Biocultural Diversity in Nepal

*Fall 2024 Field Program in the Nepal Himalayas*

*ESCI 437 – 15 credits*

**DRAFT** Syllabus

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# PROGRAM OVERVIEW

The Himalayas of Central Nepal contain many high mountainous national parks with a mandate to conserve the area's rich biological diversity and colorful cultural heritage. Critically endangered Red Pandas, Snow Leopards, and Musk Deer roam the mountains while Tibetan Buddhist farmers terrace hillsides, graze their Yaks in alpine meadows, and supplement their diet with wild mushrooms and greens. It has been four decades since the first National Parks were established and the Parks’ unique legacy makes them excellent living laboratories to explore issues of biodiversity, conservation and sustainable development. What is working and what challenges remain?

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# COURSE DESCRIPTION: BIOCULTURAL DIVERSITY OF THE HIMALAYAS

This program—run in partnership with RTEES Nepal—includes intensive field work that encompass academic studies in Himalayan biodiversity, conservation biology, ethnobiology, and community development. A primary focus will be on how communities continue to depend on biodiversity despite shifts in land management, climate, and economic needs. How can biodiversity and ethnobiology serve as a touchstone for critical thinking about ecological sustainability? In exploring both threats to biodiversity and the ways that people and institutions are attempting to conserve it, we will examine underlying assumptions about globalization, sustainability, and environmental preservation. The seven week program includes a week in Kathmandu where we will tour World Heritage Sites, and visit NGOs engaged in the protection of biodiversity before heading to Himalayan National Parks where we will trek to holy lakes and high mountain passes between homestays with families.

This is a field-based course where we will have the opportunity to learn from ecologists, resource managers, villagers, conservation professionals, development organizations, and each other. Students are expected to be actively engaged in their own learning through participant observation and the use of print and digital resources.

Upon successful completion of this course, students will be able to:

1. Discuss parallels between biological and cultural diversity
2. Identify how humans are benefiting from biodiversity
3. Identify common plant and animal species and taxonomic groups found in the Himalayas and understand how the life-history strategy of each organism helps it thrive within its particular niche.
4. Interpret abiotic forces that have and continue to shape ecosystems.
5. Describe past and present anthropogenic impacts on the mountains, and how conservation efforts have attempted to reduce these impacts.
6. Critically analyze and evaluate approaches to conservation issues and community development.
7. Engage in meaningful cross-cultural dialogue.
8. Travel in a developing country in an ethical manner.
9. Develop grit and resilience while overcoming physical, cultural, and academic challenges. Develop a better understanding of one’s own capabilities, needs, and limitations.
10. Contribute meaningfully to a team.

This course is grounded in collaborative learning and ethical travel. Through an intellectually and physically rigorous schedule of activities, the experience promises to be both unique and transformative. Prior to travel, we will participate in orientation, team building, and preparatory study on ethical travel and biocultural diversity. While in Nepal, community, work, and family activities provide diverse experiences for participatory learning. As a “seminar in motion,” the program draws on remarkable local expertise and diverse social contexts, in a dynamic itinerary that entails both carefully planned and evolving activities. Students will engage in on-site academic seminars, reading, writing, and reflective practice. This 15 credit course is designed to enable students to get the most out of their international experience by developing knowledge, skills, values, and their application in an intercultural context.

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# CORE PROGRAM COMPONENTS

**Biodiversity and Conservation:** Using a combination of guest talks, readings, trailside mini-lectures, field observation, and personal observation, we explore the biodiversity and conservation of the Himalayas. Our studies begin by examining environmental factors such as geology and climate in shaping ecosystems. We will identify several common plants and animal species found in the Himalayas and examine how the life-history strategy of each organism helps it thrive within its particular niche. We will also learn to discern past and present anthropogenic impacts on the mountains, and how conservation efforts have attempted to reduce these impacts. Finally, we will identify how humans are benefiting from biodiversity and reflect on the parallels between biological and cultural diversity.

**Cultural Competency & Immersion:** The objective is to become familiar with basic heritage, customs, and etiquette of the cultures we visit, facilitating a productive adaptation to village life. This includes instruction in basic language and homestays with local families. Students are expected to participate in a schedule of lectures and discussions from faculty and indigenous experts, and are accountable for core course readings.

**Sustainable Development:** The course will introduce students to theories of sustainable international development. We will discuss the ethics of international volunteer work and what could go wrong when trying to do right. We partner with two grassroots organizations in two local communities to work on projects that they initiate and lead. The service philosophy of this program is that local communities are the experts in their priorities and in how best to achieve them. Our role as outsiders is to approach international service with a huge dose of humility and let our community partners guide our involvement in the manner that they believe will be most meaningful.

A group of people hiking on a mountain

Description automatically generated**Responsible and Ethical Travel:** The program is grounded in principles of responsible travel, which include ethical and culturally appropriate behavior, cultivating reciprocal relationships, learning from and valuing Indigenous knowledge, and supporting local economies and grassroots organizations. For the program to be successful and have a long-term positive impact, it requires a full commitment of all participants to uphold these principles. Before departure we will cover general guidelines and expectations, as well as the responsibilities we carry as global travelers. We will also discuss potential moral dilemmas that can arise while traveling in another culture and strategies on how to handle such situations. With the understanding that responsible and ethical travel is an ongoing learning process, students will be encouraged to share questions, perspectives and insights throughout the trip. Through this collaborative learning, we will aspire as a group to improve upon the practices and principles of the program.

# TYPICAL SCHEDULE:

## Kathmandu (~7 days)

7:00-8:00 Birding

10:00-11:30 Visit NGO

12:30-1:00 Nepali language

1:00-4:00 Visit world heritage sites, museums, botanic gardens, etc.

5:00-6:00 Reading discussion

7:00-8:00 Reflection exercises

## Trekking (~28 days)

A group of people posing for a photo

Description automatically generated6:30-7:30 Natural Walks focusing on plant/bird/mushroom identification

8:30-12:00 Hike to the next location with stops for trailside mini-lectures on topics related to geology and ecology.

12:30-1:00 Nepali language

1:00-3:00 Finish hiking

3:00-5:00 Time to read and work on assignments

5:00-6:00 Reading discussion

7:00-8:00 Reflection exercises



## Homestays (~14)

7:00-8:00 Community Walks (themes include ethnobotany, sustainable agriculture, and pastoralism)

8:00-1:00 Help with home chores and meal prep

1:00-5:00 Group activity (blacksmithing, weaving, grain processing, etc.)

5:00-6:00 Reading discussion

6:00-8:00 Help family prepare dinner

8:00-9:00 Time to read and write

# REQUIRED TEXT AND SUPPLIES

1. 3 Rite-in-the-Rain notebooks (5”recommended)
2. A digital camera or smart phone (plus extra batteries and charger)
3. 7x35, 8x32, or 8x42 binoculars ([Wingspan](https://www.amazon.com/Wingspan-Optics-Binoculars-Waterproof-Magnification/dp/B01JU747YS?tag=weltramil0c-20&th=1) and [Celestron](https://www.amazon.com/Celestron-71330-Nature-Binocular-Green/dp/B00B73JO8I?tag=weltramil0c-20) are well priced).
4. [Biophilia](https://www.amazon.com/Biophilia-Edward-Wilson/dp/0674074424) by E.O Wilson (hardcopy or e-book)
5. Nepali language resources:
   1. Shrestha, Sushila 2014. Basic Nepali Phrase Book & Dictionary
   2. Simply Learn Nepal app
   3. Audio file lessons <http://www.tibm.org/nepali-language-lessons.html>
6. Two books from the following list (audiobooks and e-books are OK):
   1. Snow Leopard by Peter Matheson
   2. 7 years in Tibet by Heinrich Harrer
   3. Freedom in Exile, by the Dalia Lama
   4. The Invention of Nature by Andrea Wulf
7. One field guide from the following list:

* 1. [Wildflowers of Everest](https://www.highcountryapps.com/flora-apps/wildflowers-of-mount-everest) App
  2. [Birds of Nepal: Revised Edition](https://www.amazon.com/Birds-Nepal-Revised-Field-Guides/dp/1472905717/ref=sr_1_1?s=books&ie=UTF8&qid=1477955503&sr=1-1&keywords=birds+of+nepal) by Richard Grimmett et al.

1. A digital course pack containing readings from the following books (downloadable on canvas)
   1. Bishop, Naomi 1997. Himalayan Herders, Case Studies in Cultural Anthropology.
   2. Miehe, George and Colin Pendry 2015. Nepal, An introduction to the natural history, ecology and human environment of the Himalayas.
   3. Manandhar, Narayan 2002. Plants and People of Nepal.
   4. Shrestha, and Lamstein 1997. From the Mango Tree and other Folktales from Nepal.
   5. Adhikari, Anil 2010. Biodiversity Conservation & Sustainable Livelihoods: Success Stories
   6. Kaptstein, Mathew 2014. Tibetan Buddhism, a very short introduction.
   7. Davis, Wade 2007. Light at the Edge of the World. Chapter 6: Land of Snows.
   8. Project summary report from TMI Medicinal Plant Report.
   9. Useful maps: [Makalu Region](https://www.thirdrockadventures.com/visual-map/makalu-base-camp/), [Langtang Region](https://www.thirdrockadventures.com/map/langtang-region-map)

# ASSIGNMENTS AND ASSESSMENT:

## Field notebook and travel log (10 pts/day = 500 pts). Due: Last day in Nepal

The field notebook is a place for you to take notes and document reflections on things that you learn and observe while hiking and observing along the trail, in camp, or during conversations with presenters, hosts, and villagers. All good naturalists and ethnologists keep field notebooks in addition to specific data that they may be collecting. Good field note books include the following types of information:

* Header: date, location or route for the day, weather.
* People involved: list the people that joined you for a side trip, or the names, contact info, etc. of people that give guest talks or that you are learning from.
* Purpose: if relevant, write a sentence that describes the entry that will follow.
* Observations, notes & data: This is real time information that you are writing down as you hike, sit and observe, or talk to people. Field sketches are a great way to increase your awareness of organisms that you see. Photographs can be pasted into the electronic version of the field notebook you will submit at the end of our trip. Note any photos taken or specimens collected (where appropriate). I find that it is also useful to document the things that I purchased along the way.
* Questions: These are just as important as your observations. Every entry should have a few questions that you are mulling over during the day. Write these down and treasure them as learning opportunities.
* Reflections & Summary: This is written at the end of the day and should include the highlights, challenges, lessons learned and reflections. This is also a great place to write down additional questions, or the answers you may have learned to previous questions. I encourage you to include both personal journaling as well as more course related content in this section. Personal notes can be obscured when you turn in photos of your notebook at the end of the quarter.

Semi-weekly ethnographic exercises will be developed in situ, including on topics such as: global-local intersections; social relations; resolution of divergent viewpoints; interconnections of social/environmental wellbeing; and religious principles and practice. Specific topics will be assigned during orientation as well as around the numbers and kinds of borders that are crossed from Bellingham to the Himalayas.

On occasion, you will be asked to select and share with the group key passages that reflect your learning, connections to other experiences, or challenges to prior knowledge or points of view.

## Digital Species Collection (400 pts). Due: Last day in Nepal.

Make a photographic collection of 100 different organisms. You can focus on a particular group (such as flowering plants, mosses and lichens, mushrooms, insects, wildlife, etc.) or try and represent as many different types of organisms as possible. Upload your collection to our “Langtang NP WWU Biocultural Diversity” class project page on [www.inaturalist.org](http://www.inaturalist.org). This exercise is designed to stretch your understanding of new organisms. Posted on the internet, these digital collections will be available to the public and help contribute to the knowledge of Himalayan biodiversity. Do your best to capture clear images in good lighting so that identification later will be easier.

If you are using a smart phone, be smart! Have the iNaturalist app loaded onto your phone before the trip and use the app to record observations directly into our project. Add identification guesses and habitat notes as you go so you aren’t swamped with these tasks at the end of the trip. Each species observation will be assessed based on inclusion of the following:

1. Name of organism: Use a Common and Scientific recognized by iNaturalist (1 pt.). I will award full points for family level identifications for insects.
2. Photo: You can upload more than 1 to iNaturalist. It may be useful to photograph several features of larger organisms such as the bark, needles, cones, and overall shape of a tree. (1 pt)
3. Location (Some phones have a GPS that automatically stamps coordinates in the photo metadata. If not, you will need to figure out a system of determining the location of photos. I recommend also photographing landmarks such as trail junctions, creek crossings, etc. so that when you view your photographs chronologically, you can estimate proximity to these landmarks). (1 pt)
4. Description: Use this space to record the habitat, associated species, and a description of features that might not be evident from the photograph. (1 pt)

## Organism Report and Presentation (50 pts). Due: Last Day of Seminar

Select one organism that you observed during our travels and write a four to six page (double spaced) report. Your report should include a description of the organism, life history, niche, habitat and range, ethnobiology, considerations for conservation, and other information that you find interesting. Also include a bibliography and in text citations. I will publish high quality papers on a blog for this course, so this is a chance to contribute to the broader community of naturalists. Please write for this potential audience. Below are notes on style and content.

* Title: Include the scientific name and family for plants and animals as well as the order for insects.
* Why you are interested. Engage the reader with a few anecdotes
* Description: Size, shape, color, texture, etc. Include the family and lower classification for plants and common animals such as birds and mammals. Include the order for lesser known animals such as insects. Include higher levels of classification for esoteric organisms such as slime molds, mosses, bacteria, etc.
* Life History: How long does it live? What life stages does it go through? When does it become sexually mature?
* Habitat, Range, Niche: What eats it? What does it need to survive? What are common associated organisms? What kind of disturbance regime does it favor? Where is it found (including altitude range, latitude range, climate range, soil moisture range, etc).
* Units: metric units
* In text citations: Author’s last name and year (Smith 2010). For two authors: Smith and Anderson 2010). For three or more authors (Smith et al. 2010).
* Images: Include at least one image. Additional images are encouraged if they help communicate elements of your species description, habit, or range in a meaningful way. For example, with trees it is nice to have close-up images of the needles and cones as well as wide angle views of the bark texture, overall tree shape, and habitat. If you don’t have your own images, you may download others from the internet. Just be sure that reproduction is allowed and that you attribute the photographer in a caption below each photograph (e.g. “Don Smith photograph.”
* Range maps are encouraged if you can find one.
* Consideration for conservation: consult the IUCN listing status. Is it getting the disturbance it needs or too much disturbance? Are climate change or pollution threatening it?
* Other interesting information: You can include historical uses, ethnobotany, literary and mythological references, etc.
* Bibliography: Include full citations in the following format.
  + Books: First author last name, first name, second author first name last name, … and last author first name last name, year published. “Title” Publisher, publisher city, state.
  + Articles: First author last name, first, second author first name last name, … and last author first name last name, year published. “Article Title” in Journal Title, Vol. Is. Pg xx-xx.
  + Website: Hyperlinked name of website. Author if listed. Date accessed.

## Traditional Use Surveys, Scavenger Hunts and Community Mapping (100 pts). Due: Last day in Nepal

Working in small groups, pick a traditional use category such as food, fiber, firewood, building materials, or medicine, and work with villagers to understand the ethnobiology of these resources. You should learn what species are involved, the scientific, Nepali, and local names, where they are found relative to the village and other important village landmarks, when they are harvested, how they are harvested, processed, and prepared, individual or social practices that foster sustainable use of a particular resource, and how use has changed over time in response to globalization, park management, climate change, or other forces. This may take the form of scavenger hunts provided by the instructor.

## Participation (150 pts):

Your contributions should be positive and take into consideration the learning of the entire class. Any actions that impede your learning or the learning of other class members will adversely affect your participation grade. Outstanding participation and contribution would be characterized by the following behaviors:

* Demonstrating a commitment and understanding of the importance of respecting the local culture, their norms, and their expectations of our partnership.
* Participating in class discussion, including questions, areas for exploration, and discussions that further understanding, according to our learning objectives.
* Demonstrating excellent listening skills by remaining attentive and respectful of other students, teachers, staff, and especially community members and guest speakers.
* Demonstrating ability to apply, analyze, and synthesize course material.
* Exploring new ideas and challenging questions.
* Demonstrating open and full participation in learning and service activities.
* Demonstrating an understanding of reciprocity in cross cultural interactions.
* Behaving professionally when interacting with representatives from community and non governmental organizations
* Practicing your Nepali with locals
* Going on walks in small groups
* Trying local foods
* Journaling

**Activities that show poor participation include:**

* Always hiking with headphones instead of paying attention to your surroundings
* Sitting in your room during the day
* Taking naps
* Dwelling excessively about home
* Prioritizing hanging out with classmates over cultural activities

# POLICIES

This program has a zero tolerance policy towards drug use. If you are caught using marijuana or other drugs that are illegal in Nepal, you will be sent home at your own expense.

Western is committed to equal opportunity and non-discrimination in all programs and activities. Requests for accommodation or assistance should be directed to Disability Resources for students located in Old Main 110; additional information is available at:

<https://disability.wwu.edu> Telephone: 650-3083 / Email: [drs@wwu.edu](mailto:drs@wwu.edu)

Western provides reasonable accommodation for students to take holidays for reasons of faith or conscience or for organized activities conducted under the auspices of a religious denomination, church, or religious organization. Students seeking such accommodation must provide written notice to their faculty within the first two weeks of the course, citing the specific dates for which they will be absent. “Reasonable accommodation” means that faculty will coordinate with the student on scheduling examinations or other activities necessary for completion of the course or program and includes rescheduling examinations or activities or offering different times for examinations or activities. Additional information about this accommodation can be found in [SB 5166: Providing religious accommodations for postsecondary students.](https://app.leg.wa.gov/billsummary?BillNumber=5166&Initiative=false&Year=2019)

For a list of other policies concerning students, click [here](http://Syllabi@wwu).

# INSTRUCTION AND ACADEMIC RESOURCES

Instructors of Record:

T. Abe Lloyd

Senior Instructor,

Environmental Science Department, College of the Environment

Western Washington University

[lloydt@wwu.edu](mailto:lloydt@wwu.edu) 360 303-1339 (USA only)

Nepal-Based Contacts:

Bipin Lama, Director/ Owner and guide

RTEES Nepal/ White Lotus Trekking

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# ITINERARY

Following a two day orientation in Bellingham, the program proceeds to Kathmandu where we will spend four days visiting botanical gardens, non-government organizations, world heritage sites, and scholars while residing in a Buddhist Monastery. Then we travel to the Everest/Makalu region for two weeks of studying the transition in biogeoclimatic zones as we trek up the Arun River Valley. In the villages of Gola and Shyakshila we will participate in our first homestays and examine the local subsistence economy that villagers recently began supplementing with the cultivation of Medicinal and Aromatics Plants for international markets. From there we will trek up the remote Barun River towards the Makalu Base Camp where we may get views of Makalu and Everest, two of the tallest peaks in the world, before looping back a different way to the trailhead. After a rest day in Kathmandu, we’ll then travel to the Langtang Region where we will follow the Tamang Heritage Trek and participate in homestays that will give us a closer look at the importance of herding, farming, and tourism in the villages of Gatlang, Thuman, and Briddim. From Briddim we will cross into Langtang National Park and ascend to the holy Gosaikunda lakes, a major pilgrimage destination for Hindus throughout Nepal. Our return itinerary includes a stop at the National Park headquarters where we can report our findings and get a chance to see how Langtang National Park balances its mandate to conserve both natural and cultural heritage.

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| **Tentative Dates** | **Place/Activity** |
| Sep 23-24 | Orientation, Bellingham |
| Sep 27 | Departure |
| Sep 28 | Arrive Kathmandu |
| Sep 29-2 | Kathmandu, visit NGOs world heritage sites, museums. Stay in Buddhist Monastery |
| Oct 3-7 | Fly to Tunmingtar Upper Arun Valley. Medicinal and Aromatic Plants study. Homestays. |
| Oct 8-19 | Makalu Base Camp Trek |
| Oct 20 | Fly to Kathmandu |
| Oct 22 | Drive to Gatlang |
| Oct 31-Nov 3 | Tamang Heritage Trail. Homestays. |
| Nov 3-12 | Gosaikunda or Langtang Trek. Wildlife study |
| Nov 13-15 | Kathmandu. NGOs cultural attractions |
| Nov 16 | Flight Home |
| Nov 21-22 | Post Trip Seminar. Reverse culture shock; assignments due; organism report presentations. |

# Topics

Biodiversity of the Himalaya

Intro to the geology and climate of the Himalaya

Floristic zones in mountains

Plant morphology and adaptations that help plants survive in the mountains

Environmental disturbances

Bird ID and adaptations

Introduction to South Asia, Nepal, and the Tibetan Buddhists of the Himalayas

Cultural geography of a diverse region

Nepali language

Tamang ethnobotany. Basket weaving, farming, medicine, incense, etc.

Subsistence farming

Protected Areas Management

Habitat destruction, poaching

Endangered species conservation

Island Biogeography and park design

Climate change

Managing natural and cultural heritage- tensions between livelihoods and conservation

Stewardship principles and practices

Ethical study and travel

Kathmandu

Staying found, safe, and healthy in a developing country

Cultural heritage

Villages (Gatlang, Thuman, Briddim,

Medicinal and Aromatic Plant Cultivation

Participatory learning

Himalaya cultures: past, present, and prospective

Dynamics of economic and cultural changes

Village life: work, families, a sense of place

Ethnoecology, resources, and rights: health, food, water, fuel, shelter

Homestay Tourism

Team Building

Group processing

Overcoming physical and emotional challenges