

Dakota County Technical College

NANO 2111: Nanobiotechnology/Agriculture

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course will increase the depth of topics and discussion of those covered in NANO1100. Students will investigate the potential of nanoscience in multiple biological applications including nanopore, nanoparticle and nanochannel structures, diagnostics and treatment. Emphasis will be placed on interactions between biological and non-biological systems and understanding biochemistry.

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

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. apply nanoconcepts to biotech products and services, i.e., diagnostics
2. describe and comprehend interactions between biological and non-biological systems in large area interactions and nanochannels
3. describe and explain manufacturing, operation and application of nanopore systems
4. know the process of biosensing using quantum dots or microarrays for proteins and DNA fragments

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted