

Department of Materials Science and Engineering
MSE 399 Materials Science and Engineering
Introduction to Research (2 credits)

Catalog Description:

Research planning and design in materials science and engineering introduced by the faculty to facilitate student selection of senior project topic.

Prerequisites:

Junior standing in MSE Department

Textbooks and other required materials:

Course Syllabus

“How to Succeed as an Engineer,” T. Yazuriha, J and K Publishing

Course objectives: The students will be able to:

1. Design an experiment to solve a specific problem
2. Design an approach to a real research or design problem
3. Utilize statistical methods for problem solving
4. Describe the role of quality and process control in research

Topics Covered:

Introduction to research and senior projects

Practical statistics

Design of Experiments

Team experimental design problem

Careers workshop

Outreach: Department Open House

Quality/Process control

Design concepts review

Project management and implementation

Senior project topics

“How to choose a senior project”

Faculty reviews of available topics

Class Schedule:

Fourteen one hour sessions during spring quarter

Contribution of course to meeting the professional component:

This course introduces the topic of research and its components, including statistics, design of experiments, quality and project management. Students also take part in broadening exercises such as the Department Open House and a careers workshop.

Contribution of course to program objectives

This course provides experience in use of statistical methods, teamwork and communication, and prepares them for research in their senior project and perhaps beyond to graduate school

Prepared by: Thomas Stoebe, Professor, April. 2001