

{Sample Syllabus: Subject to Change}

Engineering, Public Health, & the Environment: An Interdisciplinary Exploration of Community Development in Guatemala

STS 3500/GSGS 3120/EVSC 3559

Faculty

Eric Anderson, ewa3a@virginia.edu, is a Lecturer in the Department of Chemical Engineering.

Aaron Mills alm7d@virginia.edu is a Professor of Environmental Sciences

Jessica Ohana González, jessicaohana@gmail.com, is the In-Country Director for the UVA-Guatemala Initiative.

Kent Wayland, kaw6r@virginia.edu, is a Lecturer in the Department of Engineering & Society.

Overview

Real-world problems are inherently interdisciplinary. Public health and development are deeply intertwined with engineering, and engineering always takes place in a complex sociocultural context. This inter-dependence shows clearly in the challenges that communities face in Guatemala, a country with a rich and deep history, a wildly varied landscape, and incredible cultural diversity. The country has numerous assets (human and natural), but it faces many challenges. Thus, Guatemala presents a fascinating opportunity for students to learn about how Public Health, Engineering, and Community Development intersect in resource-limited environments. We will investigate student-created community projects of the UVA-Guatemala Initiative, and we will compare these with the work of other NGOs to understand better how ethical collaboration can make a difference in people's lives.

The course focuses on different aspects of Public Health, ranging from infrastructure, health care, potable water, sanitation, the environment, and education, etc. and examines how contextual factors like economy, politics, culture and history (pre-Hispanic Maya, Colonial, and Post-Colonial), and globalization influence those Public Health aspects. Given the transdisciplinarity of Public Health, this program brings together multiple UVA schools-Medicine, Nursing, Engineering, Education, and College of Arts & Sciences. This course is open to all UVA undergraduates, particularly those

interested in public health, engineering, global development, Central America, and those considering health-related careers.

Collaboration requires shared experience. To this end, Guatemalan university students will join us for the entire course. We will travel together, work on group projects, and share rooms. This collaboration offers an unforgettable intercultural experience. As we study and learn--using Public Health as a window--we will learn an incredible amount about Guatemala, and its people, and about ourselves.

Spanish language ability is not required. But you will be challenged to advance your Spanish and to use what you already know. All course participants will be offered ten (10) free hours of one-on-one Spanish lessons via a Skype-based collaboration between UVA and Celas Maya Spanish School, with the option to later continue on your own. You may receive extra credit for these lessons, and they will be a great way to develop or to refine your Spanish skills!

Location

Guatemala is known as the "Land of Eternal Spring" and the epicenter of the former Mayan empire. Our studies will focus on the communities surrounding stunning Lake Atitlán, as well as the city of Quetzaltenango (also known as Xela), the second most important city of Guatemala.

Conversely, the multidisciplinary perspectives of these two fields combine to provide an insightful lens through which to better understand Guatemala and its people.

Learning Goals

In this course the students will have intense experiences, including traveling in a new country, interacting in Spanish, encountering poverty, learning about the Guatemalan Civil War and the US role in it, living and working with Ladino (meztizo) and indigenous Guatemalans, and more. They will spend time reflecting on that experience, synthesizing it into a new understanding of the world and their place in it, and then applying understanding as they interact with peers and explore Guatemala further. In particular, they will examine the workings of NGOs and development projects and how communities shape and are shaped by these projects. Through this examination, students will better comprehend the human dimension of this work, and they will develop a deeper sense of responsibility to recognize and build on their connections to others, locally and globally. They also will acquire foundational knowledge about globalization and the workings of public health and of engineering in resource-limited environments. This knowledge will allow them to understand better the co-production of medical practice, technology, and society so that they might apply it in their future work.

Assignments

The assignments for the course are the following.

- Annotated Bibliography 10%
- Article Presentation and Response 10%
- Blog Posts 10%
- Two Group Projects 10% Each
- Personal Journal 15%
- Participation 15%
- Final Paper 20%

Annotated Bibliography

10% of the Grade

An annotated bibliography of 5 sources is required by the start of the course.

Article Presentation and Reflection

10% of the Grade

You will present one article from your annotated bibliography to the class. The presentation should be no more than five minutes (NOT including translation). The point of the presentation is to communicate not ALL of the points of the reading, but the highlights or interesting stories that you think are related to the class. Ideally, you would conclude by making some connection between the article and what we are doing in the class.

Blog Posts

10% of the Grade

As part of a discussion group, you will write a blog post about the day's activities, capturing not a list of the day's activities, but rather a thoughtful overview of significant events and what sense we made of them.

Two Group Projects

10% of the Grade Each

We will have two projects with mixed groups of UVA and Guatemalan students. We will change groups halfway through the course.

Personal Journal

15% of the Grade

Description – A journal is in part a narrative record of your physical and intellectual journey, but it is also the forum in which you reflect on what you have seen, heard, and done. This reflection is where the most profound learning takes place. In order to truly learn from something you have to process it, think about it. Without this reflection, your time in the course (whether UVA or Guatemalan) might simply be a tourist visit or vacation. We ask more than that. Some nights you will be given specific prompts for your journaling, but you can also consider the following questions, which should be continually re-addressed:

- What happened today? What have I learned?
- What was the significance (if any) of these events, discussions, etc.?
- Was anything particularly interesting, challenging, or surprising? Why?
- What have I learned about Guatemala (or the United States) and its different cultures today?
- What have I learned about my own culture and my own cultural location?
- How can I apply what I have learned? How can I pass it on to others?

Purpose – A journal causes you to reflect on events, situations, discussions, etc. Through reflection, new insights and connections between new and existing knowledge lead to new learning. This important form of learning is often succinctly described as ‘writing as learning’.

Requirements – We will not be reading your journals, but we will require you to select entries for discussion in small groups at intervals throughout the course. We want the journal to be a private and safe space for you. (We might ask you, however, to flip through the pages to show that you have indeed been keeping up.)

Participation/Engagement

15% of the Grade

Your participation is crucial for the course to succeed. We gauge participation and engagement in all aspects of the course, especially the small-group activities, the trips and visits, and general effort to connect with your peers.

Final Paper

20% of the Grade

Several days after we return from the trip, you will be given a paper topic. The reason for this delay is that the “re-entry” process of returning from study abroad is actually a crucial stage of learning, and we want you to have at least begun this process before you begin formulating your paper. (You can imagine, though, that the paper will require you to reflect on your experience on the course.) You will have to write a 1,500-word reflective essay that will serve both as a tool for measuring your learning from the course and as a means for you to help process the experience for yourself. The paper will be due Monday, June 17th.

Preliminary Course Schedule

Real-world problems are inherently interdisciplinary. Public health and development are deeply intertwined with engineering, and engineering always takes place in a complex sociocultural context. This inter-dependence shows clearly in the challenges that communities face in Guatemala, a country with a rich and deep history, a wildly varied landscape, and incredible cultural diversity. The country has numerous assets (human and natural), but it faces many challenges. Thus, Guatemala presents a fascinating opportunity for students to learn about how Public Health, Engineering, and Community Development intersect in resource-limited environments. We will investigate student-created community projects of the UVA-Guatemala Initiative, and we will compare these with the work of other NGOs to understand better how ethical collaboration can make a difference in people's lives. The course focuses on different aspects of Public Health, ranging from infrastructure, health care, potable water, sanitation, the environment, and education, etc. and examines how contextual factors like economy, politics, culture and history (pre-Hispanic Maya, Colonial, and Post-Colonial), and globalization influence those Public Health aspects.

Sunday, May 19th

Kent arrives

Monday, May 20th

UVA Staff & Students Arrive in Guatemala City, Bus Ride To San Lucas Tolimán

Guatemalan Students arrive in San Lucas Tolimán

Settle into Hotel (everyone)

Meet and greet (brief introductions)

Team building activities

- Name tags
- Animal barn
- The wind blows

Dinner

Evening Discussion/Debrief: *Discuss briefly what the course is about; introduce the pivotal idea that we are cultural beings (short just to start the conversation)*

Personal Journal Writing time

Tuesday, May 21st

Morning check in/overview of agenda for the day

Question of the day: *"What's one expectation you hope to meet by the end of this course?"*

Breakfast

Overview of the Course, Staff, activities and guidelines

Tour of San Lucas Tolimán

- City hall, the park, the lake, the market, cofradía, reforestation project,

Create discussion groups

Form Small Groups for Initial Project

Introduce and talk about assignment of the Day

Lunch

Lecture: Introduction of San Lucas Mission and other NGOs in SLT (Kent & Jess)

Dennis Evans (talk about scholarship program)

Project Group Work Session

Lecture: *What is engineering?* (Eric)

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Wednesday, May 22nd

Morning check in/overview of agenda for the day

Question of the day: *"What's one thing you believe you bring to this course?"*

Breakfast

The Guatemalan Health System and Comparison to US system (Eric and Jessica)

Visit the clinic and talk to Dr. Rafael Tun, a Guatemalan local physician

Lecture/Debrief: *What is Health?* (Kent)

Lunch

History of Guatemala I: Colonial Guatemala through 1954: US Role, plus Rigoberta (Kent)

Walk to the park (to get some ice cream or something)

Lecture: *The Internal Conflict in Guatemala* (Jessica + Eric)

Small Group Discussion of the heavy history

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Thursday, May 23rd

Morning check in/overview of agenda for the day

Question of the day: *"What's one fascinating fact about you?"*

Breakfast

Depart for Panajachel

Visit Water Treatment Plant

Lunch on your own

Take boat back to San Lucas Tolimán

Project Group Work Session

Aaron & Others: *Water, Infrastructure and Community Development*

The Ecosystem of Lake Atitlán and Efforts to Clean It

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

1st Journal Review Session

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Friday, May 24th

Breakfast

Morning check in/overview of agenda for the day

Question of the day: *"What inspires you/gives you hope?"*

Leave for Rubber Plantation Visit

Tour of Rubber Plantation and Processing Plant

Lunch (on the road)

Depart back to San Lucas Tolimán

The Public & Private Education Systems of the US & Guatemala (Jess)

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Saturday, May 25th

Morning check in/overview of agenda for the day

Question of the day: *"If you could meet anyone (dead or alive) who would it be and why?"*

Breakfast (UVaGI staff to join us)

Maria Elena: Learn about Cardiovascular Health Project in Santiago

Trip to visit Santiago Atitlán

Visit CAP: Lecture on health and the community by Dr. Irene Quiejú

Lunch (UVaGI staff join us for lunch)

Felipa: Learn about Water Filter and Health Education Project in San Lucas Tolimán

Visit project sites (San Martin, Xejuyu, Totolyá)

Debrief: *Aaron on what they saw in the communities*

Group Project Presentations

Dinner

Debrief on time in San Lucas Tolimán

Discuss in small groups

Pack, clean up

Personal Journal Writing time/Group Blog Writing

Sunday, May 26th

Morning check in/overview of agenda for the day

Question of the day: *"Who is your hero/heroine (aside from your family)?"*

Breakfast

Bus to Huehuetenango

Lunch (on your own in Huehue)

Arrive & Settle into hotel

Explore the facility, play games...FUN STUFF (not the obstacle/training course)

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief (over a bonfire with s'mores) – (these were a hit)

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Monday, May 27th

Bus to el Mirador Juan Dieguez Olivarri

Morning check in/overview of agenda for the day

Question of the day: *"What do you hope to be remembered by?"*

Breakfast (at el Mirador)

Bus to Zaculeu

Arrive in Zaculeu

Assign New Project Groups

Depart Zaculeu

Arrive back at hotel

Lunch

Free time or (we could organize some team building activities)

Project Group Work Session

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

2nd Journal Review Session

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Tuesday May 28th

Morning check in/overview of agenda for the day

Question of the day: *"Who is your hero/heroine (aside from your family)?"*

Breakfast

(Pack and clean up)

Bus to Xela

Arrive and settle into hotel

Lunch

Tour of Xela

Lecture/Discussion: *The mutual shaping of technology and society* (Kent)

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Wednesday May 29th

Morning check in/overview of agenda for the day

Question of the day: *"How does the role of technology in society differ between Guatemala and the US?"*

Breakfast

Depart to visit

Tour Hospital Departamental de Totonicapán

Depart back to hotel

Lunch: Invite Celas Maya Online Instructors

Debrief of the visit to Totonicapán

Lecture/Discussion: *Immigration* (Eric)

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Thursday May 30th

Breakfast and Morning check in/overview of agenda for the day

Question of the day: *"What issue in your community would you most like to address?"*

Depart to COPAVIC

Visit Fabrica de Cantel

Lunch

Project Group Work Session

Presentation on electronic medical record software (SABER)

Lecture/Discussion: *Globalization* (Kent)

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Friday May 31st

Breakfast and morning check in/overview of agenda for the day

Question of the day: *"What is human Development to you?"*

Depart to Almolonga

Visit Hydroelectric

Visit Geothermal Plant

Lunch (on the road)

Project Group Work Session

Lecture/Discussion: *Infrastructure* (Eric)

Dinner

5 minute mention of relevant article (from readings)

Evening Discussion/Debrief

3rd Journal Review Session

Personal Journal Writing time

One discussion group per day writes the (non-public) blog entry for the day

Saturday June 1st

Morning check in/overview of agenda for the day
Question of the day: *"What does culture mean to you?"*

Breakfast

Lecture/Discussion: *Development and the (flawed) Concept of Social Evolution* (Kent)

Lunch

Project Group Work Session
Lecture/Discussion/Recreation

Dinner

5 minute mention of relevant article (from readings)
Evening Discussion/Debrief
Personal Journal Writing time
One discussion group per day writes the (non-public) blog entry for the day

Sunday June 2nd

Depart to Hike Chicabal

Breakfast (to go)

Morning check in/overview of agenda for the day
Question of the day: *"What has been difficult over the last twelve days?"*

Lunch

Free time/ Prep time
Group Project Poster Session
Movie night...

Dinner

5 minute mention of relevant article (from readings)
Evening Discussion/Debrief
Personal Journal Writing time
One discussion group per day writes the (non-public) blog entry for the day

Monday June 3rd

Morning check in/overview of agenda for the day
Question of the day: *"Has this course made you think/feel different (on anything)?"*

Breakfast

Guatemala III - Pre-Columbian History (Kent)

Free time (explore xela)

Talk by Ingeniera Liza Castillo (engineering and women in Guatemala)

Lunch

Lecture/Discussion: *Class, gender & ethnicity in STEM & Medicine* (All)

Free time

Pack and clean up

Final Evening Discussion/Debrief in Xela

4th Journal Review Session

Dinner + fiesta

5 minute mention of relevant article (from readings)
Personal Journal Writing time
One discussion group per day writes the (non-public) blog entry for the day

Tuesday June 4th

Morning check in/overview of agenda for the day

Question of the day: *"What was the most valuable thing you gained from this experience?"*

Breakfast

Bus to Iximche

Stop and visit Iximche

Lunch (packed to eat on the road)

Depart Iximche

Arrive and settle into Hotel

Dinner (order in)

Final Discussion and debrief

Pack, say goodbye and take pictures

Wednesday, June 5th

US Students depart for Airport

Guatemalan students depart

*****Student presentations will be scheduled daily after meals**

Required Readings

(Available on Collab)

Benson, P., & Fischer, E.F. Broccoli and desire. *Antipode* 39, no. 5 (2007): 800–820.

Berry, N. S. (2005). Everyday violence, in *Emergency Obstetric Care Choice among Kaqchikel in Guatemala* (Dissertation). University of Michigan.

Cullather, N. (2011). Operation PBSUCCESS. In G. Grandin, D. Levenson-Estrada, & E. Oglesby (Eds.), *The Guatemala reader: History, culture, politics* (pp. 230–237). Durham, NC: Duke University Press.

Green, T., Green, H., Scandlyn, J., & Kestler, A. (2009). “Perceptions of short-term medical volunteer work: A qualitative study in Guatemala.” *Globalization and Health* 5(4), 1–13.

Harris, J.. 2007. ‘Someone is making you sick’: Conceptions of disease in Santa Catarina Ixtahuacán. In *Health Care in Maya Guatemala: Confronting Medical Pluralism in a Developing Country*, edited by John Palmer Hawkins and Walter Randolph Adams, 27–43. University of Oklahoma Press.

Lucena, J., Schneider, J., & Leydens, J.A.. (2010). Engineering with community. *Engineering and sustainable community development*, , p. 85-116. Morgan & Claypool.

Marmot, M. (2005). Social determinants of health inequalities. *The Lancet*, 365(9464), 1099–1104. — Parallel Spanish article: Álvarez Castaño “Los Determinants Sociales de Salud”

Melville, Thomas R. *Through a Glass Darkly*. (Chapters 1-3) Xlibris Corporation, 2005.

McCreery, D. (2011). Land, labor, and community. In G. Grandin, D. Levenson-Estrada, & E. Oglesby (Eds.), *The Guatemala reader: History, culture, politics* (pp. 117–124). Durham, NC: Duke University Press.

Menchu, Rigoberta. *I, Rigoberta Menchu*. (Selections)

Pinch, T. F., & Bijker, W. E. (1987). The Social construction of facts and artifacts: Or how the sociology of science and the sociology of technology might benefit each other. In W. E. Bijker, T. P. Hughes, & T. F. Pinch (Eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (pp. 17–50). Cambridge: MIT Press.

Sharpe, Patricia A, Mary L Greaney, Peter R Lee, and Sherer W Royce. “Assets-Oriented Community Assessment.” *Public Health Reports* 115, no. 2–3 (2000): 205.

Skolnik, R. (2008). The Principles and Goals of Public Health. In *Essentials of global health* (pp. 3–14). Jones & Bartlett Publishers.

Velásquez Nimatuj, I. A. (2011). Transnationalism and Maya dress. In G. Grandin, D. Levenson-Estrada, & E. Oglesby (Eds.), *The Guatemala reader: History, culture, politics* (pp. 523–531). Durham, NC: Duke University Press.

Additional Reading Group Topics (Possibilities for the Annotated Bibliography)

Cultural Models of Health and Wellness

Possible sub-topics include: What are the different ways of understanding health and wellness? What variety is there in Guatemala (and, by contrast, in the United States)?

Possible Sources:

Harvey, TS. 2013. "Between Belief and Relief: Apologue of Maya Wellness Seeking in Medias Res." In *Wellness Beyond Words: Maya Compositions of Speech and Silence in Medical Care*, 15–26. UNM Press.

Hawkins, John Palmer. 2007. *Health Care in Maya Guatemala: Confronting Medical Pluralism in a Developing Country*. University of Oklahoma Press. [Select Chapters]

Nagata, Jason M, Claudia R Valeggia, Frances K Barg, and Kent DW Bream. 2009. "Body Mass Index, Socio-Economic Status and Socio-Behavioral Practices among Tz'utujil Maya Women." *Economics & Human Biology* 7 (1): 96–106.

**Nagata, Jason M, Claudia R Valeggia, Nathaniel W Smith, Frances K Barg, Mamie Guidera, and Kent DW Bream. 2011. "Criticisms of Chlorination: Social Determinants of Drinking Water Beliefs and Practices among the Tz'utujil Maya." *Revista Panamericana de Salud Pública* 29 (1): 09–16.

Development/NGO's in Guatemala

Possible sub-topics include: large, meso, or small-scale development, NGO's and their role, foreign versus domestic NGOs, and more.

Possible Sources:

Barrera-Nuñez, José Oscar. "Desires and Imagination: The Economy of Humanitarianism in Guatemala." In *Mayas in Postwar Guatemala: Harvest of Violence Revisited*, edited by Walter E Little and Timothy J Smith, 110–23. Tuscaloosa, AL: University of Alabama Press, 2009.

Berry, N. S. (2005). "Everyday Violence: From the Village to the Nation and Back" in *Emergency Obstetric Care Choice among Kaqchikel in Guatemala*. (Dissertation). University of Michigan.

Kamat, Sangeeta. "The Privatization of Public Interest: Theorizing NGO Discourse in a Neoliberal Era." *Review of International Political Economy* 11, no. 1 (2004): 155–76.

*Paul, Benjamin D, and William J Demarest. "Citizen Participation Overplanned: The Case of a Health Project in the Guatemalan Community of San Pedro La Laguna." *Social Science & Medicine* 19, no. 3 (1984): 185–92.

Rahder, Micha. 2014. "Caring for Xate, Caring for Xateros: NGO Monitoring, Livelihoods, and Plant-Human Relations in Uaxactún, Guatemala." *Journal of Political Ecology* 21: 373.

Rohloff, Peter, Anne Kraemer Díaz, and Shom Dasgupta. “‘Beyond Development’: A Critical Appraisal of the Emergence of Small Health Care Non-Governmental Organizations in Rural Guatemala.” *Human Organization* 70, no. 4 (2011): 427–37.

Simmons, Peter J. “Learning to Live with NGOs.” *Foreign Policy*, 1998, 82–96.

Sundberg, Juanita. 1998. “NGO Landscapes In The Maya Biosphere Reserve, Guatemala.” *Geographical Review* 88 (3): 388–412.

Ethics of Public Health Work and Medical Research

Possible sub-topics include: informed consent, "resource-limited" approach vs. "asset orientation", research with indigenous populations, and the historical roots of current understanding of ethics (such as the syphilis experiments in Guatemala).

Possible Sources:

Benatar, Solomon R. 2002. “Reflections and Recommendations on Research Ethics in Developing Countries.” *Social Science & Medicine* 54 (7): 1131–41.

Harvey, TS. 2012. “Cyanobacteria Blooms: Maya Peoples between the Politics of Risk and the Threat of Disaster.” *Medical Anthropology* 31 (6): 477–96.

_____. 2013. “Between Belief and Relief: Apologue of Maya Wellness Seeking in Medias Res.” In *Wellness Beyond Words: Maya Compositions of Speech and Silence in Medical Care*, 15–26. UNM Press.

Nagata, Jason M, Claudia R Vallengia, Nathaniel W Smith, Frances K Barg, Mamie Guidera, and Kent DW Bream. 2011. “Criticisms of Chlorination: Social Determinants of Drinking Water Beliefs and Practices among the Tz’utujil Maya.” *Revista Panamericana de Salud Pública* 29 (1): 09–16.

Paul, Benjamin D, and William J Demarest. “Citizen Participation Overplanned: The Case of a Health Project in the Guatemalan Community of San Pedro La Laguna.” *Social Science & Medicine* 19, no. 3 (1984): 185–92.

Provenzano, Audrey M, Lauren K Graber, Mei Elansary, Kaveh Khoshnood, Asghar Rastegar, and Michele Barry. 2010. “Short-Term Global Health Research Projects by US Medical Students: Ethical Challenges for Partnerships.” *The American Journal of Tropical Medicine and Hygiene* 83 (2): 211.

Globalization

Possible sub-topics include: Sugar, Free Trade, Fair Trade, exporting the "American" diet, Global Flows of Capital, Media, Technology, Disease, and so on,

Possible Sources:

- Bogin, Barry, Hugo Azcorra, Hannah J Wilson, Adriana Vázquez-Vázquez, María Luisa Avila-Escalante, Maria Teresa Castillo-Burguete, Inês Varela-Silva, and Federico Dickinson. 2014. "Globalization and Children's Diets: The Case of Maya of Mexico and Central America." *Anthropological Review* 77 (1): 11–32.
- Lyon, Sarah. 2007. "Maya Coffee Farmers and Fair Trade: Assessing the Benefits and Limitations of Alternative Markets." *Culture & Agriculture* 29 (2): 100–112.
- Nunn, Nathan, and Nancy Qian. 2010. "The Columbian Exchange: A History of Disease, Food, and Ideas." *The Journal of Economic Perspectives* 24 (2): 163–88. doi:10.2307/25703506.
- Roseberry, William. 1991. "La Falta de Brazos: Land and Labor in the Coffee Economies of Nineteenth-Century Latin America." *Theory and Society* 20 (3): 351–81. doi:10.2307/657557.

History of the Guatemalan Civil War (and After)

Possible sub-topics include: the causes of the Civil War, the role of the United States, the Peace Accords, violence after the Peace, prosecution of war criminals, and more.

Possible Sources:

- Chamarbagwala, Rubiana, and Hilcías E Morán. 2011. "The Human Capital Consequences of Civil War: Evidence from Guatemala." *Journal of Development Economics* 94 (1): 41–61.
- Copeland, Nick. 2011. "'Guatemala Will Never Change': Radical Pessimism and the Politics of Personal Interest in the Western Highlands." *Journal of Latin American Studies* 43 (03): 485–515. doi:10.1017/S0022216X11000411.
- Daniel Wilkinson. 2004. *Silence on the Mountain: Stories of Terror, Betrayal, and Forgetting in Guatemala*. Duke University Press.
- Kinzer, Stephen. 2013. *The Brothers: John Foster Dulles, Allen Dulles, and Their Secret World War*. New York: Times Books.
- Little, Walter E, and Timothy J Smith, eds. 2009. *Mayas in Postwar Guatemala: Harvest of Violence Revisited*. University of Alabama Press.
- Melville, Thomas R. 2005. *Through a Glass Darkly*. Xlibris Corporation.
- Mouly, Cécile. 2008. "Peace Constituencies in Peacebuilding: The Mesas de Concertación in Guatemala." In *Whose Peace? Critical Perspectives on the Political Economy of Peacebuilding*, edited by Michael Pugh, Neil Cooper, and Mandy Turner, 302. Palgrave Macmillan.

- Philpot-Munson, J Jailey. 2009. "Understanding Evangelical Resistance to the Peace Process in a Postwar Guatemalan Town." In *Mayas in Postwar Guatemala: Harvest of Violence Revisited*, 42.
- Preti, Alessandro. 2002. "Guatemala: Violence in Peacetime-A Critical Analysis of the Armed Conflict and the Peace Process." *Disasters* 26 (2): 99–119.
- Sanford, V. 2001. "The Blood of Guatemala - A History of Race and Nation." *American Ethnologist* 28 (4): 949–50.
- Sanford, Victoria. 2008. "From Genocide to Femicide: Impunity and Human Rights in Twenty-First Century Guatemala." *Journal of Human Rights* 7 (2): 104–22.
- Schlesinger, Stephen C, and Stephen Kinzer. 1983. *Bitter Fruit: The Untold Story of the American Coup in Guatemala*. Anchor Books New York.
- Smith, Carol A. 1990. "The Militarization of Civil Society in Guatemala: Economic Reorganization as a Continuation of War." *Latin American Perspectives*, 8–41.
- Tedlock, Dennis. 1993. "Torture in the Archives: Mayans Meet Europeans." *American Anthropologist* 95 (1): 139–52.
- Watanabe, J. M. 2002. "Silence and Solidarity across a Watershed of War: The Heritage of US Complicity in Guatemala." *American Anthropologist* 104 (1): 330–34.

Immigration

Possible sub-topics include: remittances, coyotes, migrant labor and communities in the United States, deportation, economic pressures to emigrate, and more.

Possible Sources:

- Burns, Allan F. 1993. *Maya in Exile: Guatemalans in Florida*. Philadelphia: Temple University Press.
- Green, Linda. 2009. "The Fear of No Future: Guatemalan Migrants, Dispossession and Dislocation." *Anthropologica* 51 (2): 327–41. doi:10.2307/25605488.
- Menjívar, Cecilia. 2002. "The Ties That Heal: Guatemalan Immigrant Women's Networks and Medical Treatment." *International Migration Review* 36 (2): 437–66. doi:10.2307/4149460.
- Moran-Taylor, Michelle. 2008. "Guatemala's Ladino and Maya Migra Landscapes: The Tangible and Intangible Outcomes of Migration." *Human Organization* 67 (2): 111–24.
- Moran-Taylor, Michelle, and Cecilia Menjívar. 2005. "Unpacking Longings to Return: Guatemalans and Salvadorans in Phoenix, Arizona." *International Migration* 43 (4): 91–121.
- Stoll, David. 2013. *El Norte Or Bust!: How Migration Fever and Microcredit Produced a Financial Crash in a Latin American Town*. Rowman & Littlefield Publishers.

Infrastructure in Resource-Limited/Differently Resourced Environment

Possible sub-topics include: Water, Waste Management, Transport ...

Dobias, Jonás and Ilan Leshem. 2008. *Wastewater Treatment Systems and the Implementation of a Wetland in Atitlán Lake Basin*. Master's Thesis. Lund University, Sweden.

Ratner, Blake D, and Alberto Rivera. "Reasserting Community: The Social Challenge of Wastewater Management in Panajachel, Guatemala." *Human Organization* 63, no. 1 (2004): 47–56.

Technology, Public Health, and Development: From Biosand Filters to Smart-Phone Apps

Possible sub-topics include: point of use water filtration, Appropriate Technology, IT and development, and more.

Possible Sources:

Akubue, Anthony. 2000. "Appropriate Technology for Socioeconomic Development in Third World Countries." *Journal of Technology Studies* 26 (1). Available at: <http://scholar.lib.vt.edu/ejournals/JOTS/Winter-Spring-2000/akabue.html>.

Crewe, Emma, and Elizabeth Harrison. 1998. "Technology and Expertise." In *Whose Development?* 91–112. Zed Books.

Divelbiss, Daniel William, Dominic Louis Boccelli, Paul Allan Succop, and Daniel Barton Oerther. "Environmental Health and Household Demographics Impacting Biosand Filter Maintenance and Diarrhea in Guatemala: An Application of Structural Equation Modeling." *Environmental Science & Technology* 47, no. 3 (November 15, 2012): 1638–45. doi:10.1021/es303624a.

Sobsey, Mark D, Christine E Stauber, Lisa M Casanova, Joseph M Brown, and Mark A Elliott. 2008. "Point of Use Household Drinking Water Filtration: A Practical, Effective Solution for Providing Sustained Access to Safe Drinking Water in the Developing World." *Environmental Science & Technology* 42 (12): 4261–67.