



## Bean to Cup: Coffee Ecology, Economics, Production, and Consumption

ECODEV (Ecology/Geography): 4 Credits

ISDSI Short Course

### Course Description

Coffee is both global and intensely local. This course examines coffee at both levels — from the local production in smallholder agriculture to production, trade, and consumption. Throughout the course we will tracing how coffee moves from “bean to cup” — examining the ecology, economics, production, and consumption of coffee. The course will experientially study coffee growing in the small upland farms of Northern Thailand, and then moving into the production of coffee beans, roasting, and brewing. We will also be examining the social and economic context of coffee production, and the business of coffee and cafes.

The course will be based in Chiang Mai, Northern Thailand. Chiang Mai is emerging as an important center for coffee in Southeast Asia. Northern Thailand, in particular, has a long history of coffee production, including crop substitution projects as well as Royal Projects to assist the hill tribes to move out of opium production and into alternative and sustainable crop production. While initially coffee grown in Thailand was of low grade, over the last few years the quality of the coffee is increasing alongside an explosion of cafes in Chiang Mai and the region.

As a small but cosmopolitan city, the 700 year old city of Chiang Mai brings together ancient history with very diverse cultures and traditions, with long term residents from around Asia and the rest of the world. The course will be based at ISDSI’s Chiang Mai campus, with excursions into the surrounding hills and coffee farms, as well as the numerous cafes and business involved in coffee growing, production, and consumption.

In addition to the theory and practice of coffee agroecology, a unique aspect of this course will be integrating studies based on the leading educational program from the international Specialty Coffee Association.

### Learning Outcomes

Upon completing of the course, students will be able to:

- Understand the agroecology of coffee production in upland agroforests
- Understand the key issues surrounding sustainability and coffee, especially in regards to the impact of climate change on coffee production
- Understand the specific social and economic constraints and opportunities with small holder farmers in upland Southeast Asia
- Have a working knowledge of the biology and ecology of coffee trees and beans
- Be able to identify and explain each stage of coffee production, from harvest to drying to consumption
- Understand the chemistry and practice of coffee roasting and brewing
- Understand global economics of the international coffee trade
- Understand the requirements for certification as “organic” and “fair trade” coffee and agricultural production more generally
- Have a working knowledge of how cafes work as a business, and their role in coffee promotion and consumption
- Understand the economics of coffee from farm purchase through to retail sales of beans
- Have a practical understanding and skills in coffee roasting, cupping, brewing, and espresso preparation

## Grading and Assessment

<b>Class participation:</b> Class participation in this course means on-time attendance, active involvement in the classroom and during other activities, being responsive and active in peer teaching/learning, exhibiting culturally appropriate dress and behavior, and being an active member of the team, including leadership, active followership, and being able to safely travel and learn in the the environments where the course takes place. Participation requires that students ask questions in class and in the field, be active in seeking answers to their questions, and be actively involved in group discussions with both peers and farmer educators.	15%
<b>Experiential Learning Workbook (ELW):</b> Each student will fill out and complete assignments in the Experiential Learning Workbook, focused on field based studies, as well as the broader social and cultural context.	20%
<b>Analytical Field Essays (AFE) (3):</b> Three times during the course students will write an AFE in <b>their field notebook</b> about a significant connection between coffee and sustainability. The AFE should have a thesis statement that connects field experiences to the course, analyze the issue drawing on <b>both</b> course readings and experience in the field, and discuss further questions to consider related to their chosen topic. AFEs need to be clearly labeled as such at the top of EACH page. <b>4 PAGES</b>	20%
<b>Quizzes:</b> Throughout the course, there will be short quizzes on the readings, seminars, and practice.	25%
<b>Final Presentation:</b> Students will produce a final presentation on a topic of their choice related to the course. Materials and information will be gathered during the course. Topic will require instructor approval. The format will be in the form of a 5 minute presentation followed by discussion. A written summary as well as copies of any slides will be required to be turned in. This is a <i>short</i> amount of time, and will require significant work to successfully communicate a complex topic in a limited amount of time.	20%
<b>TOTAL</b>	100%

### A note on writing essays:

- Use your course journal; but ensure that it is legible and neatly presented.
- Each essay should have a TITLE describing the subject.

**Citations:** Citing your sources gives credit to the published and unwritten (verbal, observed, experienced) sources that contribute to your writing. Just as you normally cite written sources in research papers, it is especially important in field-based courses to acknowledge the people who have contributed to your learning and formulation of new ideas.

Format for citing written sources in text: (Lastname Year), for example, (Smith 2007).

Format for citing Field Notes (FN) in text: (FN Page#), for example, (FN 23).

## Expectations

This course is intensive. Four weeks is not a lot of time, so students will have to stay on top of reading and assignments. Balancing your time in class with outside interests will be a challenge — pace yourself and try to stay on top of the assignments.

Students should come to class having completed the reading for each day, along with any homework or other assignments. Students need to be active participants in class, and able to be engaged in discussion, experiential learning, and field studies.

## Readings

Readings will be based on handouts, a course reader and selections from the following texts:

*Uncommon Grounds: The History of Coffee and How It Transformed Our World*, Basic Books, 2010, Mark Pendergrast

*Coffee Agroecology: A New Approach to Understanding Agricultural Biodiversity, Ecosystem Services and Sustainable Development*, Routledge, 2015, Ivette Perfecto and John Vandermeer

*Beyond Fair Trade: How One Small Coffee Company Helped Transform a Hillside Village in Thailand*, Graystone Books, 2015, Mark Pendergrast

*The Coffee Dictionary: An A-Z of coffee, from growing & roasting to brewing & tasting*, Chronicle Books, 2017, Maxwell Colonna-Dashwood

*The World Atlas of Coffee: From Beans to Brewing — Coffees Explored, Explained and Enjoyed*, Firefly Books, 2018, James Hoffmann

## Schedule

This course is in a block format of four weeks. This is an *intensive* course, so students should be prepared for on-going work with limited free time. Breaks are distributed throughout the month to allow students to work on projects, rest, and prepare for the coming week.

Day	Topic
Saturday	<ul style="list-style-type: none"> <li>• Arrival in Chiang Mai</li> </ul>
Sunday	<ul style="list-style-type: none"> <li>• Orientation to Chiang Mai, City Tour, Temple Visits, Walking Street</li> </ul>
Monday	<ul style="list-style-type: none"> <li>• Thai Language 1</li> <li>• Course overview, topics and assignments</li> <li>• Cafe Field Study 1: Throughout the course cafes will be selected to study to understand the business, cafe culture, coffee quality, customers and market segment</li> </ul> <p><i>The World Atlas of Coffee</i>, “Part One: Introduction to Coffee,” pp. 10-47  <i>Uncommon Grounds</i>, “Part One: Seeds of Conquest,” pp. 2-106  “Environmental Sustainability: The Future of Coffee,” Fairtrade Foundation, ND  “Coffee: The Journey from Mountainside to Mug,” Rainforest Alliance, ND</p>
Tuesday	<ul style="list-style-type: none"> <li>• Thai Language 2</li> <li>• History and economics of coffee as a globalized commodity</li> </ul> <p><i>Uncommon Grounds</i>, “Part Two: Canning the Buzz,” pp. 109-212  “Standards and Sustainability in the Coffee Sector: A Global Value Chain Approach,” Stefano Ponte, UNCTD/IISD, 2004</p>
Wednesday	<ul style="list-style-type: none"> <li>• Thai Language 3</li> <li>• Coffee production overview: growing, harvest, preparation, production, consumption</li> </ul> <p><i>Coffee Agroecology</i>, “Wake up and smell the coffee (or a tale of two farms),” pp. 1-11  “Sustainable Coffee Farming: Improving Income and Social Conditions Protecting Water, Soil and Forests,” Whelan and Newsom, Rainforest Alliance, 2014  “A Blueprint for Water Security in the Coffeelands,” SCAA Whitepaper, ND</p>

Day	Topic
Thursday	<ul style="list-style-type: none"> <li>Coffee Agroecology, Sustainability, Farming</li> <li>Field Study: Mae Saa Mai Hmong Village and coffee farm</li> </ul> <p><i>Coffee Agroecology</i>, “A biodiverse cup of coffee: coffee agroforests as repositories of tropical biodiversity,” pp. 12-54  “The Role of Trees in Agroecology and Sustainable Agriculture in the Tropics,” R. Leakey, <i>Annual Review of Phytopathology</i>, 2014  “Sustainable Coffee Production,” S. Krishnan, <i>Oxford Research Encyclopedia of Environmental Science</i>, 2017</p>
Friday	<ul style="list-style-type: none"> <li>Study Day / Rest Day</li> </ul>
Saturday	<ul style="list-style-type: none"> <li>Field Study / Service Project: We will travel to an upland village and spend three days living with and working alongside small holder coffee farmers. We will be planting coffee seedlings in the forest to help a family with getting a jump start on coffee production.</li> </ul> <p><i>Coffee Agroecology</i>, “Coffee, the agroecological landscape and farmers’ livelihoods,” pp. 240-266  “Coffee Biology: Field Glossary,” SCAA, 2013  “Gender Equality and Coffee: Minimizing the Gender Gap in Agriculture,” SCA White Paper, 2018</p>
Sunday	<ul style="list-style-type: none"> <li>Field Study / Service Project: Students will continue with seedling planting. Evening discussion with experienced coffee farmers in the village.</li> </ul> <p><i>Coffee Agroecology</i>, “Space matters: large-scale spatial ecology within the coffee agroecosystem,” pp. 92-143  “Farmworkers &amp; Coffee: The Case for Inclusion,” SCA White Paper, 2018</p>
Monday	<ul style="list-style-type: none"> <li>Field Study / Service Project: Students will spend a final morning with their host families before returning to Chiang Mai city.</li> </ul> <p><i>Coffee Agroecology</i>, “Syndromes of coffee production: embracing sustainability,” pp. 267-289</p>
Tuesday	<ul style="list-style-type: none"> <li>Cafe Field Study 2</li> <li>Coffee harvesting and post harvest processing</li> </ul> <p><i>Uncommon Grounds</i>, “Part Three: Bitter Brews,” pp. 215-261</p>
Wednesday	<ul style="list-style-type: none"> <li>Coffee harvesting and post harvest processing continued</li> <li>Coffee grading activity</li> </ul> <p><i>Uncommon Grounds</i>, “Part Four: Romancing the Bean,” pp. 265-381</p>
Thursday	<ul style="list-style-type: none"> <li>Sustainability in coffee production and consumption</li> </ul> <p>“Guidance on Coffee Carbon Project Development Using the Simplified Agroforestry Methodology,” Gibbon, et. al., Rainforest Alliance, 2009  “Creating and Testing a Credible Carbon Monitoring Methodology for Coffee Farms,” Rainforest Alliance, ND  “The Blueprint for Coffee in a Changing Climate” SCAA, ND  “Climate Change and Coffee: Acting Globally and Locally,” SCA White Paper, 2018</p>
Friday	<ul style="list-style-type: none"> <li>International trade in coffee</li> <li>Wholesale Coffee Production Field Study 1</li> </ul> <p>“Building a Sustainable Coffee Sector Using Market-Based Approaches: The Role of Multi-stakeholder Cooperation,” Jason Potts, UNCTD/IISD, ND</p>

Day	Topic
Saturday	<ul style="list-style-type: none"> <li>• Global issues in coffee trade, production, and fair trade</li> <li>• Wholesale Coffee Production Field Study 2</li> </ul> <p><i>Coffee Agroecology</i>, “Biodiversity and ecosystem services,” pp. 196-239  “Biodiversity Conservation in Coffee: Transforming productive practices in the coffee sector by increasing market demand for certified sustainable coffee,” Rainforest Alliance, 2015</p>
Sunday	Study Day / Rest Day
Monday	<ul style="list-style-type: none"> <li>• Introduction to Coffee Roasting, commercial and handcrafted</li> <li>• Roasting Field Study</li> </ul> <p>“Roaster’s Dictionary,” Roast Magazine, ND</p>
Tuesday	<ul style="list-style-type: none"> <li>• Coffee roasting: Varieties of roasting techniques and mistakes to avoid</li> </ul>
Wednesday	<ul style="list-style-type: none"> <li>• Coffee sensory intensive: What do people mean when they talk about “earthy” or “nutty” coffee?</li> </ul>
Thursday	<ul style="list-style-type: none"> <li>• Coffee cupping: How to understand coffee beans, how the variety, growing, processing, and roasting interact to create specific flavors and quality</li> </ul>
Friday	<ul style="list-style-type: none"> <li>• Coffee as a business: Large scale international and local coffee chains, small scale independent cafes</li> </ul> <p>“Green Guide: Essential and Practical Tips for a Lower Impact Cafe: Energy Use / Water / Waste Reduction and Recycling” SCAA, 2013  “Understanding the Triple Bottom Line: The top 5 business benefits of sustainable practices,” SCAA, ND</p>
Saturday	<ul style="list-style-type: none"> <li>• Field Study: Cafe Survey: Students will take a popular section of the city and survey cafes in the area, paying particular attention to assessing the type of cafe (independent v. chain), customers, prices, market segment, and cafe culture. More than an ethnography or business case study, students will use their knowledge of coffee up to this point to assess both the business as well as the quality of the coffee.</li> </ul>
Sunday	• Study Day / Rest Day
Monday	<ul style="list-style-type: none"> <li>• Coffee Capstone: Monday through Thursday students will participate in the capstone of the course, the intensive study of all of the major techniques for preparing coffee. At the end of this unit students will understand the chemistry and mechanics of coffee preparation, how the specific beans, roast, and grind impact the quality and taste of the coffee, and why a cafe or consumer may choose one technique over another.</li> </ul> <p><i>The World Atlas of Coffee</i>, “Part Two: From Bean to Cup,” pp. 48-117</p>
Tuesday	• Coffee Capstone Continued: Brewing
Wednesday	• Coffee Capstone Continued: Brewing
Thursday	• Coffee Capstone Continued: Espresso
Friday	• Presentation preparation
Saturday	<ul style="list-style-type: none"> <li>• Final presentations</li> <li>• Course wrap up</li> <li>• Final dinner</li> </ul>