

**Course name:** *Tackling Environmental Issues: How to Measure, Manage, and Mitigate our Impact*

**Course Code:** RCN 502

**Professors:** *Jane Yeomans, Ph.D.; Irene Alvarado, Ph.D.*

**Term/Year:** Summer 2017

**Dates:** July 2-15

**Number of Credits:** 3

### **Course Description:**

This course provides a theoretical foundation and the practical tools for the study of business and other human activities in a global context. It seeks to ensure that externalities are valued in the economic context of the enterprises, and considered in the decision-making process. It explores different methodologies for evaluating sustainability and assessing the social and environmental impact of our actions as individuals and companies. The course offers students an opportunity to identify and directly assist in the development of decisions to control, mitigate, and compensate for the environmental and social impacts of businesses and individuals.

### **Main Objective:**

To assess the impact of our daily activities, as individuals and companies, from the perspective of sustainable development and with an emphasis on reducing our carbon footprint

### **Learning Objectives:**

At the end of the course, students should be able to:

1. Understand the concept of sustainability.
2. Identify the externalities related to the different economic activities.
3. Learn to calculate the CO<sub>2</sub> emission and the compensation or mitigation cost.
4. Understand the concepts of ecological footprint and water footprint.
5. Examine the concepts, models and technologies for wastewater treatment and their role in the water resource conservation.
6. Examine the technologies for solid waste treatment and their social, economic, and environmental impacts.
7. Determine the carbon emissions of economic activities and investigate alternatives for reducing the carbon footprint.

**Evaluation System:**

	Prof. Irene	Prof. Jane
Class participation/discussion	5 %	5 %
Field trip participation	15 %	5 %
Field trip reports (x % each)	2 x (15 %)	3 x (10 %)
Activity/class reports (x % each)	2 x (10 %)	5 x (10 %)
Homework	--	10 %
Project-Oral Presentation	30 %	--
Total	100 %	100 %

## Instructors' biographies

**Jane Yeomans** is a Professor of Research at EARTH University. She obtained her M.Sc. in soil microbiology from the University of Guelph in Canada and her Ph.D. in soil microbiology and biochemistry from Iowa State University. She has been working at EARTH University since 1998. During this time she has taught courses in Physics, Integrated Waste Management, and Environment and Sustainable Food Systems.

She also coordinates the senior thesis project course and proposal writing course. She has taught a number of short courses organized by EARTH International Academic Relations Office, including topics on the sustainability of wastewater and solid waste management, sustainable agriculture, and proposal and technical writing.

She has been the principal investigator for numerous projects including “Development of an Integrated Waste Management Plan for Ordinary Solid Waste in Rural Communities in Latin America” and “Sustainable Agricultural Practices in Citrus Production in Los Chiles, Costa Rica”.

**Irene Alvarado Van der Laat** graduated from the Agronomy Faculty of the University of Costa Rica with a BFA in Agricultural Engineering. She has an MBA with a focus in Marketing from the Technological Institute Costa Rica and a Ph.D. from the Universidad Latina in Economical and Business Sciences.

She has been working at EARTH University since 1992, first as the Academic Program Administrator and Director of Marketing of EARTH University's Products (1996-2000), and since 2000, as a full time faculty member in the area of the Entrepreneurial Projects Program.

She also has been involved in the private sector as a General Manager, President of agro-export-tourist companies. In the political arena she has been a representative of Costa Rica at the United States Department of State's for Environmental Protection and Sustainable Development Program and recently as a Director for the Costa Rican Minister of Economic and Exportation Board, named by the current President of Costa Rica. She is also part of the advisory board of the Sustainability Laboratory, based in New York.

She is the recipient of the “Best Research Award” at the VII International Entrepreneur Congress, El Salvador (2004), The Galpin Fellowship Foreignness Award (Connecticut, 2010), and recently received the distinction of becoming an Honorary Professor at the Universidad Autónoma de Peru (October, 2014)