab-4 Strain Gauge	Lab 3 Presentation
Thu	10/22		Lab-4 Strain Gauge	
Thu	10/29	Lab-5 Handout	Lab-5 Strain Gauge	Lab 4 Homework
Thu	11/5		Lab-5 Strain Gauge	
Thu	11/12	Lab-6 Handout	Lab-6 Strain Gauge	Lab 5 Technical Memo
Thu	11/19		Lab-6 Strain Gauge	

Thu	11/26	No Class	
Thu	12/3		Lab 6 Presentation

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.