Amgen Seminar Series in Chemical Engineering

in

Cherry Auditorium, Kirk Hall, 12:45 PM

Presents on October 17, 2019

Chemical Process Safety in the Chemical Engineering Curriculum

By

Dr. Stephen J. Kmiotek
Chemical Engineering Department
Worcester Polytechnic Institute

In 2011, ABET modified its accreditation criteria for Chemical Engineering programs to include "….. the hazards associated with (chemical, physical and/or biological) processes." The new criterion was added in large part because of continued serious process safety incidents within the chemical industry and, based on the incident investigations, an apparent lack of understanding of these hazards by chemical engineering graduates. ABET left it to universities to address how best to meet the criterion at their institutions. Despite resources provided by, for instance, the Center for Chemical Process Safety, it has proven a challenge to add significant new content to a packed course of study. To address the needs, the chemical engineering faculty turned to their roots: spiraling the core content into the curriculum in foundational courses and turning to project-based learning for a summative experience.

This talk will discuss how we have implemented these process safety requirements within the context of WPI's program, including examples of some of the projects our students have conducted.

Bio:

Dr. Kmiotek is a Professor of Practice in Chemical Engineering at WPI, primarily focused on chemical process safety and environmental issues as they pertain to chemical plant design.

Prior to joining the WPI faculty in 2012, he was the Responsible Care Leader for the Dow Chemical Company's northeast operations, with overall responsibility for environmental, health, safety, industrial hygiene, emergency response, and security at Dow's northeast manufacturing sites. In total, he has more than 30 years of experience in the chemical industry, and consulting engineering. He has worked and managed operations in manufacturing and in research and development and has designed environmental control systems and process safety systems for companies as diverse as pulp and paper mills, foundries, organic and inorganic chemical manufacturers, and electronics and microelectronics manufacturers throughout North America.

At WPI, he is also the Faculty Advisor for Tau Beta Pi and for the student chapter of AIChE. His awards include the 1986 Sigma Xi award for outstanding doctoral research and the 2017 WPI Trustee's Award for Outstanding Teaching.

He holds a PhD in Chemical Engineering from WPI and is a Registered Professional Engineer.

This series at the University of Rhode Island is made possible through the generosity of Amgen, West Greenwich, R.I.

Refreshments provided by the Joseph Estrin Endowment.