# Sustainable Cities and Landscapes in the Galapagos

Course Number: PPPM 488/588 Credits: 6 Date: June 18 -July 8 Location: Quito and Galapagos, Ecuador

### Instructors

Jaime López is an architect who graduated from the Universidad San Francisco de Quito (USFQ) in 2001. He earned his MSc in Architecture at TU Delft in The Netherlands in 2009 and obtained a Doctorate in Architectural Projects from the Polytechnic University of Catalunya (UPC) in 2022. His doctoral thesis focuses on researching the interaction between urban morphology and the physical geography of natural protected spaces, using the Galápagos archipelago as a case study. Jaime is the founder of the international architecture studio in the Galapagos Islands, which initiated research on human settlements in the Galápagos from a design perspective. He currently serves as the director of the Architecture and Urban Form Research Institute (AFORU) at USFQ and as the community outreach coordinator for the School of Architecture. Additionally, Jaime works as a private consultant in urban and regional planning for both public and private institutions.

Yizhao Yang is a Professor at the School of Planning, Public Policy, and Management at the University of Oregon. Dr. Yang's work focuses on urban sustainability through applied research, community-engaged teaching, and services. Her research addresses the relationships between the environment and people's behavior and well-being. She also studies global sustainable urban planning and design, particularly in countries in East Asia and North America, contributing to the global discourse on place-making knowledge and practices. Dr. Yang is committed to advancing sustainable urban development worldwide. She is an active member of the University of Oregon's Sustainable Cities Institute (SCI) and a member of the Sustainable Cities and Landscapes Hub for the Association of Pacific Rim Universities. Additionally, she provides instruction at the Asia-Pacific Mayors Academy organized by UNESCAP. Professor Yang holds a Bachelor of Architecture (1995) from Tianjin University, China; Master's in Building Science (1998) from Tsinghua University, China, and Master's (2001) and Ph.D. (2007) degrees in Urban and Regional Planning from Cornell University.

Contact: Jaime Lopez Andrade jlopez@usfq.edu.ec Yizhao Yang yizhao@uoregon.edu, +15413460833 Cristina Vargas cmvargas@usfq.edu.ec Natalia Echeverri nechever@hku.hk

#### **Course overview**

Creating sustainable cities and landscapes (SCL) is a pathway toward a common sustainable future. The strategies for doing are bound to vary across places given local specific history, current needs, and future aspirations. In many contexts the concept of SCL is still be explored and its realization tried. Perhaps in no place on earth exists a better laboratory than the Galapagos islands to offer a setting in which to study SCL. According to UNESCO, the Galapagos Islands have been called a "unique living museum and showcase of evolution." The islands are situated at the intersection of four maritime currents, possessing a broad mix of species and various marine ecosystems. A series of urban settlements exist within this delicate and complex natural environment. The challenges of accommodating a growing human population on these ecologically distinctive islands seem intractable. The studio will focus on zero-

footprint, high-impact spatial interventions driven by socio-ecological agents. The studio elaborates on socio-ecological interactions that have been recognized as urgent in Galápagos, such as: 1) water scarcity, 2) food security, 3) energy generation and efficiency, 4) land management, 5) building technology, and 6) waste management.

# Learning Objectives and outcomes

- Gain a comprehensive understanding of the significance of the built environment and spatial design within vulnerable natural ecosystems. Develop awareness of the repercussions of urban settlements in proximity to protected natural areas and acquire the skills to research and collaborate in a multidisciplinary manner with diverse professional and academic backgrounds.
- Foster a deep respect for the natural environment, encompassing considerations of urbanity, architecture, culture, and daily life. Cultivate collaboration skills within a group of individuals from diverse cultural and geographic backgrounds, promoting a cooperative approach to addressing environmental challenges.
- Develop the capacity to address contexts and environments distinct from one's customary experience. Hone the ability to identify and analyze factors disrupting the equilibrium between urban spaces and protected natural areas, contributing to a nuanced understanding of these complex relationships.
- Cultivate the capability to propose design solutions targeting socio-ecological challenges in one of the world's most delicate natural areas. Generate unconventional alternatives aimed at improving the relationships between the ecosystem and the inhabitants of the islands, reflecting a commitment to sustainable and innovative practices.

#### **Course format**

This course combines experiential learning and community-engaged learning in an immersive environment. It takes place for a couple of days in Quito, the capital of Ecuador and the first Cultural Heritage of the world. The rest of the course is in the Galapagos Islands. Over a three-week period, students delve into the Galápagos context through documents, multimedia resources, and expert-led lectures on urban and natural aspects.

The concept of "Landscape +" underpins our research-driven learning activities. The focus will be on the NEXUS of Landscape, Water, Energy, and Food (L+WEF). Landscape Plus encompasses the main socioecological services and interactions—Water, Energy, and Food—while also addressing materials, resources, waste management, economic activities, land management, and biodiversity. The experiential journey includes city tours and walking expeditions to key natural locales. Students engage in practical exercises focusing on the urban environments of the archipelago's most populous islands. The academic culmination is a formal presentation of students' work, providing a platform for interaction with the local community and Galápagos authorities.

Students will work in groups to explore key socio-ecological interactions, using the landscape as a medium for habitat evolution for all species. Each group will tackle one main theme: Landscape plus Water (L+W), Landscape plus Energy (L+E), or Landscape plus Food (L+F). They will conduct research at both the island and archipelago scales, culminating in a comprehensive proposal that integrates these themes and their interconnections (L+WEF).

#### Course materials and website

All readings will be provided on the course canvas website. The course website is located on the University of Oregon's Canvas system (<u>https://canvas.uoregon.edu</u>). The class syllabus, announcements and other

materials will be posted on the course website. Please check the course website frequently for updates. In addition, make sure that the University registrar has your correct email address. The instructor will use this email address to communicate with you.

### **Course evaluation**

Students earn points by completing assignments and patriating in classes. The total points earned at the end of this term will determine a student's letter grade. There will be no weighting or curving involved in how the final grade is computed. Typical point ranges for different letter grades are shown here:

# <u>C's (C-, C, C+) (<80); B's (B-, B, B+) (80-90); A's (A-, A) (>90)</u>

Assessment includes the following components:

- Individual assignment, participation, research journal, and self-reflection (20 pnts)
  - Personal Reflection: complete 2 surveys (5)
  - Research Journal: record observations, ideas, and research developed in a journal that demonstrate the level of immersion and commitment the student has achieved. (10)
  - Participation: demonstrate a student's ability to gather information on-site, make observations, and make decisions on a day-to-day basis (5)
- Group assignments individually graded to reflect each student's performance and ability to work in a cohesive team environment (80 pnts)
  - Assignment One: Analysis and observation at the scale of the island. Students will be confronted with different subjects on the island of San Cristobal. They will need to research one of the main topics and its relationship with the landscape and how it affects the urban, rural, and protected spaces of San Cristobal Island. (25)
  - Assignment Two: Students will analyze the position of San Cristobal as part of a larger territory by examining the island of Santa Cruz. They will need to generate conclusions on a comparative basis of what they have observed on both islands and use this to view the Galapagos as a closed system, analyzing how decisions on one island will affect the other parts of the socio-ecological system. (25)
  - Assignment Three: Students must generate a development proposal for El Progreso Parish, recognizing the interconnections between the coast and the highlands, and the urban, protected, and rural areas to transform El Progreso Parish into a Socio-Ecological Productive and Cultural Landscape. The proposals will be presented in front of the community and key stakeholders at the Galapagos Science Center facilities. (30)

Category	Description	
Collaborative Work	Measurement of each student's ability to work in a cohesive	20%
	team. This category is individually graded and highlights the	
	spirit of teamwork.	
Creative Thinking	Recognition of the ability to solve problems and represent	30%
	proposals in unconventional conditions.	
Communication Skills	Assessment of the ability to express proposed ideas and their	20%
	understanding by third parties.	
Unconventional	Beyond creativity, it measures students' ability to solve	10%
Creative Thinking	problems effectively, efficiently, and outside academic	
	conventions.	

#### **Rubric for Assignment Assessment**

Logical Foundation	Recognition of the conceptual coherence supporting works	10%
Structure	and proposals.	
Participation	Assessment of the active participation of students during the course, willingness to express ideas, and collaborate with all peers beyond their immediate group.	10%
Total		100%

# **Course communication**

This class will communicate through our Canvas site (mobile app) and on Group WhatsApp.

- The class syllabus, announcements, readings, and other materials will be posted on the Canvas. Please check the course website frequently for updates.
- Announcements and emails are archived there and automatically forwarded to your UO email, and can even reach you by text. Check and adjust your settings under Account > Notifications.

# **Student Behavior Code**

https://geo.uoregon.edu/student-guide/policies-and-regulations#behavior

# Code of conduct

https://policies.uoregon.edu/vol-3-administration-student-affairs/ch-1-conduct/student-conduct-code

# Course schedule

CONTACT HOURS	WEEK	N	DAY	DATE	ACTIVITY	LODGING	MEAL SPECIFICS
	0	0	FRI	14-jun	International flight to Quito Transfer to hotel	Hotel Cumbaya	n/a
2	o	1	SAT	15-jun	AM USFQ Health & Safety Orientation (start) PM Welcome lunch Water and energy in the islands lecture	Hotel Cumbaya	B, L
2	o	2	SUN	16-jun	AM Travel to San Crist6bal Welcome lunch & Orientaion PM Meet and greet team and participants Host Families introduction	Host Families in SCY	B,L,D
6	1	3	MON	17-jun	AM GSC Tour Human History in the islands lecture Biodiversity and importance of the archipelago from biology perspective Introduction lecture complexity of island socio-ecosystems	Host Families in SCY	B,D
6	ı	4	TUE	18-jun	Day 2: Urban planning and Port distribution Andres P: lecture about building opportunities and limitations in the island. Legislation around materials and availability. Safety lecture for energy plant visit PM Guided City walk to discover the urban area Sustainable buildings: Casa Bambú	Host Families in SCY	B,D
6	1	5	WED	19-jun	Day 3: Highlands and agriculture in the island AM Walking tour in El Progreso Lunch in Hacienda Tranquila Visit Hacienda Tranquila: sustainable agriculture systems in San Cristobal Lecture in Hacienda Tranquila: food security and sovereignty	Host Families in SCY	B,L,D
6	1	6	THU	20-jun	Day 4: Water & Energy in the archipelago Solid Waste Treatment plant visit Water Treatment plant visit Lunch in port Energy plant visit Reflection session in Campus	Host Families in SCY	B,L,D
6	1	7	FRI	21-jun	AM Interpretation Center & Darwin's Bay Visit PM Importance and impact of tourism in the islands Lecture Workshop	Host Families in SCY	B,D
o	1	8	SAT	22-jun	Free Day	Host Families in SCY	B,D
4	•	9	SUN	23-jun	AM Travel to Santa Cruz Lunch PM Charles Darwin Station Visit	Hotel in Santa Cruz	B,L,D
6	2	10	MON	24-jun	El Chato visit Trapiche visit Jaime L.: lecture about Santa Cruz urban distribution Cite walk	Hotel in Santa Cruz	B,L,D
4	2		TUE	25-jun	AM Tortuga Bay Visit PM Las Grietas Visit Workshon in Hotel	Hotel in Santa Cruz	B,L,D
4	2	12	WED	26-jun	AM Return to SCY PM Workshop	Host Families in SCY	B,D
6	2	13	THU	27-jun	AM Workshop PM Workshop	Host Families in SCY	B,D
6	2	14	FRI	28-jun	AM Workshop PM Workshop	Host Families in SCY	B,D
0	2	15	SAT	29-jun	Kieker Rock	Host Families in SCY	B,L,D
o	2	16	SUN	30-jun	Free Day	Host Families in SCY	B,D
6	3	17	MON	1-jul	Final presentations work and revisions	Host Families in SCY	B,D
5	3	18	TUE	2-jul	Final presentations open for community Clossing Ceremony	Host Families in SCY	B,D
o	3	19	WED	3-jul	Travel to Quito *Red eye flight back to home		в