

**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