



Syllabus: Data, Reporting and Metrics

A module in the Green Business Operations Certificate Program

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1. Course Description

There is an urgent need to reduce our environmental footprint. Measuring can spur behavioral changes within a business. By measuring key environmental performance indicators, your business can improve its eco-footprint and become greener. This course will provide the details behind various environmental measurements + metrics and how they can help green your business operations.

This is an overview of measuring, understanding + interpreting, and using environmental data in operating a green business unit. It focuses on the triple bottom line and the Balanced Score Card business measurement tool: Strategy + Goal alignment, Learning, Process, Customer. From LEED checklists for green buildings to ISO14001 LCA concepts, this course provides measurement and metric details for anyone wanting to improve their business's environmental footprint.

This 18 hour course will utilize a combination of classroom techniques (presentation, discussion, team projects, case studies, and guest speakers) to give the students a full understanding of the issues and complexities of Green Data, Reporting + Metrics.

2. Learning Objectives

Students will learn basic environmental measurement systems and how to distinguish between different green metrics used within the media and by various green products and service vendors.

At the end of this course, students will have learned how to environmental measuring can add value to their business and/or business unit. Another learning objective will be to make it easy for students to understand various environmental measuring systems and how they can adapt them for their business units' green strategies and business goals.

- a. ***Session 1 Topic: Environmental Measurement Framework*** (6 class hours)
Specific topic contents:



- i. Define and adjust lectures to registered students' knowledge level and desired learning goals.**
 - ii. Defining environmental conditions
 - iii. Overview of current environmental standards and California regs
 - iv. Review of Green certifications standards
 - v. Overview of other approaches (Europe, etc)
 - vi. Learn Environmental Measurement terms, units of measure
 - vii. Learn how data is collected and reported
 - viii. Overview of software, measuring devices, etc.
 - ix. Learn current common environmental metrics
 - x. Types of environmental impact surveys and reports.
 - xi. Keeping data accurate, vital few, confidentiality issues.
 - xii. Case Study: TBD
 - xiii. Class Project/Group exercise: Applying green measurements to your business

- b. *Session 2 Topic: Environmental (eco-) Footprint Calculations* (3 class hours)**
Specific topic contents:
 - i. Understand basic GHG, CO₂, material, waste and energy flows within a business supply chain.
 - ii. Determining Supplier's and products' eco-footprints
 - iii.** Learn relations between transportation + building eco-footprints
 - iv.** Enlarging measurement boundaries, LCA.
 - v. Case Study: TBD
 - vi.** Class Project/Group exercise: Calculating your carbon footprint

- c. *Session 3 Topic: Environmental Reporting + Metrics* (6 class hours)**
Specific topic contents:
 - i. Overview of Environmental hazmat + waste, toxins,
 - ii. Specific Environmental standards: LEED, ISO 14001 (LCA)
 - iii. Understanding environmental conversions (KWH, Miles, etc. to CO₂)
 - iv. Setting Environmental targets
 - v. Case Study: TBD
 - vi. Class Project/Group exercise: Bubba's Toy Company Green Eco Report

- d. *Session 4 Topic: Applying Green metrics to your business* (3 class hours)**
Specific topic contents:
 - i. Do it now:
 1. Measure your office IAQ, waste, next remodel, etc.
 2. Improving your office transportation footprint
 3. Reducing your office waste footprint



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- ii. Medium to Long Term greening targets + measurement systems
 - iii. Take action: Leveraging metric results into action
 - iv. Case Study: TBD
 - v. Final Exam
3. List of Topics
- a. Triple Bottom Line
 - b. Balanced Scorecard
 - c. Carbon + Eco-Footprints
 - d. Basic Environmental units, data, reporting
 - e. Basic EIS,EIR, measurements and CA regulatory data
 - f. Software and measurement tools
 - g. GHG, CO2 and other emission measurements
 - h. Energy Flows, Impacts and Measurements
 - i. Water, Air, Materials, Transportation, Waste impacts + measurements
 - j. LEED data, verification
 - k. ISO 14001 standards and LCA concept
 - l. Environmental issues in business supply chain
 - m. Measuring changes
 - n. Documentation and reporting
4. Readings
- a. TBD (
5. On-line resources
- a. <http://www.gemi.org/>
 - b. www.rmi.org
 - c. <http://www.ciwmb.ca.gov/>
 - d. www.winsol.org
 - e. Too many to list... will follow student discussions...
6. Learning Evaluation Methods
- a. Class Contribution: Your participation and contribution is imperative to the development of a collaborative learning environment. Your class contribution will require that you prepare for the class meetings, that you listen actively in class and present your ideas and questions with thoughtfulness. Your contributions will be valued and welcomed in the (1) discussions of the case studies, (2) questions and comments to the guest speakers, (3) questions and comments to the lecture presentations.
 - b. Final Examination