



SAMPLE Schedule for Ecology and Society

This is a sample of what your schedule could look like.

Please note these schedules are subject to change. Courses might take place during the morning or afternoon schedule.

Ecology and Society

First Semester

Dates	Courses
<i>29 July -16 August</i>	Ecology & Society
<i>26 August - 13 September</i>	Foundations Course
<i>18 September - 08 October</i>	Ecology
<i>14 October - 25 October</i>	Ecology of Birds
<i>28 October -15 November</i>	Ecology Research Methods
<i>20 November -10 December</i>	DED 6054 Coastal Resources Management OR DED 6034 Forests, Forestry & Poverty

Summary First Semester: 18 credits

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Second Semester

Dates	Courses
6-24 January	Social Research Methods
27 January - February 14	Statistics
17 February -7 March	Citizen Science
10 March -28 March	Indigenous perspectives in Environment & Development OR Circular Bioeconomy
	<i>Thesis work starts</i>
21 April - 9 May	Urban Sustainability

December 16th- submission of Thesis



ECS 6002 Graduate Statistics:

This course presents a review of multiple statistical methods for data analysis, ranging from the most fundamental concepts to modern analysis techniques. The course will be given with a practical and intuitive approach, which will be developed through the use of the R program (no previous experience is required). In addition, the course will seek to cultivate an appreciation for good practices in data visualization, as well as to foster students' critical analysis of different problems related to the manipulation and interpretation of statistical information.

ECS 6000 Graduate Ecology:

This course provides an opportunity for graduate students in the MSc Programme in Ecology to expand their breadth of knowledge and complexity of understanding and application of ecological principles. It is designed to provide the knowledge needed so students can focus on the more advanced experiences available to them in their future courses and research experiences concerning the concepts, current and future regional to international issues in the ecological sciences, and the application of ecological theory and methods to address these issues.

ECS 6001 Ecology & Society:

In this course we will become familiar with contemporary issues in the field of Ecology & Society. To provide context to our discussions, we begin with an analysis of key frameworks and principles including Social-Ecological Resilience, Environmental Justice and Community Based Research. Viacontemporary case studies we put these frameworks and principles into practice. In this course we mainstream social justice to ensure that we understand how programs and policies affect countries and peoples differently.

ECS 6007 Ecology of Birds:

This course presents a combination of lectures, discussions, literature review, writing essays, an field practice as an attempt to understand diversity and conservation of bird life. The course will overview classic and current topics in Ecology of Birds and how we can integrate diverse disciplines to develop bird conservation strategies. The course will incorporate specialized bird monitoring techniques and bird behaviour observations in the field, which will be conducted in different locations of the university campus, like the UPeace Recreational Park.



ECS 6008 Ecology Research Methods:

This course presents a compilation of ecological research methods, extending from classical methodologies to modern tools and techniques. The course will emphasize a practical approach, which will be conducted in different locations of the university campus, like the UPeace Recreational Park.

DED 6097 Coastal Resources Management:

Around 40% of the world's population currently lives within 100 km of the coast, and nearly all humanity benefits from the world's coasts and oceans for a variety of cultural, economic, and environmental reasons. Despite, or perhaps because, of their value to social and ecological processes, marine resources face increasing pressures and conflicts over their utilization.

Additionally, climate change acts as a main driver of major oceanic and coastal threats. As a response to the evident crises of coastal resources, we have been able to move away from a proclaimed inexhaustibility of the ocean, predominant in Western societies in the 19th century, to the development of tools intended to help stakeholders, from the local to the national and international levels, to protect and to manage these resources more equitably, effectively, and sustainably. In this course, we will identify major challenges and threats to the world's oceans and coasts and their impact on coastal populations. We will look into different coastal ecosystems, their functions and importance.

In addition to that, we will become familiarized with innovations, strategies, and management tools related to coastal resource management. Finally, through practical exercises, guest lectures, and field visits, students will be able to explore the complex nexus of relations between humans and coastal/marine resources as it applies to Latin America and the case of Costa Rica

DED 6034 Forests, Forestry & Poverty:

Deforestation is considered one of the main global environmental challenges of our times, because of its significant impact on biodiversity and its important contribution to Climate Change and Global Warming, as well as on the livelihoods of millions of people. This course analyzes the way deforestation and forest degradation have been and are being explained by both mainstream and alternative narratives. It critically engages with the way deforestation is defined and measured and discusses the various attempts to stop or reduce it. We will look at a range of conservation approaches that go from traditional protected areas over community-based strategies, and the increasingly common market-based approaches and finally forest restoration. Illegal logging and timber trade will be looked at as a specific topic of particular importance since it is linked to development, poverty, and violent conflict.

Additionally, this course looks at the links between poverty and deforestation, some of the possible strategies to reduce poverty through forest-based activities and analyzes and discusses the importance of forests for humans and the challenges faced by those who try to manage them sustainably.



DED 6084 Social Research Methods:

In this course we will critically examine research methodology. Our course is designed to take student sequentially through the process of thinking about and designing research. Together, we will explore the basic structure of research and examine the philosophical origins of different research approaches. I will guide students as they learn to link different information-gathering methods to different research approaches.

My emphasis will be on qualitative research methodology, but we will introduce quantitative data gathering and sampling. To ensure that students gain hands on experience with the process of developing methodologies and implementing different information gathering procedures, I will complement lectures with workshops where students will learn by doing. Furthermore, I believe that learning about methods requires analyzing how these methods have worked (or not) in real world case studies; thus, in class discussions of current case studies will complement workshops and lectures.

ECS 6005 Citizen Science:

Citizen science (CS) is a quickly evolving field, engaging millions of volunteers around the world in parts of the scientific process. New technologies have facilitated this rapid expansion by making CS programs attractive to a diverse set of participants and multiplying the ways in which researchers and citizen scientists interact together to address scientific questions.

As many participants gather high volumes of data, CS can help researchers solve new problems or approach previous questions from a larger scale perspective. CS has already made important contributions to fields like ecology, conservation science, environmental protection, geographic information research, social sciences and epidemiology.

In addition, CS simultaneously plays an important role in education and the public perception of science. This course will cover what citizen science is and the key components that form a CS program. Also, we will explore some of its current applications and weigh the investments needed to create a CS program. We will also compare different project categories, based on the activities that are carried out by the participants. During the course, students are going to get involved first-hand with local CS projects and exercise on planning reasonable new initiatives based on CS. Lastly, we will discuss some of the current promises of CS in terms of democratization, education and scientific discoveries, in the context of the UN Sustainable Development Goals (SDGs).

DED 6098 Indigenous perspectives in Environment & Development I:

The Seminar on Indigenous Perspectives on Environment & Development take as a point of departure the fundamentals of who are Indigenous Peoples in Costa Rica and around the world. Next, the seminar will provide an overview of the legal frameworks at the universal, regional and national levels that protect Indigenous Peoples' rights.



This will be contrasted with cases of the ongoing challenges that Indigenous Peoples face in conservation initiatives and the criminalization and violence that many face when defending their rights. The seminar will enable participants to understand and discuss traditional or indigenous knowledge systems, their relevance, and their relationship with the previous other themes of the seminar.

DED 6099 Indigenous perspectives in Environment & Development II:

In part two of the Indigenous Perspectives on Environment and Development, we will hear directly from multiple Indigenous scholars, community leaders, Elders, and activists in Costa Rica. Some of the topics covered in this course are Indigenous perspectives on gender, Indigenous approaches to project management and project implementation, Indigenous methodologies for research, Indigenous healing, Indigenous perspectives on development, and land-back movements. The course will rely on guest speakers both on campus and students will visit Indigenous territories to learn such teachings on the land. Indigenous voices will be central to our teachings and debriefing will be led by the course facilitator.

RMSED 6058 Circular Bioeconomy:

Over the last century, much of the world's economic progress has been based on finite resources - fossil fuels such as coal, oil, and gas. While this has led to extraordinary technologies such as motorized vehicles and advances in medical equipment, it has also irreversibly changed our planet: today, we are facing environmental, health and social crises never seen before. The problem: our linear economic model aims at growth at all costs. As the planet is finite, this system has failed to respect the environment as the source of which all life depends. Circular bioeconomy seeks to break with this linear approach.

It is an economic model which offers compelling opportunities for a transition to a sustainable economic framework, emphasizing the use of renewable resources, minimizing waste, and replacing non-renewable, fossil-based products. It is an economy that prospers in harmony with the natural environment and aims to critically reduce the global ecological footprint by using materials for as long as possible and promoting emissions-reducing practices. This model is, however, not as new as it sounds.

Humanity has lived for thousands of years without using fossil fuels. This has shifted with the Industrial Revolution, population growth, and, changing consumption patterns.



Today, we need to start thinking differently again. In this course, we will examine the ecological, social, cultural, and economic impacts of our current economic system and the opportunities for change offered by a sustainable and circular bioeconomy. We will examine how sustainability and circularity can be embedded into bioeconomy strategies, policies, and practices. Finally, we will hear from and visit people, projects, organizations, and companies who are already using innovative solutions for a just and more sustainable future, recognizing that there is no future for business as usual.

You will learn from case studies, site visits and the experience of experts in the field, in addition to gaining tools and developing skills that will help you propose strategies, projects and policies to improve your community, town or city in order to make it more sustainable.

RMSED 6058 Circular Bioeconomy:

By 2050, it is estimated that two-thirds of the world's population will live in an urban environment. In many countries in the developing world, this is already a reality, with 80-90% of their population living in cities, with increasing and rapid rates of urbanization. Increased urban population growth, paired with other socio-economic realities that are characteristic of cities, poses enormous challenges to ensure quality of life and well-being for everyone, leaving no one is behind.

Urban sustainability goes beyond how "green" a city is. This course will be based on Sustainable Development Goal (SDG) #11 Sustainable Cities and Communities and the New Urban Agenda and will provide an understanding on how sustainability in cities is a multivariable concept, interconnected with other SDGs and issues such as urban planning, transport planning, and design, inequality, climate action, health, gender, economic development, among others.