

## CE 4803B - Sustainable Problem Solving Lab Course Outline

Class	Topic	Activities	Readings	Assignments	Submissions
1 8/13	<b>Introduction</b> Course Objectives What is Sustainability? How Can We Make Design Decisions That Lead To Sustainability? Introduction to Usenet	Bottle Exercise Usenet Demo	PCSD (199x) Daly (1989) Van der Ryn & Cowan (1996) Veltrup (1995)	1: Who are you, and why do you care about sustainability?	
2 8/15	<b>Finding Problems to Address</b> What Irritates Or Inspires You Most? Sustainability Triangle Framing The Problem	Bag Exercise	Vanegas et al. (1995) Robert et al. (1996) Russo & Schoemaker (1989) CSWS (199x)	2: What problem are you going to address?	Assignment 1
3 8/20	<b>Problem Definition I</b> Researching the Problem Asking the Right Questions Documenting Information Context Of The Problem	Majo Bay Video	Federal Register (1973) Reyna (1991)		Assignment 2
4 8/22	<b>Problem Definition II</b> Identifying Relevant Issues Defining Problem Scope Working with People Setting Objectives and Weightings	Earthship Video	Van der Ryn & Cowan (1996) Audubon House (1994)	3: Set scope and objectives for project	
5 8/27	<b>Generating Alternatives I</b> Seeing All Sides of the Problem Gibsonian Affordances Brainstorming	Drawing on the Right Side Bottles Revisited	Nadler & Hibino (1990)		
6 8/29	<b>Generating Alternatives II</b> Systems Thinking Strategies: Industrial Ecology, Design for Dissassembly, Regenerative Design	Mercedes Benz Video	Lyle (1994) Jelinski et al. (1992) Nadler & Hibino (1990)	4: Generate alternatives for project	Assignment 3
7 9/3	<b>Analyzing Alternatives I</b> Environmental Impact Assessment Life Cycle Analysis Feasibility Determination	LCC Video	Jain et al. (1993) Durning & Ayres (1994,95) Hunt et al. (1992)		
8 9/5	<b>Analyzing Alternatives II</b> Cost-Benefit Analysis, Contingent Valuation Metrics and Criteria	Price of Life Exercise	Hammel (1994) AtKisson (1994) Corson (1994)	5: Conduct analyses of potential alternatives	Assignment 4
9 9/10	<b>Evaluating Alternatives</b> Revisiting Objectives Comparative Evaluation of Feasible Alternatives	Objectives Matrix	Elliott (1981) O'Hare (1980)	6: Evaluate feasible alternatives in terms of initial objectives	Assignment 5
10 9/12	<b>Presenting Alternatives</b> Presenting Results and Making Recommendations Targeting the Appropriate Audience	Sample Presentations	Meyer (199x) Reddy (1992)		Out-of-Class Project Draft Review
11 9/17	<b>Implementation Issues</b> Working within Organizational Constraints Developing Implementation Strategies Creating an Implementation Plan Including and Interfacing with the Public	Guest Speakers: Mike Meyer Bill Patton	Lloyd & Meyer (1984) Jain et al. (1994)	7: Develop implementation plan for recommended alternative	Assignment 6
12-13 9/19 9/24	<b>Project Presentations</b>				Assignment 7
14 9/26	<b>Wrap-up: Summary and Conclusions</b> How has Sustainability Changed Problem Solving? What Remains to be Done? What does the Future Hold?	Course Evaluations			Final Learning Essay