

# Earth Education International Sustainability in Central America



Universidad de San José credit: BCB 120; Educación para Desarrollo Sostenible.  
Spring 2016

DRAFT

## Course Overview

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Instructor	Carlos Rojas
Meeting Times	Tuesdays & Thursdays, 2-4:15pm
Phone	7102-2780
Office hours	By appointment at least one day prior
E-mail	rojas_carlos (at) outlook.com

## Course Description

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An interdisciplinary synthesis of the principal concepts associated with sustainability in Central America. Emphasis on key global socio-economic issues in perspective and environmental sustainability in tropical ecosystems: Natural history, environmental conservation, ecotourism, agriculture & land use, marine ecology, and/or urban ecology. The course will include lectures, guest speaker presentations, discussion, and various other class activities.

## Course Objectives

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At the completion of this course, the student will be able to:

1. Describe sustainable development as a global construct
2. Identify key Central American socio-economic sustainability issues in perspective
3. Synthesize environmental sustainability in tropical ecosystems: Characteristics, environmental services, and conservation
4. Evaluate disparate themes related to sustainability in Central America

## Course Materials

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### Required Text

Edwards, A. R. 2005. The Sustainability Revolution: Portrait of a Paradigm Shift. B.C.: New Society Publishers.

### Online Materials

Given that this course encompasses a broad range of topics related to sustainability in Central America, various ancillary materials will be made available in electronic form online to complement the required text. All such materials are available at: <http://www.earthedintl.org/CourseMats/SustCentralAm/SustCentalAm.htm>. Additionally, handouts will be used as appropriate.

## Course Requirements

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1. **Attendance/Participation.** In order to achieve stated course objectives, attendance and active participation is essential. Evaluation in this category will thus consist of both your physical presence in the classroom (*Note*: showing up late on multiple occasions is considered equivalent to missing an entire class period), and active participation (quantity & quality of verbal interaction) during discussions, dialogs, and roundtables. So that everyone has an equal opportunity to participate, once you have spoken, please respect others need to do the same before you do so again. Please feel free to check with the instructor periodically throughout the semester regarding your progress in this category. *Value*: 100 points (20%). *Late Policy*: Not applicable (no make-up's for missed classes).

2. **Journal Papers.** Each student will be required to participate in descriptive journaling techniques during the semester. These are to consist of four one page 'journal' papers (8½" x 11" sheet or equivalent) which will be due every other week during the program. Papers should be thorough but concise, and consist of two equal parts:

- a) **The most significant thing you learned academically** since your last entry that was directly related to this course. This should include a (*very brief*) description of the learning, and associated 'linkages' between (Thursday's) classroom discussions and associated field study or volunteer work. In other words, you must somehow make a connection between class topics and course field study activities (and optionally course reading materials).
- b) **The most significant thing you learned personally** since your last entry that was directly related to your participation on the program. This should include a (*very brief*) description of the associated event and why it was significant to you *personally*.

Entries must be directly related to program-related experiences in Central America, rather than anecdotal events. NOTE: The intent of this assignment is to encourage you to reflect on your personal growth while you are on this program, as well as for us to learn what is most significant to you. See course schedule for topics. Papers may be written by hand, but *must be legible*. Alternatively, they may be composed in a Word document and printed double-sided on one page of paper to turn in. Journal papers will be due at the beginning of class on the due dates (see course schedule). *Value*: 50 points (10%) each, 200 points (40%) total. *Late Policy*: 10% deduction per day late.

3. **Quizzes.** Short quizzes will be given on a regular basis during the course. There will be ten (10) in total, each covering one of the topics presented, and associated course readings. Quizzes will take place at the beginning of class on the day following the professor's or guest speakers' presentation (see course schedule), and be immediately preceded by an in-class review and discussion. *Value*: 20 points (4%) each, 200 points (40%) total. *Late Policy*: Not applicable (no make-up's for unexcused absences unless alternative arrangements are made ahead of time).

## Student Evaluation

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The final letter grade for the course will be based on a maximum possible of 500 points according to the following University of Redlands standard grading scale:

95-100% = 475-500 pts. = A	73-76% = 365-384 pts. = C
90-94% = 450-474 pts. = A-	70-72% = 350-364 pts. = C-
87-89% = 435-449 pts. = B+	67-69% = 335-349 pts. = D+
83-86% = 415-434 pts. = B	63-66% = 315-334 pts. = D
80-82% = 400-414 pts. = B-	60-62% = 300-314 pts. = D-
77-79% = 385-399 pts. = C+	0-59% = <300 pts. = Fail

## Course Policies

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**Course Format** - This class will be conducted largely in a seminar/discussion type format, making attendance and active participation imperative. This format also requires the additional responsibility of reading all assignments prior to class, coming to class on-time, and being prepared to share your views with the group. Please note that unless stated otherwise, all course assignments are due *at the beginning of class* on the due date listed in the course schedule. Reading assignments are also to be completed *prior* to class time.

**Attendance** - Students will be expected to attend all class meetings. Attendance is necessary (though not sufficient) to receive credit for class participation. Because it is impossible to duplicate class discussions, there will be no "make-ups." Remember, by being in class you not only learn, but also contribute your knowledge and experience to others, thereby improving the classroom experience for all. Students will be held responsible for knowing the class schedule and making alternative arrangements ahead of time for any missed assignments.

**Absences.** In accordance with general program policies, course absences will subject grades to being lowered. Unexcused absences from *class meetings* will subject the final course grade to a reduction of 1% (for 1 days missed), 2% (for 2 days missed), and 5% per day thereafter (for three or more days). Also note that excessive tardiness to class may be counted as missed class. Missed *field study/volunteer work days* will result in a 5% reduction in the final grade (1 day missed), and a 10% reduction per day thereafter (this is also considered class time). This means that if you are late and miss a departure for a field trip, you not only miss the trip, but also the equivalent amount of class time. For SPECIAL circumstances (beyond your control) where you are unable to attend, it is YOUR RESPONSIBILITY TO DIRECTLY CONTACT THE INSTRUCTOR PRIOR TO CLASS TIME, regardless of the reason for the absence. Otherwise, all policies previously outlined will be in force and there will be NO make-ups.

**Appropriate Behavior.** The following guidelines for appropriate behavior will apply to this course, and the program:

- Cell phones** may NOT be used during scheduled class time, whether we are in a formal classroom or in the field.
- Laptops, tablets, or similar devices** are to be used ONLY for taking notes, not for connecting to the internet for any other purpose. If this policy is disrespected, WiFi service at the university may be discontinued for all.
- Email** is the official means of communication throughout the program. As such, all students will be responsible for checking email at least once daily. Thus, please be sure we have the best email address for you during your time in Costa Rica, as not receiving/reviewing emails is no excuse for not knowing appropriate information. Accordingly, all communications with professors related to academics shall be via email (or phone, if during regular working hours). Texting is not an appropriate means for questions about course assignments.
- Homework questions** that are within 24 hours prior to the due date are subject to a non-response. Though students often choose to complete assignments the night before it is due, questions that may arise at that point do not constitute an urgent

situation for the professor. In particular, texting or calling at the last minute--particularly outside of working hours--is not appropriate, nor a substitute for advanced planning.

e) **All other policies** identified on the program web site, and presented at the beginning of the program, also apply to this course: <http://www.earthedintl.org/Policies.htm>.

## Course Outline

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### **I. Society & Sustainability: A Central American Perspective**

#### ***A. Sustainable Development (Ch. 1)***

1. Definitions
2. Ecological footprints
3. Biological capacity
4. Human development index

#### ***B. Social Equity (Ch. 2)***

1. Distribution of wealth
2. Indicators of inequality: Central America

#### ***C. Sustainability & Energy (Ch. 5)***

1. Central America's energy mix
2. Renewable energy resources

#### ***D. Globalization & Free Trade (Ch. 3)***

1. Free trade: Principles & contradictions
2. The Central American Free-Trade Agreement
3. Economic colonialism

### **II. Environmental Sustainability in the Tropics**

#### ***A. Tropical Ecosystems***

1. Natural history of Central America
2. The physical environment
3. Biodiversity & processes

#### ***B. Ecosystem Services (Ch. 4)***

1. Water management & conservation
2. Climate change & environmental services payment
3. Other services

#### ***C. Environmental Conservation***

1. Principles of conservation
2. Challenges to conservation: Land conversion, fragmentation & habitat degradation
3. Protected areas, environmental services & ecotourism

#### ***D. Agriculture & Land Use***

1. Monocrops: Coffee, pineapple, bananas, etc.
2. Agroecology
3. Biosystems engineering

#### ***E. Marine Ecology***

1. Marine resources & historical denial of their global importance
2. Integrated management strategies: Coastal ecology, legislation & economic development.

#### ***F. Urban Ecology & Human Health***

1. Population growth & urbanization
2. Pollution & waste

### **III. Summary & Conclusions (Ch. 7)**

## Tentative Course Schedule

WEEK	DATE	TOPIC/ACTIVITY	ASSIGNMENTS/DUE DATES
1	T, 17 Feb	- Personal introductions - Course overview & academic assignments	Topic 1 readings*
	Th, 19 Feb	- Course requirement assignment - <b>Topic 1 - Tropical Ecosystems/Q&amp;A</b>	
2	T, 24 Feb	- Topic 1 review & quiz - Documentary: Cracking Golden Egg (32min) & Discussion	Topic 2 readings* (& text Ch.1)
	Th, 26 Feb	- <a href="#">Journal paper dialog</a> - <b>Topic 2 - Sustainable Develop: C.A. in Perspective/Q&amp;A (Miguel)</b>	<a href="#">Journal papers due</a> Topic 3 readings* (& text Ch.4)
	Fri/Sat 27-28 Feb	- <b>Field Excursion: Biological Reserve</b>	
3	T, 3 March	- Topic 2 review & quiz - <b>Topic 3 - Ecosystem Services/Q&amp;A</b>	Topic 4 readings*
	Th, 5 March	- Topic 3 review & quiz - <b>Topic 4 - Environmental Conservation/Q&amp;A</b>	
4	T, 10 March	- Topic 4 review & quiz - Documentary: Pura Vida (27m) & Discussion	Topic 5 readings* (& text Ch.2)
	Th, 12 March	- <a href="#">Journal paper dialog</a> - <b>Topic 5 - Social Equity: C.A. in Perspective/Q&amp;A (Miguel)</b>	<a href="#">Journal papers due</a> Topic 6 readings*
5	T, 17 March	- Topic 5 review & quiz - <b>Topic 6 - Agriculture &amp; Land Use/Q&amp;A (Carlos/guest speaker)</b>	
	Wed-Sat 18-21 March	- No class (Nicaragua field excursion)	
6	T, 24 March	- Topic 6 review & quiz - Documentary: Se Quema el Cielo (54m) & Discussion	Topic 7 readings* (& text Ch. 5)
	Th, 26 March	- <a href="#">Journal paper dialog</a> - <b>Topic 7 - Sustainable Energy: C.A. in Perspective/Q&amp;A (Miguel)</b>	<a href="#">Journal papers due</a> Topic 8 readings* (& text Ch. 6)
	Fri-Sat 27-28 March	- <b>Field Excursion: La Fortuna</b>	
7	T, 31 March	- Topic 7 review & quiz - <b>Topic 8 - Marine Ecology/Q&amp;A (Carlos/guest speaker)</b>	Topic 9 readings*
	Th, 2 April	- No class (Semana Santa)	
8	T, 7 April	- Topic 8 review & quiz - <b>Topic 9 - Urban Ecology/Q&amp;A (guest speaker)</b>	Topic 10 readings* (& text Ch.3)
	Th, 9 April	- Topic 9 review & quiz - <b>Topic 10 - Globalization &amp; Free Trade: CAFTA/Q&amp;A (Miguel)</b>	Conclusions: Text Ch.7
9	T, 14 April	- Topic 10 review & quiz - <a href="#">Journal paper dialog</a> - Summary & conclusions	<a href="#">Journal papers due</a>
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\*All readings available online at: <http://www.earthedintl.org/CourseMatls/SustCentralAm/SustCentalAm.htm>

First part of class ~ 2-2:50pm

Second part of class ~ 3-4:15pm