Environmentally Responsible Design & Manufacturing

Instructor
Dr. John W. Sutherland          Kiran Kkadke & Karl Haapala
Office: 803 MEEM                  401 C MEEM
Phone: 906-487-3395              906-487-3396
Fax: 906-487-2822                906-487-2822
email: jwsuther@mtu.edu          knkhadke@mtu.edu & krhaapal@mtu.edu
Office hours: Any time following class

Course website accessible from: http://www.me.mtu.edu/~jwsuther

Grading
Homeworks: 30% (25%), Midterm: 30% (25%), Final: 40% (30%)
Graduate Project: (20%)
Over-all GPA for class of about 3.0

Course Text & Other References
1. Graedel, T., and B. Allenby, Design for Environment, Prentice-Hall. (Course Text)
9. Plus handouts and web links posted on the course webpage.

Course Topics

Introduction
Environmental measures (Global -- Local)
Sustainability
Laws & Regulation
Control vs.? Motivators

Process Design
Types & Wastes
Process Impacts and how to measure them
Plant Issues
Input-Output Analysis
Supply Chain Issues

Product Design
Life Cycles
Materials
Assembly & Disassembly
QFD
DFX

System Issues & Industrial Ecology
System Modeling
Life Cycle Analysis
Risk Assessment and Management
Decision Making
Future Steps