RECORD OF ACADEMIC ACHIEVEMENT

The Evergreen State College - Olympia, Washington 98505

OFFICIAL TRANSCRIPT DOCUMENT

Pennington, Kristoffer Dane — A00396643

Last, First Middle — Student ID

CREDENTIALS CONFERRED:

Bachelor of Arts and Bachelor of Science Awarded 14 Jun 2024

TRANSFER CREDIT:

Start	End	Credits	Title
09/2016	08/2020	85	**South Puget Sound Community College**

EVERGREEN UNDERGRADUATE CREDIT:

Start	End	Credits	Title
09/2021	12/2021	16	**Climate Foundations and Global Futures** *6 - Political Ecology of Climate Change* *6 - Political Economy of Climate Change* *4 - Climate Science and Quantitative Literacy*
01/2022	03/2022	16	**General Chemistry** *16 - General Chemistry with Lab*
03/2022	06/2022	15	**Ecological Agriculture: Crop Botany and Plant Genetics** *4 - Seminar on the History of Plant Breeding* *5 - Introduction to Plant Genetics* *6 - Introduction to Crop Botany, Plant Physiology and Breeding with Lab*
06/2022	09/2022	6	**Anatomy and Physiology II with Laboratory** *6 - Anatomy and Physiology II with Laboratory*
06/2022	09/2022	6	**Anatomy and Physiology: Foundations and Movement** *6 - Anatomy and Physiology 1 with Laboratory*
09/2022	03/2023	32	**Temperate Rainforest Biogeochemistry and Ecophysiology** **6 - Forest Ecology* **6 - Biogeochemistry* **4 - Remote Sensing and GIS: Geographic Information Systems* **6 - Forest Ecosystem Ecology* **6 - Research in Ecological Science* **4 - Statistics I and II: Accelerated*
04/2023	06/2023	12	**Current Economic Issues and Social Justice** *4 - U.S. Political Economy: Current Issues* *4 - Foundations of Economics* *4 - Contemporary Social Movements*
09/2023	03/2024	28	**Wildlife Conservation Biology** **10 - Conservation Biology* **8 - Wildlife and Fisheries Biology* **8 - Field and Analytical Methods in Ecology and Conservation* **2 - Environmental Problem-Solving*
04/2024	06/2024	8	**Stigma: The Causes and Effects of Being Defined as Deviant** *8 - Sociology and Anthropology*
04/2024	06/2024	4	**Capturing Gems: Metalsmithing Techniques for Setting Stones** *4 - Metalsmithing: Stone Setting*

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Cumulative

228 Total Undergraduate Credits Earned

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As an aspiring scholar, My academic journey thus far has been marked by a deep curiosity and a desire to engage in interdisciplinary exploration, making Evergreen's innovative approach to education incredibly appealing to me.

Throughout my high school years, I actively sought out opportunities to explore various disciplines, realizing that knowledge cannot be confined to individual silos. I believe that interdisciplinary learning fosters a holistic understanding of the world, enabling us to tackle complex issues from multiple perspectives. Evergreen State College's commitment to interdisciplinary studies, where faculty and students engage in collaborative and integrative learning experiences, resonates deeply with my own educational philosophy.

Furthermore, Evergreen's emphasis on experiential and project-based learning aligns perfectly with my hands-on approach to education. I strongly believe that knowledge gains its true value when applied to real-world scenarios. I especially thrive in an environment where I can learn in a tactile way. The class I took that best exemplified this is Temperate Rainforests Biogeochemistry and Ecophysiology, which had multiple day field trips in amazing locations which allowed me to apply my knowledge gained in class directly in real life. My proudest achievement in that class were my contributions to the study on how tree transpiration is affected by intense heat waves, which are growing more common due to the effects of climate change. Due to the college's unique learning model, where students actively engage with their learning through research, fieldwork, and community-based projects, it has deepened my understanding of academic concepts but also cultivated my ability to translate theoretical knowledge into practical solutions. This is also a method I believe will be the most effective. If I end up teaching, I do not want to be one of those teachers that never leaves the classrooms. I want to make sure everyone gets the experiences I have had learning in real life scenarios, be it through field trips, going on walks, or consistently bringing in something that you can hold in your hands and see with your eyes.

Additionally, Evergreen State College's commitment to social justice and equity strongly resonates with my personal values. I passionately believe in the power of education to address systemic inequalities and foster inclusive communities. Evergreen's dedication to fostering a diverse and inclusive learning environment, where students from diverse backgrounds can share their unique perspectives and learn from one another, aligns perfectly with my own commitment to social change. Our generation are the inheritors of the future and will be its leaders in the years to come. The drive to make the idyllic world our children deserve is one we should strive to attain. Learning side by side with those who are so incredibly passionate about this makes me incredibly confident about tomorrow and our ability to face the challenges ahead.

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April 2024 - June 2024: Capturing Gems: Metalsmithing Techniques for Setting Stones

4 Credits

DESCRIPTION:
Faculty: Pamela Davis

In this four-credit course, students learned three different styles of stone setting techniques: bezel setting, tube setting, and flush setting. Students new to metalsmithing learned basic techniques such as forming, sawing, drilling, soldering, and polishing. Experienced students refined their foundational skills, in addition to learning stone setting techniques. Using these skills, students created three finished projects in the categories of adornment, functional objects, and small-scale sculpture. Students participated in group discussions and peer critiques. They presented a written artist statement with their final projects.

EVALUATION:
Written by: Pamela Davis

Kristoffer Pennington did excellent work in the 4-credit course Capturing Gems: Metalsmithing Techniques for Setting Stones. Kristoffer's enthusiasm for the medium was evident in Kristoffer's finished projects. Kristoffer explored techniques beyond what was covered in the class which allowed for unique visual interest especially apparent in the 3 dimensional copper lily with a tube set stone. If a technique proved difficult to achieve, the student worked diligently to understand and successfully perform the technique.

Kristoffer was a positive addition to the learning community and contributed meaningfully to class discussions and peer critiques.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 4

4 - Metalsmithing: Stone Setting

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April 2024 - June 2024: Stigma: The Causes and Effects of Being Defined as Deviant

8 Credits

DESCRIPTION:
Faculty: George S. Bridges, PhD

All societies establish ways by which people categorize one another and their many attributes. In established social settings, norms exist regarding the established routines for interpersonal interactions. Erving Goffman was an eminent sociologist who wrote about human interactions in everyday life and argued that when we encounter a stranger in establish settings, we often rely on first appearances to anticipate the stranger's attributes – what Goffman referred to as their "social identity." Based upon these anticipated attributes, we frame expectations of strangers – that is, how we expect them to behave and act toward us and others.

Some strangers may possess attributes setting them apart from others and that others perceive as unpleasant or undesirable. Goffman termed any attribute that reduces a person from being "usual" to being "discounted" or "undesirable" as a stigma. By virtue of having this attribute, the person is reduced in the minds of others and perceived as failing, flawed, or discredited. As a result, others may withdraw from interacting with them or, at least, viewing them as an "outsider."

But what is discrediting in the minds of some persons may be perceived as usual or normal in others. As a result, persons with a discrediting attribute may try to conceal the attribute in some settings but not in others, depending upon the categories of people present. For example, persons with extensive body art (for example, tattoos, piercings, scars, painting) will conceal this in workplace settings that have strict appearance standards while displaying it openly in settings where others with body art congregate. Further, persons with no body art may avoid social settings frequented by people who actively display theirs over concern of being identified and marked as an outsider or a voyeur.

The class studied a series of questions about social stigma. Why are some personal attributes stigma whereas others are not? What types of reactions do certain stigma elicit from others? Under what circumstances do persons with visible stigma, try to conceal them? Under what circumstances do persons freely display them? How do persons with social stigma resist discrediting reactions? What is the role of personal power in resistance strategies? These and other questions comprise the class work for the term.

Students read, discussed, and wrote about social stigma and their impact on individuals' identities. The course had three goals related to what students would learn. First, they were expected to learn about many aspects of stigma and how persons adapt to them. Second, students learned to read, critically evaluate, and annotate published research on the role of stigma in shaping everyday interactions. Third, students developed skills and understanding in applying knowledge about social stigma and their impact on the lives of individuals in communities and the larger society.

Students completed four major assignments, two of which entailed developing annotated bibliographies of published academic research on a social stigma chosen by them. In their final class project, students completed either an essay or a professional conference poster synthesizing the research captured in their final annotated bibliography. Students also completed written self-reflections on their learning each week over the academic term.

Selected material and sources the students studied:

Anderson, E. (2022). *Black in White Space: The Enduring Impact of Color in Everyday Life*. Chicago University of Chicago Press.

Becker, H. (1963). *Outsiders: Studies in the Sociology of Deviance*, Free Press.

Berk, B. (1977). Face-Saving at the Singles Dance, *Social Problems* 24 (5) 530.

Bridges, G. S., & Steen, S. (1998). Racial disparities in official assessments of juvenile offenders: Attributional stereotypes as mediating mechanisms. *American Sociological Review*, *63*(4), 554.

Goffman, E. (1990). *Stigma: Notes on the Management of Spoiled Identity*, Penguin.

Hansen, B and Dye, M (2018). Damned if You Do, Damned if You Don't: The Stigma of Weight Loss Surgery, *Deviant Behavior,* 39 (2), 137.

Horan, P. and Lee, P. (1974) The Social Bases of Welfare Stigma, *Social Problems* 21 (5) 648.

Link et al. (1989) “A Modified Labelling Theory Approach to Mental Disorders,” *American Sociological Review*, 54, 3, pp. 400- 423.

Rosenhan, D. L. (1973). On being sane in insane places. *Science, 179*(4070), 250.

Rosenfield, S. (1997) Labeling Mental Illness: The effects of received services and perceived stigma on life satisfaction. *American Sociological Review,* 62 (4), 660.

Schur, E (1971), *Labeling Deviant Behavior* : *Its Social Implications,* Harper & Rowe Publishers

Schur, E. (1983), *Labeling Women Deviant: Gender, Stigma and Social Control,* Temple University Press.

EVALUATION:
Written by: George S. Bridges, PhD

Kristoffer (prefers Kris) was new to my classes at Evergreen. He attended most of our bi-weekly seminars, successfully completed the required assignments and engaged almost every aspect of the course. His comments in our seminars were constructive and helpful in clarifying issues we were considering.

Students in the class were assigned four projects to complete, three of which involved bibliographic research on a social stigma of their choosing. Drawing on the work of sociologist Erving Goffman, we defined social stigma as a personal attribute that is discrediting. Kris chose to study the stigmatization of transgender youth and its impact on their everyday lives.

In the three required projects, students were expected to identify and develop an annotated bibliography of current academic studies (peer reviewed) about the social stigma they had chosen, the nature of the stigma, and how the stigma impacts the individuals’ lives. The final project for the class was to complete an essay or a poster synthesizing the findings of the studies or scholarly work included in their annotated bibliography.

These assignments had three purposes: 1) to assist students in developing knowledge about social stigma, 2) to strengthen their skills in reading and analyzing social science research, and 3) enable them to exercise and improve their abilities in communicating their ideas in written or poster form. Students were also required and expected to complete and submit weekly reflective statements on what they were learning (ungraded).

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Kris's project work, final essay, and reflective statements revealed the depth of his knowledge about the studies he reviewed and the understanding he developed about transgender stigmatization. In the assigned projects, Kris's work was strong in 1) analyzing the research studies he reviewed and 2) drawing conclusions about the severe impact of stigmatization on the lived experiences of transgender youth. Among the many ideas he shared in class, perhaps most powerful was his recitation of data on transgender suicide rates. Kris reported studies showing transgender youth with unsupportive families were 10 times more likely to attempt or complete suicide than those of with supportive families.

Kris is a talented student, engages academic ideas and material enthusiastically, and communicates his thinking about his work well, albeit casually. His contributions to our class this quarter were extensive and benefitted many. I strongly encouraged Kris to continue his Evergreen education, continue to strengthen his skills in writing and making presentations of his work and ideas. I also encouraged Kris, upon graduating, to consider pursuing advanced study in his field of interest.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 8

8 - Sociology and Anthropology

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September 2023 - March 2024: Wildlife Conservation Biology

28 Credits

DESCRIPTION:
Faculty: Amy Cook, Ph.D. and Alison Styring, Ph.D.

Wildlife Conservation Biology focused on vertebrates and their conservation and management. Students gained a detailed understanding of the core principles of the biology and ecology of terrestrial, freshwater, and marine vertebrates. In fall quarter, program work focused on learning the diversity, evolution, ecology, and behavior of vertebrates. This foundational information was then linked to topics in conservation biology and wildlife ecology. In winter quarter, students deepened their understanding of these fields of study through lectures and case studies on special topics in conservation biology and wildlife management, including restoration, conservation planning, laws and policies and effects of climate change on wildlife. In addition to looking at the animals themselves, we examined the ways that humans interact with wildlife including hunting and fishing, tourist-based wildlife watching and the attitudes and interactions that are involved when animals occur in human-dominated landscapes like cities and suburbs.

In addition to the biology, our learning goals included the development of analytical and critical thinking and environmental problem-solving skills, particularly around diverse conservation challenges ranging from the level of individual species to large-scale ecological function.

During week nine of winter quarter, students participated in either a multi-day trip to the south Texas Coast and the Laguna Madre ecosystem or in a series of workshops, labs, and activities focused on the evolution, biology, and conservation of elasmobranchs (commonly known as sharks, skates, and rays). During that week, students undertook focused work on their respective system of study, which drew from themes presented earlier in the program.

Course content was covered via lectures, workshops, labs, and field outings. Reading material included chapters from *Wildlife Ecology, Conservation and Management* by Fryxell, Sinclair, and Caughley; *Conservation Biology for All* by Sodhi and Ehrlich (eds.); *Practical Field Ecology* by Wheater, Bell, and Cook; and articles from a combination of peer-reviewed journals and popular science periodicals. Weekly activities included lectures, field work, labs, and workshops. Students were expected to contribute actively to the learning community and they were evaluated on regular homework assignments, lab and field reports, exams, and final projects. During the final week of the program, students drew from their learning to solve one environmental problem per day. The problems focused on a variety of conservation-related topics in the news, conservation planning, ecological restoration, land-use planning and environmental monitoring.

EVALUATION:
Written by: Amy Cook, Ph.D. and Alison Styring, Ph.D.

Kristoffer (Kris) Pennington took advantage of the learning opportunities presented in the program. Kristoffer attended class, completed most assignments and earned full credit.

Over the course of the program, Kristoffer developed a firm understanding of the central concepts of wildlife and fisheries biology presented in the program. Kristoffer's exams and assignments demonstrated a good grasp of ecology, population biology and behavior. Kristoffer was comfortable with the quantitative aspects of these fields as well, including diversity indices and interpreting life tables. Kristoffer applied concepts in these fields to a variety of conservation issues including the factors that affect a species' vulnerability to local extinction, elements of protected area design and restoration ecology.

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Kristoffer demonstrated a good understanding of conservation policies, including the U.S. Endangered Species Act and species-specific harvest regulations in Washington State. Kristoffer's work in the program demonstrated strong problem-solving skills and the ability to apply theory to practice on issues such as conservation planning, restoration monitoring and habitat assessment. In workshops and seminars, Kristoffer was comfortable reading the scientific literature and discussing ideas like harvest-induced evolution and the mechanisms of coexistence between humans and large predators.

Kristoffer has developed skills in a number of field techniques including the use of transects and plots to assess habitat characteristics, formal protocols for the observation of vertebrate behavior in the field, the quantification of tree characteristics, vegetation cover and canopy cover and techniques for surveying vertebrates in the field to gain information about demography and population biology. In the Field Journal, Kristoffer demonstrated the ability to apply those fieldwork techniques to a variety of systems including characterizing snags, quantifying habitat characteristics as part of a soundscape exercise and developing demographic predictions for gulls and ducks in downtown Olympia, Washington. In lab, Kristoffer gained an understanding of the taxonomy and phylogeny of amphibians, reptiles, birds and mammals. Kristoffer learned how to collect sound recordings in the field using several types of equipment and process and analyze those recordings using Arbimon. Kristoffer's work, in the lab and the field, showed integrative learning. In the Field and Lab Journal assignments, Kristoffer made connections between concepts learned in class and experiences and applied information and skills to novel and complex issues or challenges. Kristoffer's Lab and Field journals were somewhat organized with notes that demonstrated decent observational skills and thoughtful reflections on those observations.

Kristoffer participated in the week nine work focused on elasmobranch conservation and his assignments applied concepts from the program to the biology, behavior and conservation of sharks and rays. In those assignments, Kris showed a good grasp of the life history characteristics that make sharks vulnerable to overharvest, the importance of determining connectivity of populations across international boundaries and the concept of nursery areas in sharks. Kris' lab assignments for that week demonstrated a good understanding of chondrichthyan phylogeny, the functional morphology of feeding and locomotion and key characteristics of keeping rays and sharks in captivity including exhibit design, species compatibility and enrichment.

Kristoffer's fall project proposal focused on CRISPR technology and invasive species. The proposal was a draft summary of the issue with some project objectives. Kris's annotated bibliography was partially complete with some robust sources on the topic.

Throughout this program, Kristoffer has demonstrated a grasp of the key concepts in wildlife and fisheries biology as they apply to conservation biology. Kristoffer has gained a practical understanding of field methodology in several disciplines including ecology, ornithology and animal behavior. Kristoffer's performance in the program reveals a critical thinker with the ability to pull together ideas from a variety of sources.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 28

*10 - Conservation Biology
*8 - Wildlife and Fisheries Biology
*8 - Field and Analytical Methods in Ecology and Conservation
*2 - Environmental Problem-Solving

* indicates upper-division science credit

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April 2023 - June 2023: Current Economic Issues and Social Justice

12 Credits

DESCRIPTION:
Faculty: Savvina Chowdhury, Ph.D.

This one quarter program explored selected issues in contemporary US political economy such as: housing and homelessness; the race, class and gender of poverty and inequality; the changing nature of work, the labor market and an upsurge in workers' movements; mass incarceration, anti-racist work and movements for abolition democracy; food regimes and food sovereignty movements; sacrifice zones and movements for environmental justice. Throughout the quarter, we worked to develop our use and understanding of conceptual tools from political economy, neoclassical theory, feminist theory and social movement analysis to develop race, class and gender as intersectional lenses of analysis and examined the way neoliberal economic policies have transformed our lives in the U.S. and globally.

In tandem with our exploration of Marxian theory, Neoclassical theory and Feminist Economics, we read about the ways in which communities are collectively contesting structures of oppression, enacting and fighting for their visions of a more just and equitable society. We learned about feminist and anti-racist ideas as seedbeds for envisioning alternative, liberatory future societies; we explored case studies of autonomous indigenous communities and learned about libertarian municipalism in theory and practice, as well as cooperatives and solidarity networks in local economic contexts.

Program activities included 13 hours of weekly class time encompassing lectures and seminar on assigned readings; attending the annual Equity Symposium and the José Gomez Farmworker Justice Day on campus; presentations by guest lecturers, and an art workshop by visiting indigenous artist from Oaxaca, Demetrio Barrita.

Assignments included: Students were evaluated on: 1. General learning and participation in program activities; 2. Participation in twice weekly seminars; 3. Six weekly summary-synthesis papers based on program activities and texts; 4. Economics worksheets based on workshops; 5. A research proposal and project independently developed by those taking the program for 16 credits; 6. A final presentation to the class at the end of the quarter.

Assigned texts included the following books and a selection of chapters and articles: *The Rise & Fall of Neoliberal Capitalism* by David Kotz, (First Harvard University Press, 2017); *In Defense of Housing: The Politics of Crisis* byPeter Marcuse and David Madden (Verso, 2016); *Abolition Democracy: Beyond Empire, Prisons & Torture* by Angela Y. Davis & Eduardo Mendietta (Seven Stories Press, 2005); *Economics for Everyone: A Short Guide to the Economics of* Capitalism, Jim Stanford (Pluto Press, 2015); *A Feminist Reading of Debt*, Lucí Cavallero and Verónica Gago, (Pluto Press, 2021); *Global Civil War: Capitalism Post-Pandemic*, William Robinson (PM Press 2021).

EVALUATION:
Written by: Savvina Chowdhury, Ph.D.

Kristoffer's (Kris) work in *Current Economic Issues and Social Justice* demonstrated excellent engagement with program themes and concepts. Kris came to the program with a background in the natural sciences and expressed interest in deepening his knowledge of economics and political economy.

Kris is a strong writer, and his writing effectively conveys his increasingly skillful textual analysis. His essays were consistently well-organized, his arguments supported by references to passages in the assigned text. In seminar Kris was an enthusiastic participant, courageously voicing dissenting opinions

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to add nuances to the topic at hand and thereby broaden debates. Kris demonstrated a self-aware style of leadership, entering conversations in a respectful manner that indicated his increasing recognition of power dynamics in social settings.

Through the economics worksheet assignments, Kris demonstrated a good grasp of supply and demand analysis, as well as concepts such as gross domestic product, the relationship between unemployment and investment, and how the lenses of race, class and gender illuminate dimensions of income inequality.

Kris' work this quarter culminated in an excellent presentation based on his research on the "Values and Limitations of Cooperative Firms." With careful attention to details, Kris summarizes the various types of cooperatives, some key characteristics such as their relatively compressed wage structures and their ability to weather economic instability better than other types of businesses enterprises. Kris' detailed, well organized slides presented his arguments in a cogent and compelling way, adding to our program's explorations of worker-owned cooperatives as a democratic form of business. Kris' engaging presentation was enthusiastically received by his classmates and generated good discussion.

Overall Kris finished this program with a solid foundation in political economy and social movement analysis, developing a nuanced understanding of the ways in which the dynamics of race, class gender intersect to affect social, economic and environmental justice outcomes in the United States. It was a pleasure working with him.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 12

4 - U.S. Political Economy: Current Issues
4 - Foundations of Economics
4 - Contemporary Social Movements

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September 2022 - March 2023: Temperate Rainforest Biogeochemistry and Ecophysiology

32 Credits

DESCRIPTION:
Faculty: Dylan Fischer, Ph.D. and Carri LeRoy, Ph.D.

Temperate rainforests are important ecosystems in the Pacific Northwest and other coastal landscapes around the world. This type of ecosystem supports complex interactions among constituents of the atmosphere, the forest, and underlying geology. By focusing on the biogeochemistry and nutrient cycling of the forest, we worked to understand the interplay between the biotic and abiotic components of these ecosystems. We examined global and local patterns in temperate rainforests, global carbon pools and fluxes, climate change, biogeochemistry and origin of elements, geographic trends, soils and soil chemistry, carbon cycling, nutrient cycling, and ecosystems research in these areas.

Our lectures and field labs emphasized the temperate rainforests of the Olympic Peninsula and Cascades Volcanos with three multiple-day field trips exploring forests and long-term research sites. Students acquired experience with various sampling techniques that are used to measure carbon storage and carbon flux (soil respiration and decomposition) in forested ecosystems and in lab exercises in forest biogeochemistry. Students worked with long-term research plots of their own, and paired that work with hands-on research projects.

Readings and guest lectures introduced students to major ecological and biogeochemistry issues for temperate rainforests. Students read the textbook “Biogeochemistry: An Analysis of Global Change” by Schlesinger and Bernhardt and sections from "Forest Ecosystems" by Perry, Oren, and Hart, and "Environmental Physiology of Plants" by Fitter and Hay. We covered topics in biogeochemical processes and reactions, including: Origins of the elements, solar system, and earth, atmospheric structure and processes, rock weathering and soil development, terrestrial ecosystem carbon cycling, the global carbon cycle, nitrogen and phosphorous cycling, linked biogeochemical cycles, the leaf economic spectrum, convergent evolution and phylogeny applied to plant traits, tree transpiration and water-stress, limits to tree height, wood anatomy and forest ecohydrology, and riparian ecosystem function. Quizzes and exams demonstrated knowledge of concepts and techniques.

Seminar discussions focused on four seminar books (“Not Just Trees” by Jane Claire Dirks-Edmunds, “Hidden Forest” by Jon Luoma, "Finding the Mother Tree" by Suzanne Simard, and "Cottonwood and the River of Time" by Reinhard Stettler) and multiple scientific articles from the primary literature. Articles we read were citation classics (greater than 100 citations) in biogeochemistry and forest ecology ranging from papers on remote sensing, to height limits in redwoods, climate change impacts on ecosystem processes and microbial ecology. In each discussion, students were asked to describe not only major findings of each paper, but also interpret the implications for the subjects they were studying and research projects they were working on.

Students learned concepts in remote sensing and geographic information systems (GIS) analysis through reading a text (“Essentials of Geographic Information Systems" by Campbell and Shin), lectures, and hands-on computer labs in ArcGIS Pro and ArcGIS online. Students learned about raster and vector data, and a variety of methods for manipulating and analyzing spatial data. Students learned cartographic techniques for map layouts and how to create both WebMaps and interactive StoryMaps for sharing geographic data. Students learned to download data from multiple sources and upload it to ArcGIS Pro, collect their own GPS data in the field, navigate to remote forest plots using GPS, collect data using Survey123, and learned how to upload GPS data into a GIS to do spatial analyses. Students learned to clip rasters, convert rasters to polygons, pairwise clip, select by attributes, export features, change symbology, modify attribute tables, calculate geometry, enter X/Y data, delineate watersheds,

create buffers, digitize features, modify features, georeference images, create charts from attribute tables, calculate descriptive statistics, calculate zonal statistics, interpret spatial analyses, create Map Layouts, export WebMaps, and create StoryMaps. Finally, students worked independently to complete a final GIS project either associated with their project proposals or an area of interest in forest ecology. This involved finding and importing data, running analyses, and creating final maps or StoryMaps.

Statistical concepts were presented in lectures, workshops, and through hands-on laboratory assignments, and readings in "Handbook of Biological Statistics" by McDonald. Students learned concepts in probability, types of variables, population parameters, and sample statistics. Students then learned to test hypotheses using both parametric and resembling approaches. Students learned to compare two means (Student‘s t-tests), compare many means (analysis of variance), compare observed and expected values (Chi-square tests), examine linear relationships (simple linear regression), examine correlations (Pearson’s r), examine multiple factors and their interactions (multi-way ANOVA, analysis of co-variance), compare communities (non-metric multidimensional scaling ordination with PerMANOVA, ANOSIM, and MRPP), and compare effect sizes across published studies (meta-analysis). Students were trained in the statistical program, JMP-Pro 16, with options to learn additional software packages like JASP, PAST, and the programming language R through RStudio. Student knowledge was tested biweekly through conceptual quizzes and a cumulative final conceptual take-home exam as well as a final practical take-home exam in which students were asked to choose appropriate tests, run analyses and interpret the outcomes. Some student groups applied statistical concepts and methods to research projects in winter quarter.

Students had the opportunity to integrate all of the subjects above through the creation of research proposals and the process of conducting active research projects. In the fall, each student developed a scientific research proposal, either independently or in a small collaborative group, and students gave final presentations on these research proposals. In winter quarter, students had the option to either follow through with their research proposals or take on existing long-term research projects compiled by the faculty. Research projects included mycoheterotrophic plant studies, seedling studies, whole tree water-use studies, measuring roots underground using below ground imaging technology, comparison of clear-cuts and intact forests, and determining long-term forest changes in woody debris. At the end of the quarter, students worked with each project to develop a final professional scientific manuscript and poster. Posters were presented in a public poster session in a central rotunda on campus.

EVALUATION:
Written by: Dylan Fischer, Ph.D. and Carri LeRoy, Ph.D.

In the fall quarter sections of the program, Kristoffer (Kris) was a consistent member of our learning community. Kris struggled on lecture quizzes and exams related to Forest Ecology and Biogeochemistry. Kris's demonstration of knowledge and engagement in seminars evaluating published books and scientific journal articles was similarly passable. Theoretical work was paired with learning advanced field and laboratory methods for forest science and biogeochemistry. Students were asked to apply techniques for measurement of forest carbon and soil carbon dioxide efflux in long-term research plots. They then compiled those measurements into a forest carbon budget. Kris's work in our regular field labs (which evaluated data integrity and critical analysis) was generally good, but Kris could improve on collaboration and communication in future group research teams. Kris's final presentation on carbon flux in a long-term forest measurement plot was strong. Additionally, Kris completed a series of workshops demonstrating certification to operate an ADC LCPro+ portable Infrared gas analysis (IRGA) system for the measurement of net soil carbon dioxide efflux. This training required many hours spread over three discrete sessions, and in the final session students were required to “train the trainer” and complete analysis and an oral exam related to safety and understanding of the instrument and analysis.

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A research proposal completed throughout fall quarter allowed students to apply their learning in forest ecology and biogeochemistry proactively, while deepening their learning in a specific area of forest ecology. Kris's research group completed a proposal that contained a description of the urban heat island effect and interactions between urban environmental justice and urban tree cover. Kris's final presentation on this group research proposal was generally complete and professional.

Our work in GIS gradually increased in complexity through fall quarter. Students were tasked with working with vector and raster data, conducting complex analyses, creating shareable story maps and georeferenced pdfs, and creating a final project integrating their learning. In this work Kris's combined performance on weekly labs was very strong. On a final GIS project Kris did excellent work.

Kris completed all weekly statistics lab assignments, mostly on time. The work on labs was variable. Kris often did well on statistical labs, but struggled with a couple statistical methods and their interpretation. Kris did good work on biweekly quizzes covering statistical concepts and methods. Kris did good work on a cumulative final exam covering statistical concepts and methods. In addition, although it was submitted late, Kris did passable work on a practical exam that required students to assess data, decide on appropriate statistical tests, manage data, analyze data, interpret results, and create appropriate graphs.

Kris was a great participant in winter work related to biogeochemistry and ecophysiology. In our regular winter labs and quarter-long datasets, Kris's participation and quality of work was generally far below average. Our winter quarter reading included multiple scientific papers and two books written by scientists detailing their personal history and process of discovery in the sciences. These readings gave students the opportunity to read deeper in the literature and gain perspectives on how scientists have viewed their own work. Kris's work in seminar responses and community discussions was challenged. In our winter midterm and final exams, students had the opportunity to demonstrate their learning in short answer and essay question format. Kris was again challenged in this work, but demonstrated some comprehension of concepts in forest biogeochemistry and ecophysiology. Kris also completed a literature review on the ICARUS project for animal tracking using GPS.

Finally, a significant portion of the winter quarter was spent on group research related to a project the students selected (either from a proposal developed in fall quarter, or from a list of projects provided by the faculty). Kris was a contributor to a group that conducted research on an analysis of whole tree transpiration data using the Granier sap flux technique on trees on the Evergreen State College campus. The project used previously collected data to evaluate tree transpiration responses to an air temperature spike that occurred in summer 2021. Kris made notable contributions to most parts of the project.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 32

*6 - Forest Ecology
*6 - Biogeochemistry
*4 - Remote Sensing and GIS: Geographic Information Systems
*6 - Forest Ecosystem Ecology
*6 - Research in Ecological Science
*4 - Statistics I and II: Accelerated

* indicates upper-division science credit

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June 2022 - September 2022: Anatomy and Physiology: Foundations and Movement

6 Credits

DESCRIPTION:
Faculty: Amanda Kugel, D.C.

Anatomy and Physiology I with Laboratory was designed to assist students in developing foundational knowledge and understanding of the structures and physiologic processes in the human body, while also learning to communicate properly using anatomical terminology. Topics covered during the first session included a review of cellular structure and the fluid mosaic model, a detailed discussion of the four primary tissues types, as well as exploration of the integumentary, muscular, skeletal and nervous systems. The course used the text "Anatomy and Physiology, 2e" by Open Stax licensed under CC BY 4.0. The course also used the Visible Body Web Suite for three-dimensional human anatomy and organ systems.

Students were expected to locate and identify pertinent tissues and organs of each body system, describe physiologic processes within individual systems, and the contribution of each system to the overall homeostasis of the human body. Anatomical position and terminology were integrated throughout the course to give students the necessary tools for communicating effectively with others in health-related fields.

Hybrid laboratory activities included a virtual compound light microscope through University of Delaware, virtual tissue/organ slides available at the Histology Guide website, and the 3D software platform Visible Body to accomplish identification for major bones, skeletal muscles and actions, and nervous system and special sense structures. Students utilized the interactive 3D brain model available at BrainFacts.org for their virtual dissection of the human brain external and internal gross features. Students had the opportunity to attend some laboratories in person to work with human skeleton and disarticulated bones, perform BIOPAC muscle contraction physiology simulations, elicit reflexes, and dissect mammalian brain and eye specimens.

Students were evaluated through multiple modalities. Dynamic quiz modules within the Canvas learning management system included standardized questioning and short-answer essays for each body system. Laboratory reports were submitted for each major topic to show the student’s ability to identify structures and explain physiologic processes. Online exams were conducted for the final laboratory practical to identify skeletal and muscular system components.

EVALUATION:
Written by: Amanda Kugel, D.C.

Throughout the quarter Kristoffer turned in consistently very good quality work, submitting all required assignments in a timely manner. Kristoffer demonstrated high quality performance in all aspects of the course, including skeletal and organ structure identification for virtual and hands-on laboratory work, the associated laboratory reports, as well as the final assessment quizzes for each body system. Kristoffer wrote short answer essays with concise yet sufficiently detailed explanations to demonstrate their very good comprehension of physiology for each body system. Kristoffer showed motivated learning and community engagement by attending most weekly Zoom meetings with peers, contributing insightful questions to advance the discussion topics. Based upon participation and work submitted over the course, Kristoffer is well-prepared to succeed in subsequent health related courses.

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SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 6

6 - Anatomy and Physiology 1 with Laboratory

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June 2022 - September 2022: Anatomy and Physiology II with Laboratory

6 Credits

DESCRIPTION:
Faculty: Amanda Kugel, D.C.

Anatomy and Physiology II with Laboratory was designed to complete student knowledge of human body systems related to transport and exchange, including cardiovascular components, the respiratory, digestive, lymphatic, urinary and reproductive systems. The course used the text "Anatomy and Physiology, 2e" by OpenStax licensed under CC BY 4.0

Students were expected to locate and identify pertinent tissues, organs, and describe physiologic processes of individual systems that contributed to overall homeostasis. Laboratory was completed through a combination of virtual work with online histology slides at Histology Guide.org, anatomy software through Visible Body Web Suite, and on-campus hands-on laboratories including dissection of animal hearts and fetal pigs, blood typing with Eldon cards, blood pressure measurement skills, and respiratory physiology with Biopac simulation.

Students were evaluated through multiple modalities. Online exams conducted within the Canvas learning management system included standardized questioning and short-answer essays for each body system. Laboratory reports were submitted to assess the student's ability to locate organs and explain physiologic processes.

EVALUATION:
Written by: Amanda Kugel, D.C.

Kristoffer's participation and work submitted over the quarter demonstrated consistent efforts to turn in very good quality work. Kristoffer regularly attended synchronous class meetings online and attended all laboratory weekends in person. A natural curiosity for the inner workings of the human body was evident during conversations and their enthusiastic participation in the laboratory; Kristoffer successfully typed his own blood, skillfully utilized and analyzed spirometry readouts and electrocardiograms, and correctly identified organs and tissues during dissections in person. Online lab reports and final assessment standardized quizzes showed a very good command of all topics covered over the quarter. Written work on short answer essays was proficient to demonstrate comprehension of physiology concepts. Based upon participation and work submitted over the course, Kristoffer is quite prepared to succeed in subsequent health related courses.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 6

6 - Anatomy and Physiology II with Laboratory

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March 2022 - June 2022: Ecological Agriculture: Crop Botany and Plant Genetics

15 Credits

DESCRIPTION:
Faculty: Donald Morisato, Ph.D. and Martha Rosemeyer, Ph.D.

This program provided an interdisciplinary consideration of basic and applied plant biology. In one strand, students were introduced to plant physiology and plant genetics; in another strand, the application of these principles was examined in an agricultural context by discussing crop botany including plant physiology and plant breeding.

Weekly activities included two lectures, workshop, laboratory, and seminar. Selected chapters from Scott Freeman et al., *Biological Science,* Seventh Edition were assigned as background reading for lectures, and from John Navazio, *The Organic Seed Grower: A Farmer's Guide to Vegetable Seed Production* for lab. Seminar books included Noel Kingsbury, *Hybrid: The History and Science of Plant Breeding*; Gary Nabhan, *Where Our Food Comes From: Retracing Nikolay Vavilov's Quest to End Famine*; and Ruth Ozeki, *All Over Creation*. Two day-long field trips provided opportunities for learning about the practice of plant breeding at Organic Seed Alliance and Washington State University-Mount Vernon, a public land grant research site, as well as a small seed producer, Saltwater Seeds. The WSU-Bread Lab modeled how to breed sustainable, value-added crops (perennial wheat) for food system sustainability.

The crop botany, plant physiology and breeding component included lectures and weekly labs. Lectures topics included plant reproductive and vegetative anatomy, the vascular system, sensory and hormone systems, mechanisms of plant defense (following Chapters 34-38 in Freeman et al., *Biological Science)* and plant breeding including variety and basic breeding trials. Students were introduced to basic reproductive anatomy (flower, fruit and seed) and parameters of breeding (e.g. whether self-pollinating or outcrossing with anatomical mechanism). Flowers and seed were stereoscopically examined from nine plant families: Brassicaceae, Alliaceae, Fabaceae, Poaceae, Asteraceae, Apiaceae, Amaranthaceae, Solanaceae, and Cucurbitaceae. Background reading for crop botany and plant breeding labs followed Navazio's *The Organic Seed Grower,* Chapters 4-12. Farmer, non-profit organization and consumer contexts of seed production were provided by both a lecture and workshop from Organic Seed Alliance (OSA) and lecture from the Culinary Breeding Network. Study questions accompanying lectures provided a platform for integration of the topics into the context of plant breeding.

In the plant genetics component, the principles underlying plant breeding were presented through the introduction of concepts in genetics and evolutionary biology. Lecture topics included the theory of evolution by natural selection; plant reproductive biology; chromosome behavior; Mendel's principles of segregation and independent assortment; genetic linkage and meiotic mapping; molecular nature of the gene; polygenic inheritance and quantitative trait loci; population genetics and evolutionary processes; polyploidy and speciation; and cytoplasmic inheritance. Background reading came from Chapters 1, 4, 12-17, 19, 20, 23, 24, and 38 in Freeman et al., *Biological Science*. Comprehension of basic information was assessed by weekly pre-lecture questions. Workshop sessions provided collaborative opportunities for students to apply analytical and quantitative reasoning skills to solve word problems dealing with topics introduced in lecture.

Students were evaluated on the basis of their participation in lecture, workshop and seminar discussions; pre-lecture genetics questions and post-lecture botany/physiology/breeding study questions; seven lab exercises; writing assignments responding to prompts on the seminar readings including a 5-page final synthesis essay or breeding plan; and in-class midterm, final and lab exams.

EVALUATION:
Written by: Donald Morisato, Ph.D.

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Kristoffer Pennington entered Ecological Agriculture: Crop Botany and Plant Genetics with interests in science and education. Kristoffer overcame a slow start to become a fully engaged member of the program community, as he shared his passion for learning and sense of humor. Kristoffer made good overall progress in his learning this quarter.

Kristoffer was an active participant in seminar discussions. Kristoffer made valuable contributions that helped develop the conversation on Kingsbury's *Hybrid* and Ozeki's *All Over Creation*. In the five of seven seminar assignments that he completed, Kristoffer provided a good summary and analysis of Kingsbury's arguments in *Hybrid*.

In the genetics component, Kristoffer achieved a fair to good overall understanding of the concepts introduced over the quarter. Kristoffer was an active participant in workshop discussions. Kristoffer completed all of the pre-lecture assignments, showing improvement in the second half. In a fair midterm exam, Kristoffer demonstrated an excellent understanding of Mendel’s principle of segregation and showed a good grasp of Darwin's theory of evolution. In the final exam, Kristoffer exhibited a fairly good understanding of the independent assortment of quantitative traits and good knowledge of evolutionary processes; Kristoffer's knowledge of chromosome behavior in polyploidy, population genetics, and the molecular nature of the gene (including transcription and translation, and eukaryotic gene structure and regulation) could have been strengthened.

In the crop botany, plant physiology and breeding portion of the program, my teaching partner Martha Rosemeyer wrote: “Kristoffer's work overall was good and improved over the quarter. His answers to study question sets based on the lectures were variable, but in the best, he showed excellent understanding and potential to master this material. Submitting study question sets in a timely manner would likely have been helpful. His best work on the midterm exam was on domestication and crop knowledge (family, Latin names, geographic center of origin); knowledge of the plant vascular system and nutrient uptake might benefit from review. In his final exam, the questions on plant breeding and sensory systems were his best work; hormones and plant defense would benefit from more study."

"Kristoffer attended five of six labs, and submitted three of six lab exercises. His drawings were clear, labeled and most questions answered. While no plant family matrix was submitted, he correctly answered about two-thirds of the crop knowledge questions in his final lab exam. About a third of basic flower morphology and breeding system questions were answered accurately. He correctly identified the plant family names of six of seven unknowns. Kristoffer has potential to master this material should he prioritize his school work.”

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 15

4 - Seminar on the History of Plant Breeding
5 - Introduction to Plant Genetics
6 - Introduction to Crop Botany, Plant Physiology and Breeding with Lab

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Student Self Evaluation for Ecological Agriculture: Crop Botany and Plant Genetics
03/2022 - 06/2022

With each quarter I take, I learn new things about myself and my learning style. This quarter, I discovered how I learn and process new information most efficiently. I tend to not retain information when I sit through a long lecture, only copying down notes; as soon as I left the class, I just outright forgot the information. My professor, Donald Morisato, Suggested that I physically write down the information given during the lectures into my notebook instead of typing down the information into my computer. I scoffed at the idea at first: why should I slowly write things down when I can transcribe significantly more information by typing it?

Nonetheless, I gave it a try. What I found is that recording information in a tactile way drastically improved my ability to remember the lessons. I started to use this skill in my day to day life, writing things I needed to remember into a notebook or on a post-it note. The simple transcription of information in a tactile manner seemed to help me retain it in my memory. Through this lens, I looked back in my life to major things I learned and how I learned them. I had an epiphany that many of all the major lessons that stuck with me were learned through a very tactile manner. Such as learning to ride a bike was through me physically going through the process of trial and error rather than being told how to do it. This hypothesis that I learn through physically fiddling around with things was reinforced during labs and the field trips. Of course, I can learn where a Stamen and Stigma are located on a flower, But I do not actualize it within my mind until I get to pull apart a few flowers and dig around the insides. A stand out moment was during a field trip to organic seed alliance and we were given a table of many different flowers to pick through. Like a kid in a candy shop, I immediately started to tear through them. Through the dissections, I started to make connections to all of the homework that I never felt I truly understood. About 2 1/2 weeks worth of school work suddenly became so crystal clear within the short span of 45 mins. I was making cross sections, picking flowers and buds at different stages of maturity, sorting and organizing by different categories and finding curious things that caused me to form hypotheses for what caused them. The joy of discovery and experimentation were truly alive in me at the time.

Looking back in my past, such as in K-12, I felt like I was never given the opportunity to learn in a way that meshed with my style of learning. It was always endless lectures, notetaking, homework assignments, and reading. Sure, everyone is excited for when we got to watch a film in class. But the opportunities for me to engage in applied learning were few and far between. In my future, I wish to maximize my engagement through the direct application of skill, theories and models in my learning experience. Likewise, I feel my teaching style would try to facilitate as much kinesthetic learning or direct application as possible. I feel I can give someone who has the same difficulties as me the opportunity to discover how cool it is to finally have something just finally *click*

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January 2022 - March 2022: General Chemistry

16 Credits

DESCRIPTION:
Faculty: Robin J. Bond, Ph.D.

This program covered basic principles of general chemistry including atomic structure, principles of bonding, molecular geometry, stoichiometry, aqueous solutions, thermochemistry, gases, intermolecular forces, colligative properties, kinetics, equilibrium, acids and bases, buffers, solubility, thermodynamics, and electrochemistry. Students read from the textbook *Open Stax*, 2nd ed., watched video lectures, and answered reading questions before class. Students' mastery of learning objectives was assessed via homework problems and weekly quizzes. Students also participated in laboratory experiences such as spectrophotometric analysis, titrations, thermochemistry, gravimetric analysis, and kinetics.

EVALUATION:
Written by: Robin J. Bond, Ph.D.

Kristoffer (who goes by Kris) generally did excellent work in this program. Kris was a diligent student who was highly engaged with the course material and collaborated well with others during group work.

Kris submitted about half of the reading question sets in a timely fashion. Kris submitted twenty-one of twenty-eight homework sets, which demonstrated excellent understanding of the material. Kris's performance on quizzes generally showed excellent comprehension.

Kris's lab notebook was neat but needed more information to capture what was performed in each experiment. Kris submitted all ten lab reports, which were generally satisfactory. Kris's lab results show very good precision and accuracy.

Overall, Kris showed mastery of all learning objectives for the course.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 16

16 - General Chemistry with Lab

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September 2021 - December 2021: Climate Foundations and Global Futures

16 Credits

DESCRIPTION:
Faculty: Krishna Chowdary, Ph.D., Savvina Chowdhury, Ph.D., and Shangrila Joshi, Ph.D.

Through the disciplinary lenses of climate science, political ecology, and political economy, this program explored the root causes of the climate crisis. We strove to use an interdisciplinary framework to understand the context of climate change at regional, national, and international scales. Students were introduced to the physical science behind climate change, and concurrently, investigated the dominant economic and ecological narratives about climate change through the lenses of political economy and political ecology. We examined in depth the scientific basis as well as the structural drivers of climate change (including colonialism, capitalism, and patriarchy), as well as how they are being challenged and resisted in the United States and beyond. We learned from historical and contemporary case studies, seeking to understand them scientifically as well as through the lenses of feminist, postcolonial, decolonizing, and Marxist thought.

Our program guiding questions included: What economic, historical, scientific, and socio-political processes have led us to the climate crisis? What are the complexities surrounding the climate crisis in the current moment? How might we transform our systems to emerge as a more resilient and equitable global society?

Program activities and assignments supported students in: building skills in climate science literacy and quantitative literacy; understanding the root causes of the climate crisis from multiple disciplinary lenses; understanding the process of international climate negotiations and deliberations in the context of historical inequities between core and periphery; developing a sophisticated understanding of the complexities and the multi-faceted nature of the social dimensions of climate change; developing critical thinking skills to evaluate the effectiveness of various solutions proposed to combat climate change and climate inequities in a global context; synthesizing and integrating classroom learning with lived experience and other learning in the ‘real world’; developing skills and capabilities in collaborative learning and learning across significant differences; and developing public speaking and leadership skills through participation in seminar discussion and collaborative assignments.

Weekly activities typically included three lecture/discussions, two seminars, a workshop, and posting to discussion forums. Weekly lectures and one seminar were held via Zoom, and workshops and a second seminar were in-person (though students could opt to participate remotely). In addition, students attended the Global Women's Assembly for Climate Justice hosted by Women’s Earth and Climate Action Network. Students went on a walking tour of downtown Olympia to think about the climate crisis in the context of our local community. Students worked collaboratively in teams to prepare for a simulation exercise designed to recreate the United Nations' international conference on the climate crisis. Students attended guest lectures provided by Robin Hahnel (American University and Portland State University), Steven Niva (The Evergreen State College), Ruchira Talukdar (University of Technology Sydney), and Sarah Jaquette Ray (Humboldt State University).

Students were evaluated on: general learning and participation in program activities, particularly in twice weekly seminars; two quizzes to assess their knowledge of concepts and ideas from program texts and activities; six weekly written synthesis assignments based on program activities and texts; five worksheets based on in-program workshops; collaborative work on researching an assigned country’s position on climate change and participation in a simulation of a United Nations Conference of Parties climate negotiation; seven online discussion forum contributions based on assigned texts, recorded lectures, or films.

Students read or watched: A History of the World in Seven Cheap Things (Patel and Moore); The Science and Politics of Global Climate Change, Third Edition (Dessler and Parson); Gun Island (Ghosh); Climate Change Evidence and Causes Update 2020 (National Academy of Sciences and The Royal Society); Climate Change Justice and Global Resource Commons (Joshi, Ch. 2-3); Carbon (Ervine, Ch. 1-3); Principles of Microeconomics (Mankiw, Ch. 23); Climate Futures (Narain-preface; Whyte-Ch. 2); Feminism and the Politics of the Commons in an Era of Primitive Accumulation (Federici); Colonization and Housewifization (Mies); Can This Tribe of 'Salmon' People Pull Off One More Win? (Kim); excerpts from Climate Change and Our Natural Resources: A Report from the Treaty Tribes in Western Washington and A Fair Shares Phaseout: A Civil Society Equity Review on an Equitable Global Phase Out of Fossil Fuels; Violent Borders: Refugees and the Right to Move (Jones, Ch. 7); The Global North-South and climate justice activism: Comparative Ethnography of Australia and India (Talukdar, Ch. 2); A Field Guide to Climate Anxiety (Ray, introduction); Who Feels Climate Anxiety? (Ray); Who's Counting? Marilyn Waring on Sex, Lies, and Global Economics (dir. Nash); This Change Everything (dir. Lewis); As Long As The River Runs (dir. Burns); Sun Come Up (dir. Redfearn); How to Let Go of the World and Love All the Things Climate Can't Change (dir. Fox).

Students also read or watched: Climate Change Justice and Global Resource Commons (Joshi, Ch. 1); selected presentations from Washington Climate Assembly Learning Session 1 (Hardison-Tribal and Indigenous Sovereignty and Climate Change; Joshi-Ethical Considerations Around Climate Policy and Climate Justice); Slow Violence and the Environmentalism of the Poor (Nixon, Ch. 5); Drowned Out (dir. Armstrong); Legacy of Malthus (dir. Dhanraj); A Polycentric Approach for Coping with Climate Change (Ostrom); Climate Justice and Resilience Speaker/Event Series (Whyte-Making Kin with Climate Change and Grossman).

EVALUATION:
Written by: Shangrila Joshi, Ph.D.

Kristoffer Pennington has successfully completed the first half of this two-quarter program. Kristoffer maintained solid attendance in all program activities throughout the term, and accomplished all of the required assignments to meet the learning objectives of the fall program satisfactorily.

Dr. Krishna Chowdary notes: "Kristoffer's work in climate science and quantitative literacy was satisfactory. Good work on the global carbon cycle workshop was matched on the first quiz. That first quiz also showed satisfactory understanding of the greenhouse effect. Descriptions of carbon cycle and greenhouse effect were not as strong on the second quiz. Kristoffer showed good understanding on the essential principles of climate literacy workshop. Kristoffer demonstrated solid ability to interpret and critique graphs in workshops and quizzes."

Kristoffer's contributions to bi-weekly seminar discussions were consistently thoughtful, substantive, and informed by program texts, effectively supporting the collaborative learning environment in the classroom by helping deepen the learning community's understanding of and engagement with the texts. Kristoffer demonstrated maturity and intellectual curiosity in these interactions, as well as respect for divergent points of view and the ability to communicate effectively across difference. In breakout group settings, Kristoffer often exercised good facilitation and leadership skills.

Kristoffer demonstrated a robust understanding of the root causes of the climate crisis through a political economy lens through completed work in weekly synthesis papers and quizzes, effectively articulating how a capitalist economic structure has led to the conditions precipitating global climate change, and how it continues to impede meaningful solutions; how capitalism intersects with structures of colonialism, racism, and patriarchy to generate legacies of power imbalances at multiple scales that contribute to the unequal responsibilities for and vulnerabilities to climate change. Kristopher's work showed a nuanced

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understanding of the complexities of the climate crisis, particularly in regards to the different competing perspectives on how to produce a fair way to address it globally, the different scales at which climate inequities manifest, and in grappling with the multiple meanings of 'development' that materialize in 'right to develop' climate justice arguments on part of Global South actors. Also evidenced in this body of work was good understanding of the political ecology of global climate negotiations at the international scale, pertaining to the nuances of the North-South question including the politics of scale, preponderance of neoMalthusian explanations for the climate crisis, and of neoliberal climate solutions. Kristoffer's writing was consistently successful in concisely distilling key ideas from the readings and other learning material, and following proper citation practice. A particular strength in this work was the ability to fairly weigh different perspectives on contested notions before arriving at conclusions.

Through participation in a simulation exercise of UN climate negotiations, Kristoffer worked with two other students to successfully represent the country of Qatar in the role-play exercise. The team's work in the preparatory phase was thorough and well researched, and they accomplished the task of negotiating the meaning of the 'common but differentiated responsibilities and respective capabilities' principle in the post-Kyoto era effectively to highlight their assigned country's unique positionality and arguments. In this work and in writing reflecting on this work, Kristoffer demonstrated an astute understanding of the process of international climate negotiations and deliberations, how these are complicated by abiding core-periphery inequities, and simultaneously constrained by the state-centric nature of negotiations. Through contributions to the asynchronous discussion forum, Kristoffer showed a robust understanding of the political ecology of the commons, demonstrating a keen sense of disenfranchisement of Indigenous people when the commons are enclosed. In addition to presenting original insights, Kristoffer showed sustained engagement with the insights and ideas of other members of the learning community. Kristoffer also showed excellent ability to put theory to practice in a 'reading the landscape' exercise during a field trip to downtown Olympia, noting historical and contemporary ways in which the local commons have been enclosed and transformed, and the environmental justice issues that manifest in the region.

Overall, in this program Kristoffer demonstrated evidence of strong critical thinking skills and analytical ability in the understanding of the climate crisis and in the evaluation of proposed solutions. Kristopher also demonstrated a very good work ethic, respectful demeanor towards fellow students and faculty, and robust skills and capabilities in collaborative learning, public speaking, and learning across significant differences.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 16

6 - Political Ecology of Climate Change
6 - Political Economy of Climate Change
4 - Climate Science and Quantitative Literacy

EVERGREEN

The Evergreen State College • Olympia, WA 98505 • www.evergreen.edu

EVERGREEN TRANSCRIPT GUIDE

Accreditation: The Evergreen State College is fully accredited by the Northwest Commission on Colleges and Universities.

Degrees Awarded: The Evergreen State College awards the following degrees: Bachelor of Arts, Bachelor of Science, Master of Environmental Studies, Master of Public Administration and Master In Teaching. Degree awards are listed on the Record of Academic Achievement.

Educational Philosophy:

Our curriculum places high value on these modes of learning and teaching objectives:

- Interdisciplinary Learning
- Collaborative Learning
- Learning Across Significant Differences
- Personal Engagement
- Linking Theory with Practical Applications

Our expectations of Evergreen Graduates are that during their time at Evergreen they will:

- Articulate and assume responsibility for their own work
- Participate collaboratively and responsibly in our diverse society
- Communicate creatively and effectively
- Demonstrate integrative, independent, critical thinking
- Apply qualitative, quantitative and creative modes of inquiry appropriately to practical and theoretical problems across disciplines, and,
- As a culmination of their education, demonstrate depth, breadth and synthesis of learning and the ability to reflect on the personal and social significance of that learning.

Our students have the opportunity to participate in frequent, mutual evaluation of academic programs, faculty and students. In collaboration with faculty and advisors, students develop individual academic concentrations.

Academic Program

Modes of Learning: Evergreen's curriculum is primarily team-taught and interdisciplinary. Students may choose from among several modes of study:

- **Programs:** Faculty members from different disciplines work together with students on a unifying question or theme. Programs may be up to three quarters long.
- **Individual Learning Contract:** Working closely with a faculty member, a student may design a one-quarter-long, full-time or part-time research or creative project. The contract document outlines both the activities of the contract and the criteria for evaluation. Most students are at upper division standing.
- **Internship Learning Contract:** Internships provide opportunities for students to link theory and practice in areas related to their interests. These full- or part-time opportunities involve close supervision by a field supervisor and a faculty sponsor.
- **Courses:** Courses are 2-6 credit offerings centered on a specific theme or discipline.

The numerical and alpha characters listed as Course Reference Numbers designate modes of learning and are in a random order.

Evaluation and Credit Award:

Our transcript consists of narrative evaluations. Narrative evaluations tell a rich and detailed story of the multiple facets involved in a student's academic work. A close reading of the narratives and attention to the course equivalencies will provide extensive information about student's abilities and experiences. Students are not awarded credit for work considered not passing. Evergreen will not translate our narrative transcript into letter or numeric grades.

Transcript Structure and Contents: The Record of Academic Achievement summarizes credit awarded, expressed in quarter credit hours. Transcript materials are presented in inverse chronological order so that the most recent evaluation(s) appears first.

Credit is recorded by:

Quarter Credit Hours:	Fall 1979 to present
Evergreen Units:	1 Evergreen Unit (1971 through Summer 1973) equals 5 quarter credit hours
	1 Evergreen Unit (Fall 1973 through Summer 1979) equals 4 quarter credit hours

Each academic entry in the transcript is accompanied by (unless noted otherwise):

- The Program Description, Individual Contract or Internship Contract which explains learning objectives, activities and content of the program, course or contract.
- The Faculty Evaluation of Student Achievement provides information on specific work the student completed and about how well the student performed in the program or contract.
- The Student's Own Evaluation of Personal Achievement is a reflective document written by the student evaluating his or her learning experiences. Students are encouraged but not required to include these documents in their official transcript, unless specified by faculty.
- The Student's Summative Self Evaluation is an optional evaluation summarizing a student's education and may be included as a separate document or as a part of the student's final self- evaluation.

Transfer credit for Evergreen programs, courses and individual study should be awarded based upon a careful review of the transcript document including the course equivalencies which are designed to make it easier for others to clearly interpret our interdisciplinary curriculum. These course equivalencies can be found at the conclusion of each of the Faculty Evaluation of Student Achievement.

The college academic calendar consists of four-eleven week quarters. Refer to the college website (www.evergreen.edu) for specific dates.

This record is authentic and official when the Record of Academic Achievement page is marked and dated with the school seal.
All information contained herein is confidential and its release is governed by the Family Educational Rights and Privacy Act of 1974 as amended.
If, after a thorough review of this transcript, you still have questions, please contact Registration and Records: (360) 867-6180.