



## Sustainable Food Systems: Social and Biological Factors in Agriculture

(Biology/Sociology)  
Fall Semester, 2010

Instructors: Dr. Abram Bicksler, Ampika Ananta, Aaron Koning, Rodjana Nasor, and Carrie Sedlak

### Course Overview

This course examines in depth both the context and practice of agriculture in the context of sustainable food systems. These are issues that touch on the core problems of sustainability, including ecology and natural resource management, sociology, economics, and politics related to our global food supply.

The majority of this course occurs in the field. Students will be required to be flexible and motivated learners, working to study and understand the material at hand. Seminars and discussions will take place “in context” to the learning—reading about agroforestry, then going into an agroforest to study the plants growing there. This is—literally—a “hands on” course. Students will get muddy tramping through the fields, blisters from working on the farm, and tired from hiking up into remote villages.

### Objective

By the end of the course, students will have an understanding of the major issues surrounding the broad concept of sustainable food systems, with specific knowledge and competence in agroecology as practiced in both upland and lowland mainland Southeast Asia.

### Learning Outcomes

In completion of the course, students will be able to:

- Explain the key issues in sustainable agriculture and sustainable food systems
- Trace the development of the modern agro-industrial paradigm around the world
- Construct a pro-con flowchart of the four food systems in *The Omnivores Dilemma* book
- Define the 4 ecological principles of agroecology and discuss how they are related to sustainable food systems
- Outline the key biological and ecological processes within agroecosystems and correlate biotic and abiotic factors
- Identify significant plants used in agroforests and agroecological farms
- Conduct and analyze biological field survey methods, especially as related to agroforests and integrated farming
- Successfully carry out the basic tasks related to sustainable agriculture, including: composting, natural pesticide production, gardening skills, and related tasks
- Describe the sociological dynamics of agriculture for both upland and lowland peoples of Northern Thailand
- Explain the struggles related to creating sustainable communities and peoples’ movements in sustainable agriculture
- Synthesize the local experiences of UHDP and Mae Ta in relation to issues in global food systems
- Critically evaluate the pros and cons of visited field sites for sustainability
- State an ethical position and personal conviction about existing food systems and develop an ideal food system

## Grading and Assessment

### Participation & Expedition Skills 15 %

This means doing the reading, participating in discussions, and being an active member of the course. This is not limited to the time in the formal classroom or during seminar! Participation means talking with villagers, asking questions during meetings, getting “into” the field activities and work, and playing an active role in the host families and communities we will be a part of. Expedition skills means being competent in working together in a group, sharing the leadership and being an active follower, as well as being able to safely travel and learn in the varied environments where the course takes place. This also means talking with villagers and farmers at every opportunity. If you choose to hang out with fellow American students when you could be talking with a villager, your grade will suffer!

### Leadership 10 %

During the course, you will each have the opportunity to lead the group for a two-day block as a designated “Leader of the Day.” Leadership at ISDSI means timely, appropriate actions that guide and support your group to set and achieve realistic goals. Great leaders create an environment that inspires individuals and groups to achieve their full potential. Students designated as Leader of the Day will join the EFC Instructor Team in facilitating the day’s activities, managing peer dynamics, and leading reflective group meetings. Students will be evaluated on the quality and creativity of their leadership over the days within their designated block and on demonstrated self-leadership and follower-ship over the entirety of the course.

### Field notes / Journal 10 %

You need to take legible, well organized field notes. This is an important skill you will learn on the course. You need to record in a consistent way what you are observing each day, and demonstrate that you are able to process and understand your experience. This includes lectures, seminars, guest speakers, course activities etc.

### Agroforestry Field Guide 5%

Each student is required to compile a personal field guide of the flora and fauna they encounter during the course. The field guide should include a sketch as well as your own observations. Use any field guides that are available as well as local knowledge. Where possible, include the common English name, the scientific name, as well as the Thai name (written in Thai and English). Include both anthropological and ecological information for each entry. **Do this in the provided plant ID field guide packet.**

### *The Omnivore’s Dilemma* Historic and Thematic Timeline 5%

Using *The Omnivore’s Dilemma*, create a historic and thematic timeline detailing the many facets of agriculture and agriculture development in the United States. The timeline should be used to demarcate specific historic events as well as in detailing the many important thematic changes in agriculture. While historical events may not require detailed explanation, significant thematic trends should be described in terms of cultural, economic, political and ecologic significance. **The final version of this timeline should be created on A3 paper and turned in with your final essay.**

### Learning journal 20 %

Each day students need to spend 15 minutes thinking and writing about a significant connection made that day. In addition to daily journaling, five specific thematic topics will be given over the duration of the course; these thematic journal entries should be 2-3 concise pages in length. This is not a “diary” about missing home etc., but rather a reflective record of what you are learning during the course. Journals will be collected and graded at various times while in the field. Staying up to date is critical.

### Foundational essay 10 %

This should be a 5-6 page essay discussing the theory and context of the course, based on the readings and seminars of the first week. The essay should display a broad understanding of the issues related sustainable food systems. This essay should demonstrate the readiness of the student to engage these issues further in the field, as well as an understanding of the links between culture, ecology and agricultural systems. **Foundational Essay questions will be handed out the first Wednesday of the class. Essays are due on the first Friday of the class at 2:00 PM.**

## Mid-Course Essay

10%

This should be a 5-6 page essay synthesizing the theories gleaned from the readings and seminars with an in-depth analysis of food systems as viewed through the geographic, cultural, and ecological region of the first field module. **Mid Course Essay questions will be handed out during the first field module.**

## Final Essay

15 %

The purpose of this essay is for students to demonstrate an understanding of sustainable food systems, agroecology, and the lives and struggles of both upland and lowland people. The **topic of the essay will be handed out during the Mid-Course Seminar**, and answers should balance observation, experience, the course seminars, readings, and other axillary materials. The links between culture, ecology, economics, and politics should be evident throughout the essay. This essay should not be a re-telling of your experience, but a polished reflection and analysis within the context of sustainable food systems. Length: 8-10 pages; due at 5PM on the final day of the course.

**A note on essays and the field journals:** The essays, and your journal in general, need to be legible and neatly presented. You need to provide a reference to all of the sources you cite in an essay. Write a list of your sources—including written records of direct observation (e.g. your field notes)—at the end of the essay. If you reference your field notes, cite the date. **Do not write in pencil. If the instructor can't read your work, it will not get graded!**

## Expectations

**Seminar is 1:00-4:00PM M-F. Please be prompt.**

In order for a course like this to be a success, it requires the full participation of all members of the course. While it is true in any context, given what we are studying, the phrase “you get out what you put in” is especially relevant – learning about sustainability in this context will be an interactive on-going learning process. Please show your fellow students the courtesy of only contributing to discussions if you have read the material. During class and in the field, students are expected to ask questions during guest lectures, field activities and other learning opportunities. Active learning—asking questions, taking notes, exploring new ideas and concepts, talking with local people—are all required to do well in this course.

This course is going to be challenging! You will be in the field most of the time, often doing hard physical labor during the day. It will be difficult to complete the required reading if you do not pay attention to using your time wisely. Here are some tips to help:

- Carry your reader with you all the time! Jump into a reading if you get a spare moment.
- Schedule a time to read each day, and stick with it if possible.
- Don't wait to do the reading until the end.
- Practice strategic reading—look over the reading first, then when you go back, pay more attention to the parts you think you may have trouble with.
- If you have time, read ahead.

## Schedule and reading list

There is a **significant** amount of reading during the first week, followed by less reading during weeks 2-4. The course will **require** you re-read the first week's reading later on—you cannot expect to absorb all of the reading the first week, but will have to revisit it to dig deeper into the material later on. The emphasis on the reading is not quantity but quality—you will need to work to understand new concepts and ideas, and develop the skills of comprehending written material on a deep level. The first week's reading will be your reference material and source of ideas for following weeks.

The emphasis during week 1 is context and theory. The emphasis during weeks 2-4 is more on applying theory to the reality of agroecological farms and the biological and sociological systems that you will be a part of. The “text” for the course during weeks 2-4 includes the farms, fields and communities that you will be studying. Rather than mediated through reading a prepared text, you will be involved **directly** in learning the subject matter. This will be challenging, as direct learning is more difficult—there is no author who has pre-formatted or organized the material for you. Part of what you will be learning in this course is how to collect and analyze information yourself.

## **MODULE 1: Context and Issues in Food Systems and Sustainable Agriculture**

**9/27 Monday: Introduction to Sustainable Agriculture -- World Agriculture in Crisis.**

### **READING:**

Diamond, J. 1987. The worst mistake in the history of the human race. *Discover* May 1987:64-66.  
Hardin, G. 1968. The tragedy of the commons. *Science* 162(859):1243-1248.  
Bourne Jr., J. K. 2009. The end of plenty. *National Geographic* 215(6):26-59.  
Gliessman, S. 2007. "The need for sustainable food production systems." *In: Agroecology: The Ecology of Sustainable Food Systems*, 2nd ed. Boca Raton, FL: CRC Press, 3-21.  
**(Necessary to have read by the end of the first week)**

### **Ecology Lecture by Pi Aaron -- Ecosystem Ecology: Abiotic Components**

**READING:** Campbell, N. A., and J. B. Reece. 2002. *Biology*, 6th ed. London: Pearson/Benjamin Cummings.

**9/28 Tuesday: Agrarian Transformation in Southeast Asia -- Agricultural Crises in Northern Thailand**

### **READING:**

Halweil, B. 2000. "Where have all the farmers gone?" *World Watch Magazine* September/October 2000:12-28.  
Bello, W., S. Cunningham, and L. K. Poh. 1998. "The erosion of agriculture." *In: A Siamese Tragedy: Development and Disintegration in Modern Thailand*. London: Zed Books, 133-174, 243-250.  
Norberg-Hodge, H. 2002. "Global monoculture: The worldwide destruction of diversity." *In: Andrew Kimbrell (ed.), The Fatal Harvest Reader: The Tragedy of Industrial Agriculture*. Washington: Island Press, 58-64.

### **Ecology Lecture by Pi Aaron -- Ecosystem Ecology: Biotic Components**

**READING:** Campbell, N. A., and J. B. Reece. 2002. *Biology*, 6th ed. London: Pearson/Benjamin Cummings.

**9/29 Wednesday The Tipping Point -- Alternative Thinking in Agriculture**

### **READING:**

Berry, W. 2002. "The whole horse: The preservation of the agrarian mind." *In: Andrew Kimbrell (ed.), The Fatal Harvest Reader: The Tragedy of Industrial Agriculture*. Washington: Island Press, 39-48.  
Waters, A. 2002. "The ethics of eating: Why environmentalism starts at the breakfast table." *In: Andrew Kimbrell (ed.), The Fatal Harvest Reader: The Tragedy of Industrial Agriculture*. Washington: Island Press, 283-287.  
Gliessman, S. 2007. "The agroecosystem concept." *In: Agroecology: The Ecology of Sustainable Food Systems*, 2nd ed. Boca Raton, FL: CRC Press, 23-31.  
Bicksler, A. 2010. "The tipping point: Alternative thinking in agriculture." PPT Presentation.

**9/30 Thursday The Tipping Point -- Alternative Systems in of Agriculture in SE Asia**

### **READING:**

Pretty, J. 2006. Agroecological approaches to agricultural development. *RIMISP*. Available: [www.reimisp.org](http://www.reimisp.org), 1-10.  
Rigg, J. 2001. "Re-making the Southeast Asian countryside." *In: More Than The Soil: Rural Change In Southeast Asia*. London: Prentice Hall, 145-157.

Tantemsapya, N. 1997. "Sustainable agriculture in Thailand." *In*: Philip Hirsch (ed.), *Seeing Forests for Trees: Environment and Environmentalism in Thailand*. Chiang Mai, Thailand: Silk Worm Press, 268-287.

**Guest Lecture by Aj. Laura -- Swidden-Fallow Agriculture in Indonesia**

**10/1 Friday From Agriculture to Food Systems - Foundational Essays Due at 2PM**

**READING:**

Brown, L. 2009. "Feeding eight billion people well." *In*: Plan B 4.0: Mobilizing to Save Civilization. Washington, D.C.: Earth Policy Institute, 216-238.

Pollan, M. 2010. "The food movement, rising." *The New York Review of Books*. June 10, 2010. Available: [www.nybooks.com](http://www.nybooks.com).

**MANDATORY FIELD TRIP:**

We will leave ISDSI at 2:30 PM to go to CPF, one of Thailand's largest food manufacturers and grain processors to see their modern, industrial feed plant in Lamphun, just south of Chiang Mai. Dress code is student uniform. Notice that this field trip occurs after your foundational essays have been collected.

**FIELD SCHEDULE FOR GROUP A:**

**MODULE 2: Biological and Socioeconomic Factors in Agroecology and Sustainable Food Systems**

**10/4 Monday Departure for Upland Holistic Development Project (UHDP) in Mae Ai**  
UHDP runs an agroecology demonstration and research farm and works with local communities for the purpose of exchange and capacity building with regards to sustainable agriculture, organic gardening, agroecology, agroforestry and other issues. The emphasis is on upland agroecological systems.

07:00 Students picked up in *song taew* and taken to bus station; bus to Fang.  
11:30 Lunch in Fang  
12:30 Take *song taew* to UHDP in Mae Ai.  
13:00 Settle into UHDP accommodations, tour the premises, and go over UHDP policies and orientation for guests.  
18:00 Dinner  
19:30 Group Meeting and reflection

**Reading:**

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: David & McKenzie*

**10/5 Tuesday Agroforest Plant Identification, Field Taxonomy and UHDP Talk**  
Introduction to identifying important agroforest species (mostly indigenous) that are often incorporated in local agroecological systems.

07:00 Breakfast  
08:30 Plant Identification Crash Course with P'Arpad  
12:00 Lunch  
13:00 Plant Identification Crash Course continued  
16:00 Scope of UHDP talk with Aj. Tui  
18:00 Dinner  
19:30 Group meeting and reflection; setting pitfall traps for ecology study

**Reading:**

- Anderson, E. 1993. "Farming in the hills." *In: Plants and People of the Golden Triangle: Ethnobotany of the Hill Tribes of Northern Thailand*. Chiang Mai, Thailand: Silkworm Books, 47-65.
- Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: David & McKenzie*

- 10/6 Wednesday Agroforest Plant Biodiversity Survey & Agroforest Microclimate Activity**  
An independent plotting and surveying activity that draws on the identification and field taxonomy skills taught on 10/5. Student groups will use various field methods to collect data about abiotic and biotic components of two agroforest plots. Students will compile the data and analyze the similarities and differences found between the two plots in a brief report. **Project due 10/10 at breakfast.**

07:00	Breakfast
08:00	Agroforest Plant Survey
12:00	Lunch
13:00	Agroforest Plant Survey
18:00	Dinner
19:00+	Independent time / Am & Aaron "office hours"

**Reading:**

- Bunch, R. An odyssey of discovery. Rodale Institute. Available:[http://newfarm.rodaleinstitute.org/features/1002/roland\\_bunch/index.shtml](http://newfarm.rodaleinstitute.org/features/1002/roland_bunch/index.shtml)
- A selection of Ecology readings from Aaron.
- Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Jordan & Tay*

- 10/7 Thursday Foods From The Forest & Organic Gardening Practicum**  
Students will expand their biological knowledge of the UHDP plots by collecting and preparing various foods from the agroforest with UHDP staff members. In the afternoon, students will take part in a practicum introducing key organic farm processes that underlie the sustainability of the food systems at UHDP and around the world. Working in small teams with the UHDP staff, students will divide into 3 groups. Students will participate in the entire process - from collecting inputs to final application. The skills learned in small groups in the afternoon will be presented to the larger group with emphasis on linking the human activity with natural ecological processes.

07:00	Breakfast
08:00	Agroforest Foods Activity: In groups of 4-5, students will work with UHDP staff collecting, preparing, and cooking edible plants from the agroforest and fish from the aquaculture pond.
12:00	Lunch (what you have made) as a large group
13:00	Organic Gardening Practicum

UHDP Field Learning Guide: Organic Gardening Activity:

**Activity 1** – Making and using compost - Bogashi and manure from Saidean

**Activity 2** – Preparing and using natural pesticides with neem & making Julinsi liquid from fruit

**Activity 3** – Garden and nursery activities - Plant propagation

16:00	Independent time
18:00	Dinner
19:00	Presentation of findings from Organic Gardening Activity and supplemental readings
21:00	Independent time

**Reading:**

UHDP Field Learning Guide: Agroforest Activity: "Foods from the Agroforest."

UHDP Field Learning Guide: Organic Gardening Activity: "Making Fermented Plant Juice," "Preparing and Using Natural Pesticides with Neem," "Making and Using Compost," "Making and Using Manure Tea."

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Jordan & Tay*

**10/8 Friday**

**ECHO Seed Saving Activities & Tangerine Farming in Northern Thailand**

As agricultural industries have increasingly promoted the "efficiencies" of monocultures, biodiversity of seed crops has decreased dramatically. This loss of biodiversity is being countered by groups who are gathering seeds and storing them, growing rare crop species and distributing seeds all over the world. ECHO, with help from UHDP, has recently begun this process to act as a repository and distribution network for seed biodiversity in SE Asia. Students will learn more about this loss of biodiversity and the practical work that goes into saving seeds. The afternoon will include a presentation by Aj. Tui using tangerine farms in N. Thailand and the rest of SE Asia as a case study of unsustainable farming practices and economics.

07:00 Breakfast  
 08:00 Introduction to Seed Saving Practices with ECHO staff  
 12:00 Lunch  
 13:00 Case Study of tangerine farming in N. Thailand with Aj. Tui  
 15:00 Independent Time  
 18:00 Dinner  
 19:30 Group meeting and reflection

**Reading:**

Haskins, J. 2010. "Svalbard global seed vault." Global Crop Diversity Trust. Available: <http://www.croptrust.org/main/arctic.php?itemid=211>.

Associated Press. 2010. "Celebrated Russian seed bank fights for its land." National Public Radio. Available: <http://www.npr.org/templates/story/story.php?storyId=129320507>.

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Gregory & Austin*

**10/9 Saturday**

**The Role of Domesticated Animals in Upland Culture and Economy**

Students will spend the morning learning about UHDP programs for increasing the availability of protein in the diets of upland farmers. This will include low-input production systems for fish, frogs, crickets, and pigs. In the afternoon, students will learn from UHDP staff about the importance of raising pigs in various highland cultures and will assist UHDP staff in slaughtering and processing a pig for village consumption. The evening will include a group meeting and debrief of the day's events.

08:00 Breakfast  
 09:00 Farm activities: Sustainable protein options in rural diets: Fish, Frogs, Crickets & Pigs.  
 12:00 Lunch  
 13:00 Pig harvest  
 15:30 Dinner preparation with villagers  
 18:00 Dinner  
 19:00 Independent time  
 19:30 Group meeting and debrief

**Reading:**

Food and Agriculture Organization. 2006. "Livestock impacts on the environment." Spotlight Magazine. Available: <http://www.fao.org/ag/magazine/0612sp1.htm>.

Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Gregory & Austin*

**10/10 Sunday**

**Issues in Global Food Production & Independent Reflection**

The purpose of this day is for students to reflect on the previous week's activities and the information from the first week of seminar in the context of one of the villages with which UHDP is working. Students will be given individual time for exploration and reflection and are also welcome to attend a Christian church service within the village. This is a great time to begin to organize thoughts for the upcoming essay and midcourse seminar.

07:00	Breakfast
08:00	Leave for village visit
12:00	Lunch back at UHDP
14:00	Independent Reflection
18:00	Dinner
19:30	Group meeting and reflection

**Reading:**

Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Jen & Jon*

**MODULE 3: Political Factors in Agroecology and Sustainable Food Systems**

**10/11 Monday**

**Departure for Chiang Dao Villages**

Both Huay Pong and Ban Dang Nai villages are project sites for the Upland Holistic Development Project. Working with UHDP, both villages have developed extensive agroforests. Students will explore/survey agroforest plots, and see the impacts of agricultural extension efforts on village livelihood, culture, and environment. Ban Dang Nauk is a village composed primarily of day laborers that has partnered with UHDP to develop backyard agriculture. The focus of this module is to explore how the politics in Thailand affect hilltribe peoples, their livelihoods, and their food systems.

06:00--07:00	Breakfast
07:30--11:00	Travel UHDP --> Chiang Dao
11:00--12:00	Lunch at restaurant in town
12:00--12:30	Travel to Ban Dang Nai
13:00--15:00	Independent village exploration
15:00--16:00	<i>Song taew</i> to Ban Dang Nauk & village exploration
16:00--17:30	Meeting with villagers of Ban Dang Nauk
17:30+	Return to Ban Dang Nai / Dinner
19:30	Children's Show

**Reading:**

Upland Holistic Development Project. 2010. "The Condition of the Hilltribes" and "UHDP's Response." Available: [www.uhdp.org](http://www.uhdp.org).

Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Jen & Jon*

**10/12 Tuesday Ban Dang Nai to Ban Huay Pong (UHDP in context and practice)**

07:00--08:00 Breakfast  
08:00--09:30 Meet with representative of The Royal Project  
10:00--13:00 Hike between villages (pack lunch)  
13:30--15:00 Village Exploration / Independent Time  
15:00--17:30 Survey Village Agroforest  
18:00--19:00 Dinner  
19:00--20:30 Hilltribe Politics lecture by Ajaan Tui

**Reading:**

Burnette, R. and J. Pawkham. Tisae's Forest.  
Burnette, R. and C. Page. 2007. Chiang Dao Agroforestry Trail.  
Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Shatia & Kelsey G.*

**10/13 Wednesday Depart for Chiang Dao & Mid-Course Seminar**

07:00--08:00 Breakfast in Ban Huay Pong  
08:30--10:00 Hike Ban Huay Pong --> Temple  
10:00--11:00 *Song taew* to Chiang Dao Nest / switch instructor team  
11:00--evening Independent time / Finish essays

**Reading:**

Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Shatia & Kelsey G.*

**10/14 Thursday Mid-Course Seminar Day 1**

morning Mid-course Seminar (Graphical Wrap-up)  
12:00+ Lunch  
afternoon Mid-course Seminar/ Independent time & Dinner  
evening Food Inc. showing

**Reading:**

Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Jamie & Alex*

**10/15 Friday Mid-Course Seminar Day 2 & Travel to Mae Ta**

morning Breakfast  
09:00--11:00 Mid-course Seminar  
11:00--12:00 Mae Ta Introduction  
12:00--13:00 Lunch  
13:00--16:00 Van to Mae Ta  
16:30+ Drop-off at host family

**Reading:**

RECOFTC. 2010. Mae Tha Community Forest.  
Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Jamie & Alex*

#### **MODULE 4: People's Movements, Agroecology and Sustainable Agriculture Practicum.**

##### **Mae Ta Village**

Mae Ta is a lowland Northern Thai (*khon müang*) community. Students will be living with families that have made the transition from conventional contract farming for export to sustainable agroecological farming.

##### **10/16 Saturday Mae Ta Village History & Community Agriculture Site Visits**

08:15	Arrive Mae Ta Co-Op
08:30-11:30	Meeting with community leaders. Mae Ta community history and Co-Op formation and management.
12:00-13:00	Lunch -- group lunch at local restaurant
13:00-16:00	Site Visits. Upland and lowland examples of sustainable farming. Visits will focus on culture, the personal history of the family, the transition from chemically intensive mono-cropping to a more sustainable and self-sufficient form of organic crop production, ecology, and the perceived changes in their farmland since switching to organic agriculture.
16:00-17:00	Group Meeting
17:00+	Return to host family

##### **Reading:**

- Mae Ta Cooperative Limited. 1999. Mae Ta Community Resource Management.
- Spector, R. 2002. "Fully integrated food systems: Regaining connections between farmers and consumers." *In: Andrew Kimbrell (ed.), The Fatal Harvest Reader: The Tragedy of Industrial Agriculture.* Washington: Island Press, 58-64; 288-294.
- Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals.* New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Lily & Louis*

##### **10/17 Sunday Agroecology and Integrated Farming Practicum: Family Day 1 & Women's Roles In Sustainable Agriculture**

Working with their host families, students will spend extended time working in their fields and gardens, learning about specific plants and techniques used in lowland agroecosystems. Family days are a time to focus specifically on integration into the daily lives of rural lowland Thai farmers. During this time, specific attention should be placed on investigating the links between culture, ecology, economics, and gender roles in the family, as well as rural--urban linkages and the use of appropriate technologies both on the farm and at home.

morning	Work with host family on the farm / lunch with family
13:30--15:30	Meet at Co-op / Meeting with the Mae's of Mae Ta
15:30--16:30	Group Meeting & Discussion
17:00+	Return home

##### **Reading:**

- Jackson, W. 2002. "Farming In Nature's Image." *In: Andrew Kimbrell (ed.), The Fatal Harvest Reader: The Tragedy of Industrial Agriculture.* Washington: Island Press, 65-75.
- Eisses, R. and J. Chaikam. 2002. Organic farming and gender roles in Northern Thailand. *LEISA LEUSDEN* 18(4):26-27.
- Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals.* New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Lily & Louis*

**10/18 Monday Local Watershed, Traditional Irrigation Survey & Community Forest**  
 Water is a key input into any agricultural system. This watershed and traditional irrigation system survey will examine local knowledge about water management, as well as the ancient Northern Thai *müang fai* irrigation system. We will also be passing through portions of the Mae Ta community forest, which villagers have only just recently gained legal rights to manage on their own. Thus, this day is centered around community management of natural resources and students will complete an Institutional Arrangement survey while in the field.

08:15 Meet at Co-Op.  
 08:30--15:00 Hike watershed with community members (pack lunch to be prepared by your host family).  
 15:00--16:00 Return to Co-Op. Group discussion.  
 16:00+ Back to host family

**Reading:**

Brauman, K., G. C. Daily, T. K. Duarte, and H. A. Mooney. 2007. The nature and value of ecosystem services: An overview highlighting hydrologic services. *The Annual Review of Environment and Resources* 32:6.1-6.32.  
 Roberts, P. 2008. "Spoiled: Organic and local is so 2008." *Mother Jones*. Available: <http://motherjones.com/environment/2009/02/spoiled-organic-and-local-so-2008>.  
 Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Maggie & Annika*

**10/19 Tuesday Agroecology and Integrated Farming Practicum: Family Day 2, Youth of Mae Ta Meeting & Community Dinner**

morning Work with host family on the farm / lunch with family  
 15:00--16:30 Students arrive at Co-Op, Meeting with New Generation of Mae Ta Farmers  
 16:30--18:30 Dinner and traditional ceremony

**Reading:**

Budiansky, S. 2010. "Math lessons for locavores." *The New York Times* August 19, 2010.  
 Hurst, B. 2009. "The omnivore's delusion: Against the agri-intellectuals." *The American* July 30, 2009.  
 Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Maggie & Annika*

**10/20 Wednesday Rural-Urban Links: Marketing of Organic Produce at JJ Market & Tesco Lotus Ethnography and Comparison**

Students will help families from Mae Ta (and surrounding communities) sell their produce in a designated organic market in Chiang Mai. Special emphasis will be on learning about the price of organic produce, marketing, demographics of consumers, and related topics.

**04:00 am Van pick-up @ host family's house**  
 04:30--06:00 Travel to JJ Market in Chiang Mai  
 06:00--08:00 Sell produce with host family / breakfast  
 08:30--09:30 Meet with representative from ISAC  
 09:30--11:00 Price/Selection/Quality comparison and Customer Ethnography at Tesco Lotus  
 11:00 Meet back at JJ Market - group discussion  
 12:00 Lunch at Vegetarian Society  
 13:30+ Students return to dorms by van; Independent Time / Work on essays

**Reading:**

The Economist. 2006. "Voting with your trolley." The Economist December 7, 2006. Available: [www.economist.com/business/PrinterFriendly.cfm?story\\_id=8380592](http://www.economist.com/business/PrinterFriendly.cfm?story_id=8380592).

Butler, K. 2010. "Bacon lovers vs. soy huggers: The smackdown." Mother Jones July 19, 2010. Available: <http://motherjones.com/environment/2010/07/vegetarianism-worse-for-the-environment>.

*\*\*Leadership Team: Maggie & Annika*

**10/21 Thursday Final Seminar. Final Essays Due at 17:00**

09:00--11:00	Seminar
11:00--12:00	Wrap-up & Closing
17:00	Final essays due

**10/22 Friday Student Day Off**

## FIELD SCHEDULE FOR GROUP B:

### MODULE 2: People's Movements, Agroecology and Sustainable Agriculture Practicum.

#### **Mae Ta Village**

Mae Ta is a lowland Northern Thai (*khon müang*) community. Students will be living with families that have made the transition from conventional contract farming for export to sustainable agroecological farming.

<b>10/4</b>	<b>Monday</b>	<b>Mae Ta Introduction &amp; Meet Host Families</b>
10:00--12:00	Van pick-up at dorms; students to ISDSI for Mae Ta background / community timeline	
12:00	Lunch at Pun-Pun	
14:00--15:30	Travel to Mae Ta	
15:30+	Drop-off at host family	

#### **Readings:**

RECOFTC. 2010. Mae Tha Community Forest.

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Gabriel & Taylor Stamm*

<b>10/5</b>	<b>Tuesday</b>	<b>Mae Ta Village History &amp; Community Agriculture Site Visits</b>
08:15	Arrive Mae Ta Co-Op	
08:30-11:30	Meeting with community leaders. Mae Ta community history and Co-Op formation and management.	
12:00-13:00	Lunch -- group lunch at local restaurant	
13:00-16:00	Site Visits. Upland and lowland examples of sustainable farming. Visits will focus on culture, the personal history of the family, the transition from chemically intensive mono-cropping to a more sustainable and self-sufficient form of organic crop production, ecology, and the perceived changes in their farmland since switching to organic agriculture.	
16:00-17:00	Group Meeting	
17:00+	Return to host family	

#### **Reading:**

Mae Ta Cooperative Limited. 1999. Mae Ta Community Resource Management.

Spector, R. 2002. "Fully integrated food systems: Regaining connections between farmers and consumers." *In: Andrew Kimbrell (ed.), The Fatal Harvest Reader: The Tragedy of Industrial Agriculture*. Washington: Island Press, 58-64; 288-294.

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Gabriel & Taylor Stamm*

<b>10/6</b>	<b>Wednesday</b>	<b>Agroecology and Integrated Farming Practicum: Family Day 1 &amp; Women's Roles In Sustainable Agriculture</b>
		Working with their host families, students will spend extended time working in their fields and gardens, learning about specific plants and techniques used in lowland agroecosystems. Family days are a time to focus specifically on integration into the daily lives of rural lowland Thai farmers. During this time, specific attention should be placed on investigating the links between culture, ecology, economics, and gender roles in the family, as well as rural--urban linkages and the use of appropriate technologies both on the farm and at home.

morning            Work with host family on the farm / lunch with family  
 13:30--15:30      Meet at Co-op / Meeting with the Mae's of Mae Ta  
 15:30--16:30      Group Meeting & Discussion  
 17:00+             Return home

**Reading:**

Jackson, W. 2002. "Farming In Nature's Image." *In*: Andrew Kimbrell (ed.), *The Fatal Harvest Reader: The Tragedy of Industrial Agriculture*. Washington: Island Press, 65-75.  
 Eisses, R. and J. Chaikam. 2002. Organic farming and gender roles in Northern Thailand. *LEISA LEUSDEN* 18(4):26-27.  
 Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Sarah & Anna*

**10/7    Thursday            Local Watershed, Traditional Irrigation Survey & Community Forest**  
 Water is a key input into any agricultural system. This watershed and traditional irrigation system survey will examine local knowledge about water management, as well as the ancient Northern Thai *müang fai* irrigation system. We will also be passing through portions of the Mae Ta community forest, which villagers have only just recently gained legal rights to manage on their own. Thus, this day is centered around community management of natural resources and students will complete an Institutional Arrangement survey while in the field.

08:15                Meet at Co-Op.  
 08:30--15:00      Hike watershed with community members (pack lunch to be prepared by your host family).  
 15:00--16:00      Return to Co-Op. Group discussion.  
 16:00+             Back to host family

**Reading:**

Brauman, K., G. C. Daily, T. K. Duarte, and H. A. Mooney. 2007. The nature and value of ecosystem services: An overview highlighting hydrologic services. *The Annual Review of Environment and Resources* 32:6.1-6.32.  
 Roberts, P. 2008. "Spoiled: Organic and local is so 2008." *Mother Jones*. Available: <http://motherjones.com/environment/2009/02/spoiled-organic-and-local-so-2008>.  
 Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Sarah & Anna*

**10/8    Friday                Agroecology and Integrated Farming Practicum: Family Day 2, Youth of Mae Ta Meeting & Community Dinner**

morning            Work with host family on the farm / lunch with family  
 15:00--16:30      Students arrive at Co-Op, Meeting with New Generation of Mae Ta Farmers  
 16:30--20:30      Dinner and traditional ceremony

**Reading:**

Budiansky, S. 2010. "Math lessons for locavores." *The New York Times* August 19, 2010.  
 Hurst, B. 2009. "The omnivore's delusion: Against the agri-intellecutuals." *The American* July 30, 2009.  
 Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Matt & Lauren*

**10/9 Saturday Rural-Urban Links: Marketing of Organic Produce at JJ Market & Tesco Lotus Ethnography and Comparison**  
 Students will help families from Mae Ta (and surrounding communities) sell their produce in a designated organic market in Chiang Mai. Special emphasis will be on learning about the price of organic produce, marketing, demographics of consumers, and related topics.

**04:00 am Van pick-up @ host family's house**  
 04:30--06:00 Travel to JJ Market in Chiang Mai  
 06:00--08:00 Sell produce with host family / breakfast  
 08:30--09:30 Meet with representative from ISAC  
 09:30--11:00 Price/Selection/Quality comparison and Customer Ethnography at Tesco Lotus  
 11:00 Meet back at JJ Market - group discussion  
 12:00 Lunch at Vegetarian Society  
 13:00--14:30 Travel to Chiang Dao Nest  
 15:00+ Independent Time / Work on essays

**Reading:**

The Economist. 2006. "Voting with your trolley." The Economist December 7, 2006. Available: [www.economist.com/business/PrinterFriendly.cfm?story\\_id=8380592](http://www.economist.com/business/PrinterFriendly.cfm?story_id=8380592).  
 Butler, K. 2010. "Bacon lovers vs. soy huggers: The smackdown." Mother Jones July 19, 2010. Available: <http://motherjones.com/environment/2010/07/vegetarianism-worse-for-the-environment>.

*\*\*Leadership Team: Matt & Lauren*

**MODULE 3: Political Factors in Agroecology and Sustainable Food Systems**

**10/10 Sunday Mid-Course Seminar Day 1**

morning Mid-course Seminar (Graphical Wrap-up)  
 12:00+ Lunch  
 afternoon Mid-course Seminar/ Independent time & Dinner  
 evening Food Inc. showing

**Reading:**

Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Max & Della*

**10/11 Monday Mid-Course Seminar Day 2 & Departure for Chiang Dao Villages**

Both Huay Pong and Ban Dang Nai villages are project sites for the Upland Holistic Development Project. Working with UHDP, both villages have developed extensive agroforests. Students will explore/survey agroforest plots, and see the impacts of agricultural extension efforts on village livelihood, culture, and environment. Ban Dang Nauk is a village composed primarily of day laborers that has partnered with UHDP to develop backyard agriculture. The focus of this module is to explore how the politics in Thailand affect hilltribe peoples, their livelihoods, and their food systems.

morning Breakfast  
 09:00--11:00 Mid-course Seminar  
 11:30--12:30 Lunch (pre-ordered)  
 12:30--13:00 *Song taew* ride from Nest to temple  
 13:00--14:30 Hike from the temple to Ban Huay Pong  
 15:00+ Village Exploration / Survey Village Agroforest  
 18:00--19:00 Dinner

19:00+ Hilltribe Politics lecture by Ajaan Tui

**Reading:**

Upland Holistic Development Project. 2010. "The Condition of the Hilltribes" and "UHDP's Response." Available: [www.uhdp.org](http://www.uhdp.org).

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Max & Della*

**10/12 Tuesday Ban Huay Pong to Ban Dang Nai (UHDP in context and practice)**

07:00--08:00 Breakfast in Ban Huay Pong  
09:00--12:30 Hike Ban Huay Pong to Ban Dang Nai (pack lunch)  
12:30--13:00 Arrive Ban Pang Dang Nai and check into accommodation  
13:00--14:30 Meet with representative of The Royal Project  
15:00--16:00 *Song taew* to Ban Dang Nauk & village exploration  
16:00--17:30 Meeting with villagers of Ban Dang Nauk  
17:30+ Return to Ban Dang Nai / Dinner  
19:30 Children's Show

**Reading:**

Burnette, R. and J. Pawkham. *Tisae's Forest*.

Burnette, R. and C. Page. 2007. *Chiang Dao Agroforestry Trail*.

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Taylor Sruba & Kelsey E.*

**MODULE 4: Biological and Socioeconomic Factors in Agroecology and Sustainable Food Systems**

**10/13 Wednesday Depart for Upland Holistic Development Project (UHDP) in Mae Ai**

UHDP runs an agroecology demonstration and research farm and works with local communities for the purpose of exchange and capacity building with regards to sustainable agriculture, organic gardening, agroecology, agroforestry and other issues. The emphasis is on upland agroecological systems.

08:00-09:00 Breakfast in Ban Pang Dang Nai  
09:00--09:30 Hike to Ban Pang Dang Nai School  
09:30--10:00 *Song taew* to Bus Station / switch instructor team  
10:00--12:30 Bus to Fang  
12:30--13:30 Lunch at Khao Soi shop in Fang  
13:30--14:00 *Song taew* to UHDP  
14:00--17:00 Settle into UHDP accommodations, tour the premises, and go over UHDP policies and orientation for guests.  
17:00--18:00 Independent time  
18:00--19:00 Dinner  
19:30 Group Meeting and reflection

**Reading:**

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Taylor Sruba & Kelsey E.*

**10/14 Thursday Agroforest Plant Identification, Field Taxonomy and UHDP Talk**  
Introduction to identifying important agroforest species (mostly indigenous) that are often incorporated in local agroecological systems.

07:00 Breakfast  
08:30 Plant Identification Crash Course with P'Arpad  
12:00 Lunch  
13:00 Plant Identification Crash Course continued  
16:00 Scope of UHDP talk with Aj. Tui  
18:00 Dinner  
19:30 Group meeting and reflection; setting pitfall traps for ecology study

**Reading:**

Anderson, E. 1993. "Farming in the hills." *In: Plants and People of the Golden Triangle: Ethnobotany of the Hill Tribes of Northern Thailand*. Chiang Mai, Thailand: Silkworm Books, 47-65.  
Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Charlotte & Ted*

**10/15 Friday Agroforest Plant Biodiversity Survey & Agroforest Microclimate Activity**  
An independent plotting and surveying activity that draws on the identification and field taxonomy skills taught on 10/5. Student groups will use various field methods to collect data about abiotic and biotic components of two agroforest plots. Students will compile the data and analyze the similarities and differences found between the two plots in a brief report. **Project due 10/17 at breakfast.**

07:00 Breakfast  
08:00 Agroforest Plant Survey  
12:00 Lunch  
13:00 Agroforest Plant Survey  
18:00 Dinner  
19:00+ Independent time / Am & Aaron "office hours"

**Reading:**

Bunch, R. An odyssey of discovery. Rodale Institute. Available:[http://newfarm.rodaleinstitute.org/features/1002/roland\\_bunch/index.shtml](http://newfarm.rodaleinstitute.org/features/1002/roland_bunch/index.shtml)  
A selection of Ecology readings from Aaron.  
Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Charlotte & Ted*

**10/16 Saturday The Role of Domesticated Animals in Upland Culture and Economy**  
Students will spend the morning learning about UHDP programs for increasing the availability of protein in the diets of upland farmers. This will include low-input production systems for fish, frogs, crickets, and pigs. In the afternoon, students will learn from UHDP staff about the importance of raising pigs in various highland cultures and will assist UHDP staff in slaughtering and processing a pig for village consumption. The evening will include a group meeting and debrief of the day's events.

08:00 Breakfast  
09:00 Farm activities: Sustainable protein options in rural diets: Fish, Frogs, Crickets & Pigs.  
12:00 Lunch  
13:00 Pig harvest  
15:30 Dinner preparation with villagers  
18:00 Dinner

19:00 Independent time  
19:30 Group meeting and debrief

**Reading:**

Food and Agriculture Organization. 2006. "Livestock impacts on the environment." Spotlight Magazine. Available: <http://www.fao.org/ag/magazine/0612sp1.htm>.  
Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Emily & Daniel*

**10/17 Sunday**

**Issues in Global Food Production & Independent Reflection**

The purpose of this day is for students to reflect on the previous week's activities and the information from the first week of seminar in the context of one of the villages with which UHDP is working. Students will be given individual time for exploration and reflection and are also welcome to attend a Christian church service within the village. This is a great time to begin to organize thoughts for the upcoming essay and midcourse seminar.

07:00 Breakfast  
08:00 Leave for village visit  
12:00 Lunch back at UHDP  
14:00 Independent Reflection  
18:00 Dinner  
19:30 Group meeting and reflection

**Reading:**

Pollan, M. 2006. The Omnivore's Dilemma: A Natural History of Four Meals. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Emily & Daniel*

**10/18 Monday**

**Foods From The Forest & Organic Gardening Practicum**

Students will expand their biological knowledge of the UHDP plots by collecting and preparing various foods from the agroforest with UHDP staff members. In the afternoon, students will take part in a practicum introducing key organic farm processes that underlie the sustainability of the food systems at UHDP and around the world. Working in small teams with the UHDP staff, students will divide into 3 groups. Students will participate in the entire process - from collecting inputs to final application. The skills learned in small groups in the afternoon will be presented to the larger group with emphasis on linking the human activity with natural ecological processes.

07:00 Breakfast  
08:00 Agroforest Foods Activity: In groups of 4-5, students will work with UHDP staff collecting, preparing, and cooking edible plants from the agroforest and fish from the aquaculture pond.  
12:00 Lunch (what you have made) as a large group  
13:00 Organic Gardening Practicum  
UHDP Field Learning Guide: Organic Gardening Activity:  
**Activity 1** – Making and using compost - Bogashi and manure from Saidean  
**Activity 2** – Preparing and using natural pesticides with neem & making Julinsi liquid from fruit  
**Activity 3** – Garden and nursery activities - Plant propagation  
16:00 Independent time  
18:00 Dinner  
19:00 Presentation of findings from Organic Gardening Activity and supplemental readings  
21:00 Independent time

**Reading:**

UHDP Field Learning Guide: Agroforest Activity: "Foods from the Agroforest."

UHDP Field Learning Guide: Organic Gardening Activity: "Making Fermented Plant Juice," "Preparing and Using Natural Pesticides with Neem," "Making and Using Compost," "Making and Using Manure Tea."

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Adam, Amy & Hannah*

**10/19 Tuesday ECHO Seed Saving Activities & Tangerine Farming in Northern Thailand**

As agricultural industries have increasingly promoted the "efficiencies" of monocultures, biodiversity of seed crops has decreased dramatically. This loss of biodiversity is being countered by groups who are gathering seeds and storing them, growing rare crop species and distributing seeds all over the world. ECHO, with help from UHDP, has recently begun this process to act as a repository and distribution network for seed biodiversity in SE Asia. Students will learn more about this loss of biodiversity and the practical work that goes into saving seeds. The afternoon will include a presentation by Aj. Tui using tangerine farms in N. Thailand and the rest of SE Asia as a case study of unsustainable farming practices and economics.

07:00 Breakfast  
 08:00 Introduction to Seed Saving Practices with ECHO staff  
 12:00 Lunch  
 13:00 Case Study of tangerine farming in N. Thailand with Aj. Tui  
 15:00 Independent Time  
 18:00 Dinner  
 19:30 Group meeting and reflection

**Reading:**

Haskins, J. 2010. "Svalbard global seed vault." Global Crop Diversity Trust. Available: <http://www.croptrust.org/main/arctic.php?itemid=211>.

Associated Press. 2010. "Celebrated Russian seed bank fights for its land." National Public Radio. Available: <http://www.npr.org/templates/story/story.php?storyId=129320507>.

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Adam, Amy & Hannah*

**10/20 Wednesday Depart for ISDSI**

07:00--08:00 Breakfast  
 08:30--09:00 Song taew to Fang  
 09:30--13:00 Bus to Chiang Mai  
 13:00--14:00 Song taew to dorms  
 14:00+ Independent Time / Work on essays

**Reading:**

Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Press, 450 pp.

*\*\*Leadership Team: Adam, Amy & Hannah*

**10/21 Thursday Final Seminar. Final Essays Due at 17:00**

09:00--11:00 Seminar  
11:00--12:00 Wrap-up & Closing  
17:00 Final essays due

**10/22 Friday Student Day Off**