

# CE 485

# Pollution Prevention

This course offers students like you the opportunity to visit small businesses in Newark to study the full manufacturing processes with a focus on steps responsible for reduction in waste and pollution. Through your investigation, you will be able to perform analysis and provide suggestions for process modifications with greener technology in order to prevent pollution as well as to reduce the overall cost and to become economically competitive.

This is a new community based pollution prevention program for US EPA Region 2. One objective of this proposed program is to investigate whether a community-wide effort within an environmentally impacted area can help establish focus and enthusiasm for pollution prevention in order to improve the overall environmental picture of the community and help advance the economic development of the community based on cost savings and potential further use of the savings for job retention or expansion.

*Civil, Environmental, Industrial, Biomedical, Pharmaceutical and Chemical Engineering, as well as Chemistry and Environmental Science students who are Junior standing can register!*

*From course, you will learn:*

- Identification of processes and chemicals used in manufacturing facilities and their impact on the environment.
- Find replacements based on Green Chemistry, Green Engineering and Zero Waste concepts to eliminate or mitigate damage to the environment
- Life Cycle Analysis and Assessment to quantify the benefits of change over wider spans of time and geography
- Effective Communication with Small business owners about the findings for implementation
- Quantification of the results of pollution prevention changes with respect to Reduction of Hazardous Materials, reduction of reduction of carbon footprint, water conservation and cost saving.

For more information, please contact  
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**We will identify best students from this class as well as native Spanish or Portuguese speakers or those who live in Iron Bound section of Newark to continue this project as paid interns for the year 2014.**