

CONSERVATION (CONS)

CONS 201 Introduction to Integrative Conservation (3 Credits)

An introduction to the field of integrative conservation. Through this course students will learn about the connectedness between natural and human ecosystems, explore the value of biodiversity to aspects of society, and learn about existing and emerging actions and strategies in integrative conservation.

College Curriculum: C200

Domain: CSI, NQR

CONS 210 Introduction to Conservation GIS (3 Credits)

The integration of spatial data and analyses across the conservation community can lead to improved conservation outcomes and allows conservationists to solve pressing environmental questions. In addition, sharing conservation issues and outcomes through well designed maps and online, interactive tools can play a critical role in advancing the dissemination of important conservation stories. This course will provide an introduction to Geographic Information Systems (GIS) with a focus on conservation applications. Emphasis will be on the hands-on application of GIS to create maps, organize and visualize spatial data, and query spatial data to create answers for environmental questions. Students will examine spatial data with an emphasis on data structures, acquisition, processing, management, and analysis. A spatial database will be queried to solve spatial problems, analyze related attributes, and produce computerized cartographic output. The coursework includes readings and hands-on computer lab exercises and a final project.

CONS 290 Introduction to Conservation Research (1-3 Credits)

An introduction to research in integrative conservation, in the lab or field and under the supervision of a faculty mentor. This course is intended as a gateway to CONS 490 Conservation Practicum. The course encompasses research planning, data analyses, and communication of findings. Hours to be arranged. The course is graded pass/fail. By instructor permission only.

CONS 301 Quantitative Methods in Conservation (3 Credits)

This course is designed to help students explore applications of quantitative methods to support sustainable conservation decisions while addressing real-world issues and finding that state of harmony between humans and natural resources. Students (juniors and seniors) will be exposed to a basic hands-on experience in advanced analysis, synthesis, and discussion of applied conservation issues and solutions. Students will identify questions that are of interest to conservation decision makers; and design analyses to answer those questions. Data acquisition, processing, analysis and presentation of results will be a major part of the course. Assignments will be taught using open-source software language "R" and packages that are widely used in conservation science

Prerequisite(s): (CONS 201 or ENSP 101 or BIOL 204)

Domain: NQR

CONS 370 Environmental Justice (3 Credits)

This course introduces students to environmental justice as a lens to understand the nexus between social justice struggles and ecological sustainability. Students connect race, class, indigeneity, and gender to the unequal distribution of environmental benefits and harms in the U.S. and globally. Students learn about community-based participatory research methodologies that advance environmental justice and scientific inquiry.

College Curriculum: C350

Domain: CSI

CONS 371 Political Ecology of Conservation (3 Credits)

In today's globalized world, understanding conservation requires us to step out of our comfort zones and familiar surroundings to see how different cultures and histories shape environmental practices. The interdisciplinary field of political ecology provides a lens through which we can explore the cross-cultural implications of conservation. This course delves into the intricate relationships between environmental science, political economy, criminology, and cultural studies, emphasizing the pivotal roles of history, multi-scale connections, narratives, differentiation, power, and resource materialities in influencing socio-political dynamics and ecological outcomes. Students will investigate how local environmental issues are intricately tied to larger political-economic structures and the broader socio-ecological canvas.

Prerequisite(s): CONS 201 or ENSP 101 or SOCL 351 or SOCL 352 or SOCL 353 or SOCL 354

College Curriculum: C30C

Domain: CSI

CONS 372 Sustainable Livelihoods (3 Credits)

This course explores how rural development addresses climate change, biodiversity loss, and global inequality through various sustainability initiatives. Students will critically examine topics such as agro-ecology, land governance, carbon markets, and corporate social responsibility from a political economy standpoint.

Prerequisite(s): (CONS 201 or ENSP 101 or BIOL 204 or SOCL 351 or SOCL 352 or SOCL 353 or SOCL 354)

Domain: CSI

CONS 401 Conservation Ethics (3 Credits)

This course addresses the ethics of protecting and conserving nature. The approach to ethics is interdisciplinary and broadly involves the politics, values, norms, and moral orders that guide conservation actions in different times and geographies. Often, conservation ethics courses have focused on the history of recognized US naturalists and ecologists and their conceptions of nature. In this course, however, we will examine conservation as a diverse field made not only by experts in the Global North but also by women, BIPOC, indigenous communities, farmers, and the Global South. Hence, we will examine the different views, positions, and values that shape conservation and earth caring practices. Cases include, among others, wildlife management, hunting, conservation parks, zoos, ecotourism, convivial conservation, and cooperation. Questions include, among others, should conservation lands be returned to the tribes? How can conservation be more diverse and promote equity? Who benefits from ecotourism? Is nature an economic service to humans? Or, what ethics are involved in sterilizing, killing, or eradicating animals? This seminar has discussion, reading, writing, and research components. There will be readings, discussions, and lectures. We will also examine films, mission statements, policies, and archival documents. Students will produce an individual blog-style essay based on their own research project. Students will also contribute with an individual concept definition for a collective conservation ethics concepts toolkit. In groups, students will produce a making & doing presentation on an assigned chapter. Participation is crucial for the successful completion of the course.

Prerequisite(s): CONS 201 or ANTH 200 or ENSP 101 or BIOL 204

College Curriculum: C200

Domain: ALV

CONS 410 Indigenous Knowledges & Conservation (3 Credits)

This course examines how indigenous scholars and activists conceptualize, historicize, and investigate conservation, human-nature relations, and forms of stewardship and earth-caring. While doing so, indigenous voices in conservation have connected nature with histories of race, settler colonialism, eurocentrism, marginalization and poverty, gender, and family structures.

Prerequisite(s): CONS 201 or ENSP 101 or BIOL 204

College Curriculum: C350

CONS 415 People-Centered Conservation & Climate Solutions (3 Credits)

This immersive, D. C. Winter Seminar course will be led by faculty from the Institute for Integrative Conservation (IIC) with guest lectures from global leaders in behavior-centered design for conservation: staff from Rare, EcoAction, and other partner organizations. This course focuses on global people-centered conservation and climate solutions, emphasizing the vital role individuals and communities play in addressing environmental challenges. Participants will learn directly from scientists, behavioral and social scientists, and other conservation partners in the D.C. area. Through interactive sessions and case studies, students will explore successful strategies that integrate human behavior into conservation efforts, creating lasting environmental impact. A highlight of the course is the Behavior-Centered Design Challenge, where students will apply behavior-centered design skills to tackle a real-world conservation issue. Working in small teams, students will develop, test, and refine solutions, gaining hands-on experience in creating behavior-driven approaches to contemporary environmental conservation and climate challenges that encourage Arlington County residents to adopt impactful actions that improve their environment. This course offers students a unique experiential opportunity to engage with cutting-edge conservation and climate methodologies, collaborate with global leaders in the field, and gain practical skills in behavior-centered design that they can apply to their own conservation and environmental work. This course fulfills the requirements for COLL 300 and can also count toward the Applied Conservation requirement of the major in Integrative Conservation.

College Curriculum: C30D

CONS 421 Introduction to Conservation Planning (3 Credits)

The world is in the midst of a biodiversity loss crisis. An estimated 96 elephants are lost each day, a scant 3500 tigers remain in the wild, and vast habitats from rainforest to open grassland to coral reefs are rapidly degrading. Conservation practitioners typically have limited resources (money, time, and people) to combat this loss. To be effective with those resources, conservation practitioners need to carefully choose and prioritize their strategies, monitor whether they are being effective, and adapt strategies when they are not working. In addition, to obtain support from funders, partners, or stakeholders, practitioners need to be able to clearly communicate their goals and strategies, demonstrate their effectiveness, and rely on clear, transparent decision-making.

Prerequisite(s): CONS 201

CONS 440 Advanced Topics in Conservation (1-3 Credits)

This is an advanced topics course where the topic of focus changes from semester to semester. The topics for this course will be announced before each semester commences. The course provides students an in-depth treatment of an advanced issue in integrative conservation and will involve advanced analysis, synthesis, and discussion of applied conservation issues and solutions. The course is primarily designed for juniors and seniors. CONS 440 can be repeated for credit when the topic changes.

Prerequisite(s): CONS 201 or ENSP 101 or BIOL 204

CONS 460 Conservation Behavior (3 Credits)

This is an upper-level seminar course exploring theoretical, empirical, and applied connections between behavioral ecology and conservation. This emerging field is termed conservation behavior. The primary focus of this course is to help students learn how to critically evaluate the published literature pertaining to conservation behavior, as well as to assist students in honing their analytic, synthetic, and communication skills through class presentations and discussions and by authoring a public-facing article that describes how animal behavior informs solutions to real-world conservation challenges.

Prerequisite(s): CONS 201 or BIOL 204

College Curriculum: C400

CONS 461 Biodiversity Conservation (3 Credits)

This course is designed to help students explore advanced, contemporary issues and challenges in biodiversity conservation including topics in landscape ecology, social-ecological system, resilience and adaptive management, conservation planning. Students will be exposed to these topics through lecture, selected readings, and discussions. Course is primarily designed for juniors and seniors. The primary focus of the class is to help students learn how to critically evaluate the published literature pertaining to biodiversity conservation, as well as to assist students in honing their analytic, synthetic, and communication skills through class presentations and discussion. Students will also learn how to generate their own scientific questions and hypotheses. Importantly, students will develop ideas about how to test these hypotheses by authoring a mock grant proposal.

Prerequisite(s): CONS 201 or BIOL 318

Domain: NQR

CONS 490 Conservation Practicum (1-3 Credits)

This course is a blend of independent research, under the supervision of a faculty mentor, combined with technical, professional, and career development activities relevant to integrative conservation. The course is intended for students who are exploring conservation careers while giving them applied research experience in areas of integrative conservation. Students will be expected to engage in original research and produce a substantial research paper. This course can be repeated for credit. Hours to be arranged. By instructor permission only.

CONS 491 International Conservation Practicum (1-3 Credits)

This course is a blend of independent research, under the supervision of a faculty mentor, combined with technical, professional, and career development activities relevant to issues of global conservation. The course is intended for students who are exploring conservation careers while giving them applied research experience in areas of international conservation. Students will be engage in original research with an international research partner organization, be mentored in that research by a faculty member, and produce a substantial research paper that analyses cross-cultural differences between domestic and international conservation. This course can be repeated for credit. Hours to be arranged. By instructor permission only.

College Curriculum: C30G

CONS 492 Capstone Conservation Practicum (1-3 Credits)

This course is a blend of independent research, under the supervision of a faculty mentor, combined with technical, professional, and career development activities relevant to integrative conservation. The course is intended for students who are exploring conservation careers while giving them applied research experience in areas of integrative conservation. Students will be expected to engage in original research, produce a substantial research paper, and present their findings to a global audience of conservation partners and W&M alumni. This course can be repeated for credit. Hours to be arranged. By instructor permission only.
College Curriculum: C400

CONS 493 Conservation GIS Research (2 Credits)

The Institute for Integrative Conservation's Conservation GIS Lab provides an opportunity for W&M students to apply their GIS, remote sensing, and data science skills to advance real conservation solutions. In this semester-long program, students are matched with an external partner to complete an applied project with support from W&M faculty mentors through a weekly lab. This is a great opportunity for students to get research experience, build their GIS, remote sensing, and data science skills, and help advance conservation solutions. Students will participate in a weekly lab meeting, will meet regularly with their conservation partners, and will receive 2 credits of independent research (CONS 493).
Prerequisite(s): CONS 210 or GIS 201 or BIOL 455

CONS 495 Honors (3 Credits)

Honors candidates must complete a two-semester sequence of 495 and 496. This course is a blend of independent research, under the supervision of a faculty mentor, combined with technical, professional, and career development activities relevant to integrative conservation. The course is intended for senior students who are exploring conservation careers while giving them applied research experience in areas of integrative conservation. Students are required to engage in original research and produce an Honors thesis based on a review of relevant literature and their own research. Students will also present their findings to a global audience of conservation partners and W&M alumni. For university provisions governing the admission to Honors, please refer to the catalog section titled Honors and Special Programs. By instructor permission only.

CONS 496 Honors (3 Credits)

Honors candidates must complete a two-semester sequence of 495 and 496. This course is a blend of independent research, under the supervision of a faculty mentor, combined with technical, professional, and career development activities relevant to integrative conservation. The course is intended for senior students who are exploring conservation careers while giving them applied research experience in areas of integrative conservation. Students are required to engage in original research and produce an Honors thesis based on a review of relevant literature and their own research. Students will also present their findings to a global audience of conservation partners and W&M alumni. For university provisions governing the admission to Honors, please refer to the catalog section titled Honors and Special Programs. By instructor permission only.

College Curriculum: C400