**Course number and name: MTSE 4920: Cooperative Education in Materials Science**

**Credits and contact hours**

3 Credit. Hours obtained while participating in a cooperative education program and presentation upon return to UNT. The student will spend sufficient time during the cooperative education experience to document their progress on a daily or weekly basis.

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

Any faculty in the Department of Materials Science and Engineering

**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. Students are encouraged to review safety procedures prior to enrolling in course.

1. *Other supplemental materials*

To be provided, as relevant, as part of the cooperative education experience.

**Specific Course Information**

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

Supervised work in a job directly related to the student’s major, professional field of study or career objectives.

1. *Prerequisites or co-requisites*

12 hours of credit in materials science; student must meet employer’s requirements and have consent of department. May be repeated for credit.

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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|  | **Program/ABET Outcome** | **a** | **b** | **c** | **d** | **e** | **f** | **g** | **h** | **i** | **j** | **k** |
| **Specific Course Learning Outcome** |  | **x** |  |  | **x** |  | **x** | **x** |  |  | **x** | **x** |
| 1. Students will execute projects related to processing, synthesis, research, development, design, or manufacturing of materials and use knowledge gained through their previous materials science and engineering courses.
 |  | **x** |  |  |  |  | **x** |  |  |  | **x** | **x** |
| 1. Students will work in teams (from 2-person teams to large, multi-person, multi-discipline teams) to solve problems and communicate their various activities (e.g., research, analysis, development, project planning, processing, etc) on a regular basis.
 |  | **x** |  |  | **x** |  | **x** | **x** |  |  | **x** |  |
| 1. Communicate industrially motivated problems and solutions
 |  |  |  |  |  |  |  | **x** |  |  | **x** |  |

**Brief list of topics to be covered**

Dependent upon the precise nature of the cooperative education experience. At a minimum, the student is expected to be exposed to:

* Organizational safety training
* Industrially accepted practices involving reporting of data and results from projects