**Course number and name: MTSE 4500: Internship in Materials Science**

**Credits and contact hours:** 1 - 3 Credits. Walk in or by appointment

**Instructor’s or course coordinator’s name**

Dr. Wonbong Choi

Dr. Marcus Young

Dr. Sundeep Mukherjee

Dr. Peter Collins

**Text book, title, author, and year**

None required. Student is encouraged to explore: “Reporting Results: A Practical Guide for Engineers and Scientists”, Van Aken and Hosford.

1. *Other supplemental materials*

**Specific Course Information**

1. *Brief description of the content of the course (catalog description)*

Supervised industrial internship requiring a minimum of 150 hours of work experience.

1. *Prerequisites or co-requisites*

Consent of Department.

Department will assess the following:

(1) Internship Opportunity (Employer must be focused on materials science and engineering related business or research entity (e.g., a National Laboratory or not-for-profit research entity, excluding academia)

(2) Class Standing

a. At least 60 hours should have been completed

b. ENGR 3450 or equivalent Introduction to Materials Science course should have been completed

(3) Internship Proposal

a. A practicing professional (at the business or research entity) and a faculty membership will identify a self-contained individual research effort.

b. The student must submit a written proposal to the Department, and will be approved by the faculty member and either the Undergraduate Student Advisor or the Department Chair.

c. The completed proposal, with signatures of the faculty member and either the Undergraduate Student Advisor or the Department Chair, and a signature (electronic or otherwise) of the practicing professional, will provide sufficient documentation to authorize the student to enroll. The proposal, with signatures, will be maintained in the department records.

1. *Indicate whether a required, elective, or selected elective course in the program*

Elective

**Specific goals for the course**

* 1. *Specific outcomes of instruction*
  2. *Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes that are addressed by the course.*

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|  | **Student/ABET Outcome** | **a** | **b** | **c** | **d** | **e** | **f** | **g** | **h** | **i** | **j** | **k** |
| **Specific Course Learning Outcome** |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Apply knowledge gained in MTSE courses and/or ENGR 3450 while working on or solving applied problems or applications |  | x | x | x |  | x |  |  |  |  | x | x |
| 1. Work in teams to solve applied problems or develop materials for applications |  | x | x | x | x | x | x |  |  |  |  | x |
| 1. Ability to communicate and work on industrially motivated problems |  | x | x |  |  | x | x | x |  |  | x | x |