

# Dakota County Technical College

## NANO 2140: Interdisciplinary Lab

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: 3

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course will cover the experimental aspects of the accompanying third semester nano courses. Four major lab activities are planned for the course. Each lab will be a series of creation, measurement, assessment, improvement and rework. This circular understanding and assessment/improvement cycle will be included in the detail lab descriptions. Prerequisites: A grade of C or better in the following courses; NANO1100, NANO1200 and NANO1210. Concurrent registration in NANO2101, NANO2111, NANO2121, and NANO2970 (optional)

**B. COURSE EFFECTIVE DATES:** 08/21/2006 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

### D. LEARNING OUTCOMES (General)

1. apply a Six Sigma methodology to tracking and application results
2. determine and apply the appropriate lab techniques for a variety of nanoscale materials
3. evaluate and apply various reliability and failure analysis methods for nanoscale implementation in a lab environment
4. gain expertise at use of AFM and STM equipment
5. practice good lab safety

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted