

Course Offering for Fall 2001

Dr. M. E. Barkey
Aerospace Engineering and Mechanics Department

- ESM 638 Introduction to Experimental Mechanics (*for graduate students*)
- ESM 491 Introduction to Experimental Stress Analysis (*for undergraduate students*)

General Information:

The course will consist of two 50-minute lectures and one three hour lab per week (10-12 labs per semester). ESM 638 and ESM 491 will be taught concurrently. Graduate students will be responsible for more advanced laboratory work than undergraduate students. Enrollment will be limited to 8-10 students. Pre-enrolled students will given preference.

Prerequisites:

Consent of Instructor

Catalog Description: (2-3) Three hours.

Theory and application of electrical resistance strain gages for stress analysis and for use as transducers. Study of circuits and instruments used for strain measurement. Theory and application of photoelasticity for measurement of stress. Use and techniques of computer data acquisition and control.

Textbook:

Experimental Stress Analysis by Dally and Riley, third edition. ISBN No. 0-07-015218-7.

Preliminary List of Topics:

- Electrical Resistance Strain Gages
- Transducer Theory and Design
- Material Testing Methods
- Computer Data Acquisition and Control
- Optical and Photo-Elastic Methods

Meeting Time:

To be determined--enrolled students will be contacted to arrange a mutually suitable course meeting time.

For more information...contact Dr. Barkey at 348-1621 or at mbarkey@coe.eng.ua.edu