



May Term in Panama

EVST 351 PanaMapping: Geodesign to Conserve the Rainforest

See: <https://youtu.be/xuq7pSc190A> (5 minute video).

Instructors: D. Klooster, D. Smith

Course Fee = \$3,600. Additional costs = \$800 to \$1000

Course Description: You will work in teams gathering data, building maps, and using GIS to design projects for socially sustainable conservation in Panama's Mamoní Valley Preserve. Located approximately a two-hour drive from Panama City, the preserve is part of the largest remaining stretch of contiguous rainforest in the exceptionally bio-diverse Chocó-Darién-Manabí eco-region. Biodiversity here includes more than 290 species of birds, sloths, monkeys, ocelots, and jaguars. You will work with the course instructors, experienced jungle guides, and local conservation experts on applied projects such as these:

- Use aerial drone data to verify satellite Land Cover Change maps
- Map pastures, forests and riparian buffers to identify micro-watersheds most vulnerable to erosion and siltation and to plan riparian buffer restoration.
- Measure carbon content in different types of forests and use that data to improve carbon content maps and to plan future landscapes.
- Use existing satellite imagery, ground-truthing, and original data from drones to improve landcover maps for conservation management.
- Create interactive maps of jungle hiking trails.

You will improve GIS skills and learn cutting-edge conservation techniques including GPS trail mapping, carbon content estimation, satellite remote sensing, and mapping with aerial drones. You will also learn about comparative approaches to conservation in Panama, including the challenges faced by the Emberá Indigenous people, whose village we will visit. You will generate, analyze, and display data crucial for conservation planning, and present your analysis and design ideas to key stakeholders. Your work will build on field data UR students produced in 2017, 2018, 2019, and 2021 and contribute to future projects as well.

Instructor permission required to enroll. Students must take *SPA 110 Introduction to Geographic Information Systems* beforehand. Spanish language skills are recommended, but **not** required.

Course Fee includes: Getting soaked in rain and sweat while immersed in a rainforest gathering original data with course instructors and jungle guides! Shared lodging in individual tents on a covered, raised wooden platform at an off-grid outpost at the edge of a vast wilderness preserve with cool showers, satellite internet, natural swimming pool, micro-hydro energy plant, howler monkeys, hummingbirds and a community garden with three meals a day. Ground transportation, boat transportation, rainforest and waterfall hikes, river swims. Shared hostel lodging during excursions to a nearby town and to Panama City, jungle river paddle in a dugout canoe and an overnight stay in mosquito-proof hammocks in an Emberá indigenous village. Beach and mangrove excursion to a Pacific Island. World Heritage sites, museums, the Panama Canal, and craft-art markets in Panama City.

Estimated Expenses Beyond Course Fee: Airfare to Tocumen International Airport. Ground transport to LAX. Personal snacks, several meals, souvenirs, and field clothes.



**ASK ABOUT INTERN OR VOLUNTEER
ACTIVITIES AFTER THE COURSE
ENDS**

Faculty Contact Information:

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See: <https://youtu.be/xuq7pSc190A> (video)
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8310560/pdf/13412_2021_Article_716.pdf (Article based on this course)