

Job Opportunities for a More Sustainable Economy



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What is EPD?

- Largest University-Based Continuing Education Program in North America for Engineers and Technical Professionals
- About 350 Courses
- Technical Communications
- Distance Learning MEPP
- Department Expected to be Financially Self-Sufficient



INTRODUCTION



Premise: We not only need more green jobs but we need to “green” the jobs we have



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The Traditional Approach has not been successful

- Human exposure to toxic chemicals
- Rising demand in water consumption,
- Rising demand for land
- Rising demand for energy
- Climate Change



Changes in Skill Sets

- Trapezoidal concrete water channels
- Remove onsite water ASAP
- Focus on “end of pipe” treatment
- Regulatory compliance



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What is vs What will be

- **Life Cycle design**
- **Bioengineered design**
- **Corporate Social responsibility**
- **Designing and protecting wetlands**
- **Stormwater BMPs**
- **Business awareness**
- **Big picture**
- **Carbon management**



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Sustainability as a way of thinking and acting professionally

- Designing the resource circulating society
- Radical resource/energy constraints
- Live within waste assimilation capacity
- Fairness and access of resources for future generations



Sustainability has some unique challenges

- **Mismatch between the degrees of freedom of engineers and global sustainability issues**
- **Can an engineer control where the electrons come from that power the electric Car?**



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Technical Skill sets

- Engineers will design product life cycles not products.
- Engineers will select materials using different criteria
 - Availability
 - Renewability
- Engineers will be concerned about the fate of the product after its useful life.



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You will be interested in:

Design for the Environment



Dorothy
Mackenzie



RIZZOLI
New York

- DF(x) Durability, Remanufacturing, etc
- Eco-efficiency
- Energy consumption
- Closed loop manufacturing



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Sustainable competencies



- Technical Skills are important
- Personal Behaviors
- Understanding of Organizational systems and Processes



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Competencies include Innovative Spirit

**Need a sense of
creativity and
excitement**



Innovation

