

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