

## ESM 299 DIRECTED RESEARCH IN MATERIALS SCIENCE (ELECTIVE)

Credit: 0-3

### COURSE CATALOG DESCRIPTION:

A directed research project with faculty supervision or as part of a research team. Intended for freshman or sophomore students to develop research skills in a closely mentored environment. A final report and oral presentation are required at the end of the project. ESM 199 is a recommended prerequisite.

**PRE- OR COREQUISITE(S):** Permission of the Undergraduate Program

**TEXT(S) OR OTHER REQUIRED MATERIAL:** None

| COURSE LEARNING OUTCOMES  | SOS | ASSESSMENT TOOLS           |
|---|-----|----------------------------|
| Understanding research methods and skills, including data collection and analysis | b   | Final report               |
| Experimental design   | b   | Final report               |
| Effective teaming in research   | d g | Final report, observations |

**COURSE TOPICS:** Varies for different Research Areas

### CLASS/ LABORATORY SCHEDULE:

Instructor dependent

### CURRICULUM

This course contributes 0-3 credit hours toward meeting the required 48 hours of engineering topics.

### STUDENT OUTCOMES (SCALE 1-3):

| A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|
|   | 3 |   | 3 |   |   | 2 |   |   |   |   |

**3 – Strongly supported**

**2 – Supported**

**1- Minimally supported**

### LEAD COORDINATOR(S) WHO PREPARED THIS DESCRIPTION AND DATE OF PREPARATION:

Gary Halada, 7/13/2010