Businesses are facing increasing market and regulatory pressures to use less toxic chemicals in their manufacturing processes and products, and are in need of professionals who can provide innovative solutions and more sustainable substitutes.

**WHAT YOU WILL LEARN**
During this 3-course program, we will explore:
- The 12 guiding principles of green chemistry
- Business drivers and barriers to implementing sustainable practices
- Frameworks for incorporating chemical toxicity and human health considerations into product design, material selections, and supply chain decision-making
- Environmental, economic, and societal benefits of green chemistry
- The latest research and regulatory developments in the field
- New tools for chemical design and methods for comparative chemical hazard assessments

**THIS PROGRAM IS FOR YOU**
- Engineers, chemists, and materials scientists
- Environmental product managers
- Supply chain decision-makers
- Risk management researchers
- Product stewardship professionals
- Safety and health professionals
- Graduate level students in related fields
- High School teachers and academic faculty
- Legal professionals
- Building designers and architects
- Environmental and other sciences professionals in industry, labor, academia, and non-government organizations

Overview of the 3-course Program:

**COURSE I**
Sustainability, Toxicology, and Human Health  
9/23/19 - 12/6/19 | Credit: 5 CEUs | Cost: $910  
Overview of fundamental principles of toxicology, human health, and material science. Participants will review their own business’ sustainability drivers and barriers while investigating the health and environmental hazards that contribute to human disease.

**COURSE II**
Principles of Green Chemistry  
Dates: 1/6/20 - 3/13/20 | Credit: 5 CEUs | Cost: $910  
Fundamental principles of green chemistry, including the human and ecological reasons for considering less toxic alternatives and the various green applications to chemical design. Overview of new tools and cutting edge research for the design of 21st century chemicals that minimize hazards to health and the environment.

**COURSE III**
Assessment Tools for Safer Chemical Decisions  
Dates: 3/30/20 - 6/5/20 | Credit: 5 CEUs | Cost: $910  
Decision-making tools and methods used for comparative chemical hazard assessments. Participants will have an opportunity to use these tools through the completion of a culminating project.

Completion of all three courses is required to earn a certificate. However, individuals not pursuing a certificate are welcome to take classes a la carte.

**INSTRUCTORS**

**Pam Eliason**  
Senior Associate Director, Industry Research  
Program Manager, Toxics Reduction Institute, University of Massachusetts Lowell

**Grace Lasker, PhD**  
Chair, Health Studies, & Senior Lecturer, School of Nursing & Health Studies, UW Bothell  
Affiliate Faculty, Department of Environmental & Occupational Health Sciences, University of Washington

**Karolina Mellor, PhD**  
Program Coordinator, Yale Center for Green Chemistry and Green Engineering

**Richard Morgan, MS**  
Senior Process Chemist, Modumental

**Kevin Wilhelm, MBA**  
CEO, Sustainable Business Consulting

**RECOMMENDED PREREQUISITES**

Material in the program is intended for individuals who have:

- A four-year degree
- At least 1 year of relevant work or graduate-level education experience
- A fundamental knowledge of chemistry, equivalent to a basic college-level chemistry course

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