Matthew Taylor  
Summer 2019 **Course Proposal and Syllabus**  
GEOG 3930: Coffee and Climate in Guatemala

Coffee is the second most traded commodity after oil and supports the livelihoods of 100 million people worldwide. Smallholder family farmers produce over 70% of the world’s coffee in 85 countries in Latin America, Asia, and Africa. Most coffee producers live in poverty and manage agroecosystems in some of the most culturally and biologically diverse regions of the world. In Guatemala, half of the population lives in rural areas and relies on agriculture to meet their daily needs. Among various agricultural products, coffee is the backbone of thousands of families’ livelihoods. The country is among the 10 largest coffee exporters oin the world. There are an estimated 700,000 people economically dependent directly on coffee in Guatemala. Smallholder farmers represent 85% of coffee producers but control only 18% of land in coffee production putting them in a vulnerable position against climate changes. Coffee remains one of Guatemala’s most important economic resources, representing up to 13% of the GDP.

Coffee crops are very sensitive to climate changes and extreme weather events. Temperature and precipitation changes have a direct influence on coffee phenology. Differences in these variables can trigger early or late flower blooms or completely halt flowering if extended droughts are present. Because of this, droughts and changes in temperatures have been established as the major climatic limitations for coffee production, a finding also supported by historical precipitation extremes that exacerbated past coffee crises in Guatemala. Coffee cultivation is closely linked to climate. Yet, little past, present and future climate data is available at a regional and local scale for Guatemala. Several climate projections for Guatemala predict a reduction of precipitation in both dry and wet seasons. This reduction in precipitation could significantly impact the industry. Potential changes in rainfall patterns are also likely to lead to severe water shortages and/or flooding which could affect production of wet-processed high-quality arabica coffees planted in the region.

**Learning Outcomes**

In this class, you will learn from two climate and coffee experts – Dr. Diego Pons and Dr. Matthew Taylor. Both researchers have dedicated decades of their research careers to understanding coffee-climate dynamics. You will first gain a basic understanding of climate dynamics in the Central American Isthmus. You will then move on to learn how climate is predicted to change in this region and what these changes mean for crops like coffee and the hundreds of thousands of people who depend on the coffee economy. Because of our long-term field research in the country on this topic, we are able to provide you with an intimate view of what coffee and climate change means to Guatemala and Guatemalans.

With your direct experiences and observations in Guatemala, you will be able to contextualize your prior book learning about climate change and coffee with lived experiences from Guatemala’s coffee sector. You will be able to take your first-hand observations and have informed discussions (based on the literature you have read as well as your observations) with colleagues and local residents about coffee (or other crops) and climate change in Guatemala and other places around the world.
Readings

Readings will come from the following books and papers – many written by your professors so you can be ruthlessly truthful in your commentaries of these papers.


**Evaluation**

Your grade is based on the following items:

1. Proof that you have read the books/readings. This may take the form of a formal review for each text or simply a long list of questions related to your readings (25%)
2. Participation in all discussions (10%)
3. A detailed field note book that contextualizes your readings with your observations and conversations (15%). You will give me this notebook at the end of class so that I can evaluate your contextualization.
4. Incorporation of your readings of the texts into discussions with me while we are in the field. In these conversations, I expect you to contextualize what you are seeing with your previous “book learning” (25%)
5. A final reflection that incorporates all of the above elements (25%).

**DUE DATE for FINAL REFLECTION: 1ST JULY 2019.**

**Itinerary and class details**

Late May and early June (penultimate and ultimate week of class): Two class meetings to introduce the class, discuss expectations and comportment while in Guatemala.

June 17: Denver Guatemala City – shuttle over to Antigua. Stay in Casa Santo Domingo.
June 18: Introduction to climate change and coffee in Central America. We will visit a local coffee farm to understand the history and physical geography aspects of coffee production.
June 19: Drive to Huehuetenango. Stay at Unicornio Azul. Here we will interact with small coffee growers and discuss climate-related coffee diseases like the coffee leaf rust. Here you will be given a small quiz where we will ask you to draw a map that explains climate dynamics in Central America. What controls climate and how will that change?
June 20: More exposure to climate and coffee in the Huehuetenango region. In discussions at night you will be asked to explain the detailed relationships between coffee and climate and draw on examples from your experiences over the past three days.
June 21-23. We will dip down the coast plain to several large coffee farms in the state of Retalhuleu. These are coffee farmers with whom we have collaborated with for the last decade. Here we will begin to understand how large-scale farmers are adapting to climate change. This will bring in aspects of political ecology and the work of Catherine Tucker. You will be asked compare small-scale producers with these large-scale producers.
June 23-25. Move to the shores of Lake Atitlan and the town of San Juan La Laguna. Here we will interact with indigenous coffee cooperatives to understand transmission (or not) of climate information from the state to non “powerful” actors like Guatemala’s oppressed indigenous groups. Here will discuss perfect scenarios of how farmers can adapt with good information about climate change and compare that with the very imperfect world of information flow and resources to act on any guidelines to adapt. Here we will contextualize these discussions with the recent work of your instructors (see Pons et al. 2017).
June 25. Final day and night in Antigua. We will discuss the larger picture of climate and coffee in Guatemala and the world and begin to envision futures (where can coffee be grown if it must move upslope to cooler climates - -knowing that there is less space available as we move upslope). We will also reflect on your learning – both in terms of content and process.
June 26. Fly from Guatemala City to Denver.
Alcohol and Drug Policy and General Student Conduct Policy

Because this is a DU class, DU policies with respect to general conduct, and alcohol and drug misuse apply on this course. As guests of another country and as students enrolled in a DU class, good behavior is expected of all students. Some evenings will be free; however, it is expected that students maintain good behavior during any free time (as defined below and also in the University Honor Code). *Disruptive behavior or violations of class rules will result in a preliminary verbal warning by the instructor(s). This warning will be communicated to the Academic Programs Office. A second violation will be communicated in writing to the student and the University of Denver. A third violation will result in dismissal from the course.* Any costs associated with dismissal from the course are the responsibility of the student and they will be billed to the student by the university.

The following statement comes directly from the DU Office of Internationalization Student Code of Conduct and applies to this course and all international classes (please see the 2017-2018 the University Honor Code Statement at [https://www.du.edu/studentlife/studentconduct/media/documents/honor_code.pdf](https://www.du.edu/studentlife/studentconduct/media/documents/honor_code.pdf))

“The University of Denver’s Honor Code is in force during a student’s time abroad studying, researching, involved in service learning, or otherwise taking part in DU-sanctioned programming. The Office of International Education at the University of Denver has developed a number of relationships with overseas partner institutions and program providers. We value these relationships and have informed our partners abroad of the DU Honor Code, along with our concern to maintain that Code. As a representative of the University of Denver, it is up to you to perform well in the classroom and be a respectful citizen in the community at large, even while abroad. We expect you to serve as an ambassador of the U.S. as well as the University of Denver. The reputation you leave will affect the students who follow you, so please take this responsibility very seriously. Every study abroad participant is registered through the University of Denver and continues to be subject to DU policies. These include the University Honor Code, the Student Conduct Policies, and other related policies. For complete information on these codes, please refer to DU’s website at [http://www.du.edu/ccs/code.html](http://www.du.edu/ccs/code.html).

Point 2 from the DU Student Conduct Policies with respect to Alcohol misuse

- Possession and/or use of alcohol except as expressly permitted by law or University Policy. Alcoholic beverages may not be used by, or possessed by any person under the legal drinking age (i.e. 21 years of age in the US).
- Manufacture and/or distribution of alcohol except as expressly permitted by law or University Policy. Alcoholic beverages may not be distributed to any person under the legal drinking age (i.e. 21 years of age in the US).
- Intoxication to the point of endangering one's own health or safety regardless of age.
- Any act which causes a person to consume alcohol without their effective consent.
- Any possession or use on University Premises of paraphernalia used to facilitate the rapid consumption of alcohol. This includes but is not limited to beer bongs or similar items.
- Any violation of these Student Conduct Policies while intoxicated regardless of age.

Point 4 from the DU Student Conduct Policies with respect to Drug misuse
• Possession and/or use of any Federally Illegal Drug, or any possession or use of any prescription drug or other controlled substance except under the direction of a licensed physician. Marijuana, including Medical Marijuana, is prohibited on campus in all circumstances.

• Manufacture or distribution of any Federally Illegal Drug is prohibited, including Cannabis in any form.

• Being under the influence of any Federally Illegal Drug, prescription or non-prescription drug, or other controlled substance to the point of endangering one's own health or safety.

• Any possession or use on University Premises of paraphernalia used to facilitate the use of any Federally Illegal Drug or other controlled substance in violation of this policy. This includes but is not limited to marijuana pipes, bongs and scales or other measuring devices.

• Any act which causes a person to ingest any Federally Illegal Drug, prescription drug, or other controlled substance without their effective consent.

• Any violation of these Student Conduct Policies while under the influence of any Federally Illegal Drug, prescription drug, or other controlled substance in violation of this policy regardless of age.