Title: 7B. Developing A Risk Management Program

Goal: Provide an understanding on the requirements to evaluate, understand, and develop a program to manage risk.

Module Objectives: Educate the student so s/he is capable of understanding existing risk management programs to ensure applicability to nanomaterials.

Prerequisite by Topic:

- Nanomaterials properties
- Identified health risks
- Nanotechnology Safety

Required Text: None
Reading: Write-up of this module
References: [Refs. 38, 41, 58-62]

Student Learning Outcomes:

- Understand what risk management is
- Appreciate the differences between nanomaterials risk and traditional risk management
- Be able to highlight identify areas of concern

Topics Covered: (Green highlighted topics are priority#1, Yellow highlighted are if time permits)

- Lecture I
  - Basic Understanding of Nano Safety
  - Control and Containment of nanomaterial exposure
  - Risk versus Hazard
  - Novel electronics

- Lecture II
  - Nano Risk Framework
  - Control Banding
  - Regulations and Standards
  - Evaluating Workplace Exposure
  - Communicating Hazards to Workers
  - Evaluating Potential Future Risk
  - Environmental impacts
Relationship to ABET Program Outcomes

[Note: Please, refer ABET program outcomes list (a) through (l) in attached standard template.]

(a) An ability to apply knowledge of mathematics, science, and engineering.
(b) An ability to design and conduct experiments, as well as to analyze and interpret data
(h) The broad education necessary to understand the impact of engineering solutions in a global societal context
(j) A knowledge of contemporary issues.
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice