

## Interdisciplinary Freshwater Ecosystem Classes

Last Updated: April 19, 2022 by Athena Bertolino, Future Rivers Program Manager

*This document includes graduate 400/500-level classes across the entire UW-Seattle campus that might be outside of common degree programs yet could provide useful, transdisciplinary insight and learning into Future Rivers-related degrees. Please consult the course catalogue for full course descriptions and availability. Data Science courses are not included in this document as they are listed separately for Future Rivers students as part of program requirements. Joint listings are only listed once. It is recognized that this will be an incomplete list and that some classes may no longer be offered, while new classes may have been added to the course catalogue since the last update. Specifically, the focus of Special Topics and Seminar classes change each quarter offered. Users of this list are encouraged to share class updates and new offerings of interest with the Future Rivers Program Manager. Rows highlighted in green are confirmed classes for Autumn Quarter 2022.*

Course #	Credits	Cross-Listing	Title	Prerequisite	Quarter(s)
<b>College of Arts and Sciences</b>					
AES 461	5	SOC 401	Comparative Ethnic Race Relations in the Americas		A
AES 487	5	ANTH 487	Cultures and Politics of Environmental Justice		NCO (Not currently offered)
AIS 451	5, max. 10		Critical Conversations in American Indian Studies		NCO
AIS 501	5	GWSS 510	Documentary Film/Video Research Methods in Native Communities		NCO
AIS 576	5		Indigenous Methodology		W
ANTH 405	5		Urban Health Methodologies: Ethnography of the Invisible in search of New Urban Commons		NCO
ANTH 457	5		Ecological Anthropology		NCO
ANTH 458	5		Ethnobiology: Plants, Animals, and People	Either BIOA 201, ARCHY 205, or one 200-level ANTH course	NCO
ANTH 459	5	ENVIR 459	Culture, Ecology, and Politics		NCO
ANTH 461	5		Historical Ecology		W
ANTH 487	5	AES 487	Cultures and Politics of Environmental Justice		NCO
ANTH 540	5		Anthropology of Place		NCO
ANTH 570	5		Environmental Anthropology		NCO

AMATH 522	5		Computational Modeling of Biological Systems	Either a course in differential equations or permission	A
BIOL 424	5	ESRM 478	Plant Ecophysiology		W
BIOL 447	5		The Greening of the Earth: Influence of Plants on the Evolution of Terrestrial Ecosystems	Either BIOL 354 or ESS 213	NCO
BIOL 476	5		Conservation Biology	BIOL 180 or override code	A
BIOL 478	3, max. 9	ENVIR 478; FISH 478	Topics in Sustainable Fisheries		W
BIOL 494	4		Controversies in Biology and Society	Either BIOL 350, BIOL 354, BIOL 355, or BIOL 356	NCO
BIOL 519	4		Data Science for Biologists		NCO
BIOL 570	1-3, max. 15		Seminar in Conservation Biology		NCO
COM 418	5	ENVR 418	Communication and the Environment	COM AND JPIC MAJORS	A
COM 423	5		Communication and Social Change		NCO
COM 443	5	AIS 443	Indigenous Films, Sovereign Visions	COM AND JPIC MAJORS	NCO
COM 578	5		Intercultural Communications		NCO
COM 583	5, max. 15		Multimedia Storytelling		NCO
CHID 488	5		Encountering Animals: Ethics, Culture, and Politics		NCO
ECON 437	5		Economics of Biological Resources	Minimum grade of 2.0 in ECON 300	NCO
ECON 535	3		Natural Resource Economics	ECON 500; ECON 501, or permission	NCO
ECON 536	3		Environmental Economics	ECON 500; ECON 501, or permission	NCO
ECON 539	3		Economics of Natural Resources Seminar III		NCO
GWSS 485	3/5	PHYS 451	Issues for Ethnic Minorities and Women in Science and Engineering		NCO
GWSS 488	5		Women and/in Science		NCO
GWSS 489	5	AES 489; COM 489	Black Cultural Studies		Sp
GWSS 503	5		Feminist Research and Methods of Inquiry		Sp
GEOG 472	5		Race, Nature, and Power		NCO
GEOG 473	5		Geographies of Energy and Sustainability	Recommended: GEOG 205, GEOG 270, or GEOG 370	NCO

GEOG 480	5		Environmental Geography, Climate, and Health	GEOG 280, GEOG 380, or GEOG 426	<i>NCO</i>
GEOG 554	5		Research Seminar: Nature-Society Relations		<i>NCO</i>
GEOG 568	5		International Case Studies of GIS for Sustainability Management		<i>NCO</i>
GEOG 571	5		Research Seminar: Critical and Normative Ecologies		<i>NCO</i>
HSTAA 517	5		Field Course in American Indian History		<i>NCO</i>
HSTAA 570	5		American Environmental History		<i>NCO</i>
INTSCI 402	5		Nature of Science		<i>NCO</i>
INTSCI 403	5		Science in Context		<i>NCO</i>
JSIS A 429	5	SCAND 479	Eco-Capitalism		<i>NCO</i>
JSIS A 593	5		Water and Security in the Middle East		<i>NCO</i>
JSIS B 433	5	ENVIR 433; SMEA 433	Environmental Degradation in the Tropics		<i>NCO</i>
JSIS B 455	5		International Environmental Policy		<i>NCO</i>
JSIS B 553	5		Environment and Health in the World Trade Organization		<i>NCO</i>
ETHICS 591	3		Ethics Matters in Science: Research Questions as Moral Questions		<i>NCO</i>
PHIL 416	5	ENVR 416	Ethics and Climate Change		<i>NCO</i>
PHIL 417	5	ENVR 417	Advanced Topics in Environmental Philosophy	One philosophy course	<i>NCO</i>
PHIL 441	5		Public Health Ethics		<i>NCO</i>
PHIL 460	5		Philosophy of Science	One philosophy course	<i>NCO</i>
PHIL 462	5		Social Structure of Science		<i>NCO</i>
PHIL 481	5		Philosophy of Biology	One philosophy course	<i>NCO</i>
PHIL 482	5, max. 10		Philosophy of Physical Science	One philosophy course	<i>NCO</i>
PHIL 560	5, max. 20		Seminar in the Philosophy of Science		Sp
PHIL 562	5, max. 20		Seminar in the Social Structure of Science		<i>NCO</i>
PHYS 429	3		Biophysics	PHYS 224; PHYS 225	W
POL S 422	5		International Environmental Politics Seminar		<i>NCO</i>
POL S 574	5		Environmental Regulation Policy		<i>NCO</i>
PSYCH 431	5	ENVIR 431; ESRM 431	Ecopsychology		<i>NCO</i>
SOC W 570	3		Anti-racist Organizing for Social and Economic Change		Sp
<b>College of Built Environments</b>					

ARCH 431	3		Environmental Control Principles		NCO
ARCH 536	3		Designing with Living Systems		NCO
ARCH 564	3		Environmental Design and Well-Being		NCO
ARCH 591	3	ARCH 502	Architecture and Landscape		NCO
B E 598 C	1 (C/NC)		Equitable Practice and Intercultural Skills	Entry code needed	A
L ARCH 423	3		Plant Identification & Management		NCO
L ARCH 450	3		History of Environmental Design in the Pacific Northwest		NCO
L ARCH 451	3		History of Environmental Design on the West Coast		NCO
L ARCH 481	5		Planning Urban Green Infrastructure Networks for Healthy Cities		NCO
L ARCH 561	3		The Human Experience of Place		NCO
L ARCH 564	2		Sustainable Urban Landscapes		NCO
CEP 461	5		Ethics and Identity		NCO
IPM 505	3		Climate Change and Infrastructure		NCO
IPM 510	3		Water Systems	Non-IPM need add code	A
IPM 511	3		Food Systems		Su
IPM 512	3		Public Health Systems		NCO
IPM 516	3		Community Resilience		NCO
IPM 520	2		Floodplain Management Seminar I		NCO
IPM 522	3		Geomorphology in Floodplain Management and Landscape Design		NCO
IPM 523	2		Ecological Processes in Coastal and Floodplain Management		NCO
IPM 528	3		Floodplain Management and Planning for River Population		NCO
URBDP 502	4		Tools for Sustainable Cities	CEP 200 or URBDP 300	NCO
URBDP 514	1 (C/NC)		Race and Social Justice Seminar		A
URBDP 526	3		Floodplain Management and Planning for Coastal and River Communities		A
URBDP 550	3		Land Use, Growth Management and Environmental Planning		NCO
URBDP 598C	3		Research Design for Urban Science		A
<b>Foster School of Business</b>					

B A 541	4		Environmental Management I	Must be taken concurrently with BA 544; permission of instructor	<i>NCO</i>
ENTRE 543	2 (C/NC)		Environmental Innovation Practicum		A
ENTRE 545	2		Health Innovation Challenge Practicum		A
<b>College of Education</b>					
EDC&I 480	4		Culturally Responsive STEM Teaching		A
EDC&I 579	3		Culturally Sustaining Pedagogies: Teaching and Learning for Justice in a Changing World		<i>NCO</i>
<b>College of Engineering</b>					
CEE 420	3		Engineering with Developing Communities		<i>NCO</i>
CEE 475	3		Analysis Techniques for Groundwater Flow	CEE 347	<i>NCO</i>
CEE 476	3		Physical Hydrology	CEE 347	A
CEE 477	3		Open-Channel Flow	CEE 347	<i>NCO</i>
CEE 478	3		Water Systems Management and Operations		<i>NCO</i>
CEE 497	5		Engineering Jordan: Water in an Arid Land Study Abroad		<i>NCO</i>
CEE 500B	1 (C/NC)		Envir/Water Seminar		A
CEE 576	3		Water Resources Planning		<i>NCO</i>
CEE 599	1-5, max. 20		Special Topics in Civil and Environmental Engineering		<i>NCO</i>
CEWA 532	4	SEFS 532	Advanced Remote Sensing and Earth Observation	Recommended: GIS; statistics; basic physics	<i>NCO</i>
CEWA 543	4		Aquatic Chemistry		A
CEWA 547	3		Lake and Watershed Management	CEE 462/FISH 434, BIOL 473, or permission	<i>NCO</i>
CEWA 550	3		Environmental Chemical Modeling	CEE 551	<i>NCO</i>
CEWA 564	3		Advanced Hydrology		<i>NCO</i>
CEWA 565	4		Data Analysis in Water Sciences		A
CEWA 566	3		Satellite Remote Sensing for Water Resources		A
CEWA 577	4		Open Channel Flow with Modeling	CEE 347	<i>NCO</i>
CEWA 578	3		Water Resource System Management and Operations		<i>NCO</i>
CEWA 579	3		Quantitative Water Management		<i>NCO</i>
CEWA 580	3		Water-Quality Management		<i>NCO</i>
CEWA 590	3		Field Measurements for Hydrology and Hydrodynamics	CEE 347, or a course in fluid mechanics	<i>NCO</i>

CEWA 599	1-5, max. 20		Special Topics in Environmental Engineering		A, W, Sp, Su
CET 562	4		Livable Communities and Design		NCO
CET 565	5		Climate Change and Energy		NCO
CET 566	5		Environmental Analysis and Assessment		NCO
CSE 491	1 (C/NC)		Data Science and Society Seminar		NCO
CSE D 514	5	DATA 514	Data Management for Data Science		NCO
ENGR 401	3 (C/NC)		Leadership Development to Promote Equity in Engineering Relationships		Su, A
<b>College of the Environment</b>					
FISH 423	4		Aquatic Invasion Ecology	BIOL 462 or BIOL 180	A
FISH 424	5		Biology and Culture of Aquatic Organisms		Sp (odd)
FISH 428	5		Stream and Watershed Restoration	BIOL 356, ESRM 304, or FISH 312	Sp (even years)
FISH 447	3	ESRM 447	Watershed Ecology and Management	BIOL 180 or ESRM 201 or FISH 101	Sp
FISH 448	2	ESRM 448	Watershed Ecology and Management Lab	ESRM 447 or FISH 447 which may be taken concurrently	Sp
FISH 454	5	Q SCI 454	Introduction to Quantitative Ecology		A
FISH 458	5	Q SCI 458	Advanced Ecological Modeling		Sp
FISH 507	1-15, max. 15		Special Topics in Fisheries		A, W, Sp
FISH 511	1-15, max. 15		Topic: Aquatic Ecosystems		A, W, Sp
FISH 513	1-15, max. 15		Current Topics in Management, Conservation, and Restoration		S, W, Sp
FISH 521	4		Research Proposal Writing for Graduate Students		W
FISH 522	2 (C/NC)		Hot Topics in Aquatic and Fishery Sciences		A
FISH 546	3		Bioinformatics for Environmental Sciences	Introductory biology, genetics, and statistics	NCO
FISH 547	3		River Ecology and Watershed Management		NCO
FISH 561	4		Resource Economics for Management and Policy		A
FISH 567	3, max. 6	BIOL 567; SEFS 567	Topics in Advanced Ecology		W
ATM S 475	3, max. 6	ESS 475; OCEAN 475	Current Research in Climate Science Seminar	Either ESS 201, ATM S 211, or ATM S 321	NCO

ATM S 495	2-6, max. 15 (C/NC)		EarthGames Studio		A, W, Sp, Su
ATM S 519	2	ESS 519; OCEAN 518	Scientific Writing and Graphics		Sp (odd years)
ATM S 585	4	ENVIR 585; ESS 585; SMEA 585	Climate Impacts on the Pacific Northwest		Sp
ATM S 586	2, max. 20 (C/NC)	ESS 586; OCEAN 586	Current Research in Climate Change		Sp
ATM S 587	3	ESS 587; OCEAN 587	Fundamentals of Climate Change		A
ATM S 593	1	ESS 593; OCEAN 593	Climate Science Seminar		W
C ENV 500	3 (C/NC)		Communicating Science to the Public Effectively		<i>NCO</i>
C ENV 590	1-5, max. 15		Special Topics in Environment		<i>NCO</i>
ENVIR 400	5		Professional Environmental Communication		W
ENVIR 439	5		Attaining a Sustainable Society		W, Sp
ENVIR 460	5	ESRM 460	Power, Privilege, and Preservation		A
ENVIR 476	3	SMEA 476	Introduction to Environmental Law and Process		A
ENVIR 489	1-5, max. 10 (C/NC)		Peer Teaching Assistants in Environmental Studies		A, W, Sp, Su
ENVIR 495I	1-5, max. 15		Advanced Topics in Environmental Studies – Environmental Justice		A, W, Sp, Su
ENVIR 500	1-5, max. 15		Graduate Seminar in Environmental Studies		<i>NCO</i>
ENVIR 501	1-5, max. 15		Graduate Seminar in Environmental Management		<i>NCO</i>
ENVIR 502	4		Business Strategy and the Natural Environment		<i>NCO</i>
ESRM 421	3	SEFS 521	Role of Culture and Place in Natural Resource Stewardship: Yakama Nation Experience		A
SEFS 504	4		Social Science Research Design and Methods		Sp
SEFS 507	4		Soils and Land Use Problems		Sp
SEFS 509	3		Analysis of Research Problems		W
SEFS 521	2-5, max. 10		Current Topics in Forest Resources		A, W, Sp
SEFS 523	3		Environmental Applications of Plants: Bioenergy and Bioremediation		A

SEFS 525	4		Advanced Wildland Hydrology		W
SEFS 530	3/5		Introduction to Restoration Ecology		A
SEFS 561	3		Professional Presentations in Environmental Sciences		Sp
SEFS 570	3	SOC 570	Seminar in Environmental Sociology		NCO
SEFS 574	5		Restoration Problem Solving: Ecological Engineering		NCO
SMEA 430	3		Development and the Environment		NCO
SMEA 480	3	FISH 480	Human Dimensions of Fishery Management		NCO
SMEA 500	3		Introduction to Human Dimensions of Global Change		A
SMEA 512	3		Interviewing Methods & Environmental Topics		NCO
SMEA 521	3		Climate Change Governance		A
SMEA 530	3		Development and the Environment		NCO
SMEA 550B	3		Qualitative Methods in Environmental Studies		A
SMEA 572	5		Environmental Justice and Political Ecology Field Course: Indigenous Perspectives, Coalitions, and Activism		A
Q SCI 451	3	ESRM 451	Analytical Methods in Wildlife Science	ESRM 351 & QSCI 482	NCO
QERM 514	4		Analysis of Ecological and Environmental Data I		NCO
<b>The Information School</b>					
INFO 402	4		Gender, Race, and Information Technology		A
IMT 510	4		Human Aspects of Information Systems		NCO
INSC 557	4		Cultural and Ethnic Dimensions of Information Science	Instructor permission	NCO
INSC 598 -A	3 (C/NC)		Indigenous Research Methods		Sp
LIS 512	4	INSC 512	Community Analysis		NCO
LIS 513	3		Information and Migration		NCO
LIS 534	3		Indigenous Systems of Knowledge		A
LIS 553	3		Information and Social Justice		NCO
LIS 583	3		Cross Cultural Approaches to Leadership		A
<b>Interdisciplinary Graduate Programs</b>					
NUTR 513	2		Food and Society: Exploring Eating Behaviors in a Social, Environmental, and Policy Context		A
NUTR 514	3		Sustainable Food Systems for Population Health		NCO



G H 406	1		International Climate Negotiations within the United Nations Framework Convention on Climate Change		<i>NCO</i>
G H 501	1		Core Topics in Global Health		A
G H 502	1		Current Research and Programs in Global Health		<i>NCO</i>
G H 518	3	ENV H 518	Understanding and Managing the Health Risks of Climate Change		<i>NCO</i>
G H 541	4/5	HMS 541	Fundamentals of Implementation Science in Global Health		<i>NCO</i>
G H 554	1/2 (C/NC)	BIOEN 554	Bioengineering Solutions to Improve the Health of Families Worldwide		A
<b>Evans School of Public Policy and Governance</b>					
PA EX 509	3		Leading Across Boundaries		A
PA EX 511	3		Strategic Communication		A
PA EX 512	4		Strategic Policy-Making		<i>NCO</i>
PUBPOL 403	4		Professional Leadership		<i>NCO</i>
PUBPOL 499A	4		Topics in Public Policy – Native Nations and Public Policy in the U.S.		A
PUBPOL 499B	4		Topics in Public Policy – Data Science and Machine Learning		A
PUBPOL 499B	4		Topics in Public Policy – The Art and Science of Community Engagement and Why it Matters for the Future of Democracy		Su
PUBPOL 506	3/4		Ethics and Public Policy		<i>NCO</i>
PUBPOL 520	4		Intergovernmental Relations		A
PUBPOL 521	4		Managing Public Grants and Contracts		<i>NCO</i>
PUBPOL 534	4		Food and Agricultural Policy in Developing Countries		<i>NCO</i>
PUBPOL 536	4		Diagnosing and Reforming Corrupt Systems		<i>NCO</i>
PUBPOL 537	3-5, max. 20		Topics in International Affairs		<i>NCO</i>
PUBPOL 547	4		Water Resource Economics		<i>NCO</i>
PUBPOL 551	4		Measuring Social Impact: Advanced Program Design and Evaluation	Instructor permission; PUBPOL 526 recommended	<i>NCO</i>
PUBPOL 552	4		Philanthropy and Society		<i>NCO</i>
PUBPOL 556	4		Public-Private Partnerships		<i>NCO</i>
PUBPOL 558	4		Collaboration and Management Across Sectors		<i>NCO</i>

PUBPOL 566	4		Community Economic Development		A
PUBPOL 568	3/4		Social Justice and Public Policy		NCO
PUBPOL 569	3/4		Race and Public Policy		NCO
PUBPOL 572	2, max. 4 (C/NC)		Race and Equity in Policy and Governance		NCO
PUBPOL 582	4		Communicating Climate Change		NCO
PUBPOL 583	4		Science, Technology, and Public Policy		NCO
PUBPOL 585	3/5		Topics in Science, Technology, and Public Policy		NCO
PUBPOL 587	4		Native Nations, Native Lands, Native Waters		NCO
PUBPOL 589	4	CEWA 560; ENV H 577	Risk Assessment for Environmental Health Hazards		A
PUBPOL 590	4		Environmental Policy		A
PUBPOL 592	4	SEFS 571	Resource Policy and Administration		NCO
PUBPOL 593	4		Climate Change and Energy Policy		A
PUBPOL 594	4		Economic Approaches to Environmental Management	PUBPOL 516; PUBPOL 517; PUBPOL 527; PUBPOL 528	Sp
PUBPOL 595	3-5, max. 20		Topics in Environmental Policy and Management		NCO
PUBPOL 596	4		Environmental Risks and Values		A
PUBPOL 597	4		Environmental Decision Analysis		NCO
<b>School of Public Health</b>					
<i>*See Global Health (GH) classes above under Interdisciplinary Graduate Program.</i>					
ENV H 472	3		Environmental Risk and Society		A
ENV H 501	4		Foundations of Environmental and Occupational Health		A
ENV H 506	3		Disasters and Public Health		A
ENV H 509	3		Microbiome and Environmental Health		NCO
ENV H 538	2	URBDP 538	Public Health and the Built Environment		NCO
ENV H 545	4		Water, Wastewater, and Health		A
ENV H 547	3		Environmental Change and Infectious Disease		NCO
ENV H 572	3		Environmental Risk and Society		NCO
ENV H 581	1		Environmental Health Reading		NCO
ENV H 584	4		Environmental Health Policy and Practice		NCO
ENV H 590 B	3		Special Topics: Scientific Programming, Modeling, and Data Visualization with Environmental Health Applications		Sp

ENV H 590 C	3	ENVH 490	Special Topics: Climate Change and Public Health Practice		Sp
ENV H 594	1, max. 2		Current Topics in Environmental Health		W
HSERV 479	4		Black Lives and Police Violence: Racism and the Public's Health		<i>NCO</i>
HSERV 482	4	GH 482	The Health of Populations		<i>NCO</i>
HSERV 579	1 (C/NC)	PHI 579, SPH 489	Structural Racism and Public Health Seminar		A, W, Sp

*\*Currently there are no classes on this list from School of Dentistry, The Information School, School of Law, School of Medicine, School of Nursing, School of Pharmacy, ROTC, or Social Work.*