MEMORANDUM

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January 5, 2012

TO:

Matt Winslow/Jennifer Payne

UW Curriculum Committee

FROM:

Julie Buffington, Program Administrator

Interdisciplinary Arts and Sciences, UW Tacoma

SUBJECT:

Memo of Correction - Requesting Spring 2012 effective date for 1503

creating 2 tracks (biology and geosciences) in the Bachelor of Science

A 1503 creating a biology track and a geosciences track for students pursuing a Bachelor of Science degree was approved by the UW Curriculum Committee in December, 2011.

The effective date on that 1503 was Autumn 2012. At the request of the Environmental Science faculty, I am asking to change the effective date to Spring 2012, so current students can complete one of the new tracks.

Thanks you for your consideration and please let me know if you have questions.

APPROVALS	
IAS Director	
1/5/2012	
Larry Knopp	Date
UWT Curriculum Committee Cattle Found Katie Baird	1/18/2012
UWT Vice Chancellor for Academic Affairs	w. #/). 1.23.12
	ngton, Jr. Date



OFFICE OF THE PRESIDENT

December 20, 2011

Vice Chancellor J.W. Harrington University of Washington, Tacoma Box 358430

Dear J.W.:

Based upon the recommendations of the Faculty Council on Academic Policy, the Faculty Assembly has recommended approval of the revised program requirements for the Bachelor of Science degree in Environmental Science. A copy of the change is attached.

I am writing to inform you that the Office of Academic Affairs is authorized to specify these requirements beginning autumn quarter 2012.

The new requirements should be incorporated in printed statements and in individual department websites as soon as possible. The General Catalog website will be updated accordingly by the Registrar's Office.

Sincerely yours.

Michael K. Young President

Enclosure

CC:

Dr. Larry Knopp (with enclosure)

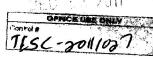
Dr. Jenny Quinn (with enclosure)

Mr. Robert Corbett (with enclosure)

Dr. Deborah H. Wiegand (with enclosure)

Ms. Virjean Edwards (with enclosure TESC-20111027)





After college/school/campus review, send a signed original and 8 copies to the Curriculum Office/FCAS, Box 355850.

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Current degree requirements:

ENVIRONMENTAL SCIENCE DEGREE REQUIREMENTS: 120 credits minimum

Preparatory courses-

15 credits college biology (majors sequence with lab)

15 credits college chemistry (majors sequence with lab)

5 credits physical geology (with lab)

5 credits college physics (mechanics, with lab)

5 credits college calculus overview course

5 credits statistics

Core courses

TESC 310 Env. Research Seminar

TESC 410 Env. Science Senior Seminar

TESC 496/499 Capstone Experience

TESC 340 Ecology and Its Applications

TESC 333 Envionmental Chemistry

Five additional TESC Courses: at UW Tacoma to include one biological science (B) and one physical science (P), at least two lab (L) courses and one field (F) course; field courses can be substituted for lab courses. TESC 100/300, 107/317, 110, 111 and 213/313 not allowed. This portion of the degree requirements modified to create tracks (see next two pages)

Additionally:

Environmental Law (or Policy)

Environmental Ethics

Social Science with Environmental Focus

Humanities with an Environmental Focus

Proposed tracks for geoscience and biology:

BIOLOGY TRACK

Five additional TESC Courses:

To include one biological science (B) and one physical science (P), at least two lab (L) courses and one field (F) course; field courses can be substituted for lab courses. TESC 100/300, 107/317, 110, 111 and 213/313 not allowed.

- (1) Required course: TESC 380 Molecular Biology (lab 6 credits)
- (2) Three courses from the following two lists (at least one course from each):

Organismal, Molecular, Genetics (List A)

TESC 240 Human Biology and Environmental Interactions

TESC 370 Genetics and Society

TESC 378 Environmental Microbiology (L)

TESC 422 Evolution

TESC 405 Introduction to Biochemistry I

TESC 408 Marine Plankton (L)

TESC 438 Environmental Biology: Marine Invertebrates (L)

TESC 440 Environmental Entomology (L)

Ecology, Conservation Biology (List B)

TESC 202 Plant Biology and Ecology

TESC 232 Issues in Biological Conservation

TESC 236 Plants and People: The Science of Agriculture

TESC 304 Tropical Ecology and Sustainability

TESC 332 Conservation Biology in Practice (L)

TESC 362 Introduction to Restoration Ecology (F)

TESC 402 History and Ecology of Biological Invasiions

TESC 404 Costa Rica Field Studies: Ecology and Community (F)

TESC 432 Forest Ecology (F)

TESC 442 Marine Ecology (F)

TESC 434 Biology, History/ Politics of Salmon in the Pacific

TESC 437 Stream Ecology (L)

TESC 452 Plants, Insects and their Interactions (F)

TESC 430 Environmental Modeling

TMATH 310 Statistics for Environmental Applications

(3) One additional course to complete this portion of the degree requirements.

Capstone Experience (TESC 495, 496, 497, 499, REN Certificate, GIS Certificate) - must be biology focused

	GEOSCIENCES TRACK	**************************************	The second secon	
	CEOOSIENCES TRACK			
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	(2) There says a few than	P. 11		
	(2) Three courses from the	tollowing list:		
	TESC 215 Meteorology			
	TESC 227 Earth History			
	TESC 239 Energy and the	Engineent		
	TESC 241 Oceanography (THAUCKHEUL	•	
	TESC 243 Geography of the	e Physical Environment		
	TESC 247 Maritime History	and Science in the Day	fin Northwent	
-	TESC 315 Applied Physics	with Favironmental Ann	lications (L)	
-	TESC 316 Pacific Northwes	t Geology + (TESC 326	PNW Geology Field Trip (L)}	
	TESC 317 Geology, Landso	cape, and Culture (F)	Titte deology Field Trip (L)}	
ļ	TESC 319 Water Quality Co	encepts and Watershed	Studies (I.)	
	TESC 321 Soils and Environ	nmental Applications	(=)	
	TESC 341 Climate Change			
	TESC 343 The Atmosphere	and Air Pollution (L)		
	TESC 415 Sedimentology (I	_)		
	TESC 417 Field Geology (F)		
	TESC 430 Environmental M	odeling		
	TESC 433 Pollutant Fate an	d Transport in the Envir	onment (L)	
l	TESC 435 Limnology (F)	a >		
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Bachelor of Science

The bachelor of science degree in environmental science provides students with a strong science background focused on the environmental issues of the future.

Through lecture, lab, and field classes, students get hands-on experience with biology, chemistry, the geosciences, physics, and math, and learn how to draw connections between them in order to solve the complex, interdisciplinary environmental problems facing the local community and society at large. The Environmental Science program embedded in the Interdisciplinary Arts and Sciences, allowing our students to synthesize diverse approaches to the environment in the social sciences and humanities as well

Course work and independent study will allow students to develop the tools needed for scientific research, technical writing and grant preparation. Students are prepared to begin working in the sciences or continue their education upon graduation through a culminating capstone experience that gives students the opportunity to work with a scientist on their own undergraduate research project or to intern with a community group to gain practical experience.

Students will be prepared to enter government, academic, private or nonprofit careers, or to continue their education in a variety of scientific disciplines.

Two required "bookend" seminars, taken by entering juniors and graduating seniors, introduce students to scientific research, writing and funding processes. The senior capstone experience allows students to get practical experience in individual or team research or internship positions.

Admission Requirements

The Environmental Science program considers applications for admission from students with more than 45 college-level credits. Students with less than 45 credits apply to UW Tacoma as freshmen.

All transfer applicants are expected to meet the minimum standards for freshman admission, have a 2.0 GPA and complete English composition and intermediate algebra with a 2.0 before applying. As a B.S. degree, Environmental Science has preparatory courses that should be taken during the freshman and sophomore years. For students who would like to transfer this course work to UW Tacoma, or for UW Tacoma freshmen who would like to prepare for entrance into Environmental Science, the list below is a guideline to help select appropriate courses.

Preparatory courses

These can be taken at UW Tacoma or transferred from another school. UW Tacoma courses that fulfill this preparatory course work are listed in parentheses.

- Completion of General University Requirements (see page 23)
- 15 credits of college biology (majors sequence with lab) (TESC 120, 130, 140)
- 1.5 minimum grade in each
- 15 credits of college chemistry (majors sequence with lab) (TESC 141, 151, 161)
- 1.7 minimum grade in each
- 5 credits of physical geology with lab (TESC 117) 2.0 minimum grade
- 5 credits of college physics (mechanics with lab) (TESC 121) 2.0 minimum grade
- 5 credits of calculus course (TMATH 122 or 124) 2.0 minimum grade
- 5 credits of statistics (TMATH 110) 2.0 minimum grade

Additionally, students must be **computer literate**, which is defined as the ability to use word processing, spreadsheet, presentation and communication software. Workshops are available for students with deficiencies in any of these areas.

Preparatory courses must have been completed within the last five years. If they were completed earlier, please consult an IAS adviser.

Graduation Requirements

To be eligible for graduation with a bachelor of science in environmental science, students must meet the UW Tacoma scholastic standards (2.0 UW GPA), credits required (minimum 180), and the final-year residency requirement and complete the following program requirements:

- Complete a minimum of 45 credits of upper-division course work and a minimum of 45 credits in Interdisciplinary Arts and Sciences.
- Completion of all general education requirements not met with transfer courses. See adviser for details.
- Complete the B.S. degree preparatory courses and requirements (above). Minors and certificates are optional. No more than 15 elective credits can be taken for a Satisfactory/Not Satisfactory grade; see adviser for details.
- Complete five credits of English composition with a minimum grade of 2.0.
- Complete at least 45 of last 60 credits in residence at the University of Washington Tacoma.

- Compile a portfolio of work completed during the course of the student's residence at UW Tacoma and submit it for review during the second week of the student's last quarter of enrollment.
- Meet with a program adviser to complete a graduation application no later than the second week of the quarter in which the student plans to graduate.
- 6 credits: two required "bookend" courses

TESC 310 Environmental Research Seminar (3) To be taken in the first quarter of enrollment (sophomore or junior year) TESC 410 Environmental Science Senior Seminar (3) To be taken in the last quarter of enrollment after or concurrent with capstone experience

- 3-10 credits: Capstone experience (internship, research, etc.) Planned with faculty adviser; may span more than one quarter.
- 12 credits: Environmental science core courses:

TESC 333 Environmental Chemistry (6) TESC 340 Ecology and Its Applications (6) ■ 29 credits minimum – five additional TESC courses to include at least one biological science (B) course and one physical science (P) course. Of these remaining five courses, at least two must be laboratory (L) courses (6 credits) and one must be a field (F) course (7 credits). Some courses designated as labs on this list are not offered as labs every time; check the Time Schedule for credits. Students have the opportunity to specialize within the degree by taking an optional track in either geoscience or biology.

BIOLOGY TRACK

Five additional TESC Courses:

To include one biological science (B) and one physical science (P), at least two lab (L) courses and one field (F) course; field courses can be substituted for lab courses. TESC 100/300, 107/317, 110, 111 and 213/313 not allowed.

- (1) Required course: TESC 380 Molecular Biology (lab 6 credits)
- (2) Three courses from the following two lists (at least one course from each):

Organismal, Molecular, Genetics (List A)	Ecology, Conservation Biology (List B)
TESC 240 Human Biology and Environmental Interactions	TESC 202 Plant Biology and Ecology
TESC 370 Genetics and Society	TESC 232 Issues in Biological Conservation
TESC 378 Environmental Microbiology (L)	TESC 236 Plants and People: The Science of Agriculture
TESC 422 Evolution	TESC 304 Tropical Ecology and Sustainability
TESC 405 Introduction to Biochemistry I	TESC 332 Conservation Biology in Practice (L)
TESC 408 Marine Plankton (L)	TESC 362 Introduction to Restoration Ecology (F)
TESC 438 Environmental Biology: Marine Invertebrates (L)	TESC 402 History and Ecology of Biological Invasions
TESC 440 Environmental Entomology (L)	TESC 404 Costa Rica Field Studies: Ecology and Community (F)
	TESC 432 Forest Ecology (F)
	TESC 442 Marine Ecology (F)
	TESC 434 Biology, History/ Politics of Salmon in the Pacific
	TESC 437 Stream Ecology (L)
	TESC 452 Plants, Insects and their Interactions (F)
	TESC 430 Environmental Modeling
	TMATH 310 Statistics for Environmental Applications

(3) One additional course to complete this portion of the degree requirements.

Core courses

Capstone Experience (TESC 495, 496, 497, 499, REN Certificate, GIS Certificate) - must be biology focused

GEOSCIENCES TRACK

Five additional TESC Courses:

To include one biological science (B) and one physical science (P), at least two lab (L) courses and one field (F) course; field courses can be substituted for lab courses. TESC 100/300, 107/317, 110, 111 and 213/313 not allowed.

- (1) Required course: TESC 337 Environmental Geology (lab 6 credits)
- (2) Three courses from the following list:

TESC 430 Environmental Modeling	
TESC 433 Pollutant Fate and Transport in the Environment (L)	
TESC 435 Limnology (F)	
TESC 437 Stream Ecology (L)	
TESC 445 Estuarine Field Studies (F)	
TGIS 311 Maps and GIS (L)	
TMATH 310 Statistics for Environmental Applications	

(3) One additional course to complete this portion of the degree requirements.

Core courses

Capstone Experience (TESC 495, 496, 497, 499, GIS Certificate) – must be geoscience focused

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Note: If a course below is taken to fulfill prerequisite courses, it is an elective. TESC 100, 107, 110, 111 and 213 are electives for
    the B.S. degree.
   TESC 202 Plant Biology and Ecology (B)
   TESC 211 The Science of Environmental Sustainability (P)
   TESC 215 Meteorology (P, if 6 cr- L)
   TESC 227 Earth History (P)
   TESC 232 Issues in Biological Conservation (B)
   TESC 236 Plants and People: The Science of Agriculture (B)
   TESC 238 Human Interactions with Marine Invertebrates (B)
   TESC 239 Energy and the Environment (P)
   TESC 240 Human Biology and Environmental Interactions
   TESC 241 Oceanography (P, if 6 cr- L)
   TESC 243 Geography of the Physical Environment (P)
   TESC 247 Maritime History and Science in the Pacific Northwest (P)
   TESC 251 Organic Chemistry I (P)
   TESC 302 Ecology of Mt. St. Helens (B/P/F)
   TESC 303 Sustainable Development in Africa - Study Abroad (B,P,F)
   TESC 304 Tropical Ecology and Sustainability (B)
   TESC 315 Applied Physics with Environmental Applications (P/L)
   TESC 316 Pacific NW Geology (P)
   TESC 317 Geology, Landscape and Culture (Field course to England) (P/F)
   TESC 318 Biogeography (P/B, if 6 cr- L)
   TESC 319 Water Quality Concepts and Watershed Studies (P/L)
   TESC 321 Soils and Environmental Applications (P)
   TESC 326 Pacific NW Geology Field Trip (If TESC 316 taken; P,L)
   TESC 332 Conservation Biology in Practice (B/L)
   TESC 337 Environmental Geology (P/L)
   TESC 341 Climate Change (P)
   TESC 343 The Atmosphere and Air Pollution (P/L)
   TESC 345 Pollution and Public Policy (P)
  TESC 349 Research at Sea (P/B/F)
   TESC 362 Introduction to Restoration Ecology (B/F)
  TESC 370 Genetics and Society (B)
  TESC 378 Environmental Microbiology (B/L)
  TESC 402 History and Ecology of Biological Invasions (B)
   TESC 404 Costa Rica Field Studies: Ecology and Community (B/F)
  TESC 405 Introduction to Biochemistry (if 6 credits,P)
  TESC 408 Marine Plankton (B/L)
  TESC 415 Sedimentology (P/L)
  TESC 417 Field Geology (P/F)
  TESC 422 Evolution (B, if 6 cr- L)
  TESC 426 Ecological History Field Studies (B,P,F)
  TESC 430 Environmental Modeling (B/P/L)
  TESC 431 Water Resources and Pollution (P/F)
  TESC 432 Forest Ecology (B/F)
  TESC 433 Pollutant Fate and Transport (P/L)
  TESC 434 Biology, History/ Politics of Salmon in the Pacific NW (B, if 6 cr- L)
  TESC 435 Limnology (P/F)
  TESC 437 Stream Ecology (P/L)
  TESC 438 Environmental Biology: Marine Invertebrates (B/L)
  TESC 439 Analytical Chemistry with Environmental Applications (P,L)
  TESC 440 Environmental Entomology (B/L)
  TESC 442 Marine Ecology (B/F)
  TESC 445 Estuarine Field Studies (B/P/F)
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TESC 452 Plants, Insects and their Interactions (B/F)

TESC 490 Special Topics: Ecological History Field Studies (B/F) T GIS 311 Maps and GIS (P/L)

TMATH 310 Statistics for Environmental Applications (B,P)

■ 5 credits: Environmental Law/Policy course (TECON 421 does not count)

TEST 333 Environmental Policy Application and Compliance TEST 335 Environmental Impact Analysis

TPOL S 438 Environmental Law

■ 5 credits: Environmental Ethics course

T PHIL 363 Philosophical Perspectives on the Environment

T PHIL 364 Topics in the Philosophy of Science

T PHIL 456 Environmental Ethics

■ 5 credits: Social Science/environmental focus

T ANTH 418 Interpreting Enigmatic India

T ANTH 464 Native American Cultural Areas

TCOM 310 Contemporary Environmental issues and the Media

TCOM 351 Video Production

TCOM 470 Documentary Production and Critique

TECON 421 Environmental Policy

TESC 107 Geohazards and Natural Disasters

TESC 304 Tropical Ecology and Sustainability

TESC 318 Biogeography

TEST 211 Women in Science

TEST 221 Environmental History: Water

TEST 332 A Natural History of Garbage

T GEOG 403 Geography of the USA and Canada

T GEOG 435 Contemporary Geopolitics

T GEOG 440 Political Geography

T GH 303 Global Challenges

T HIST 445 History of Tacoma

T HIST 456 North American Regions

T HIST 487 Technology in the Modern World

T HIST 488 Urbanization and the Environment

T HIST 490 Medieval Technology

T HIST 495 The Metropolis

T HLTH 410 Environmental Justice

T HLTH 472 Human Health and the Environment

TIAS 443 Ethnicity and the Urban Landscape

T INST 401 Technology in Service of Global Society

TNPRFT 431 Community Organizations in the Nonprofit Sector

TNPRFT 451 Essentials of Grant Writing and Fundraising

TPOL S 326 Modern Brazil

TPOL S 342 Third World Cities

TPOL S 435 Popular Movements in Latin America

T SOC 436 Rural Societies and Development

T SUD 240 The City and Nature

T SUD 323 Sustainable Urban Development Policies

T SUD 445 Urban Ecology

T URB 205 Images of the City

T URB 210 Urban Society and Culture

T URB 220 Introduction to Urban Planning

T URB 301 The Urban Condition

T URB 312 Race and Poverty in Urban America

T URB 321 History of Planning, Theory and Practice

T URB 322 Land Use Planning

T URB 326 Climate Change within the Urban Context

T URB 330 City Worlds

T URB 345 Urban Government and Organizations

T URB 410 Environmental Justice

T URB 450 Planning for Sustainability

■ 5 credits: Humanities course/ environmental focus:

T ANTH 464 Native American Cultural Areas

T ARTS 402 Eco-Art: Art in Response to Environmental Crisis

T ARTS 284 Art and Culture of the Pacific

T HIST 379 Modern Architecture

T HIST 226 American Architecture

T LIT 437 Nature and the Environment in American Literature

T LIT 431 Contemporary Native American Women's Literature

T GH 303 Global Challenges

T PHIL 235 Religion in the Modern World T PHIL 353 The End of the Modern World, 1600-2000

T PHIL 361 Ethics in Contemporary Society
T PHIL 362 The Beautiful and the Good: Philosophy's Quest for Value
T PHIL 363 Philosophical Perspectives on the Environment

T PHIL 364 Topics In the Philosophy of Sciences T PHIL 367 Utopias

T PHIL 451 The Enlightenment

T PHIL 455 Medicine and Morality: Biomedical Ethics

T PHIL 455 Wednerme and Worlandy, Biomedical Edit T PHIL 458 Ways of Knowing TRELIG 367 East Asian Religions: Zen and Taoism TRELIG 463 God: East and West

TWRT 211 Argument and Research in Writing

TWRT 291 Technical Communication in the Workplace TWRT 331 Advanced Disciplinary Writing: Natural Sciences

TWRT 387 Creative Nonfiction Writing

TWRT 431 Writing for Social Change