

## FORM TO REQUEST SUBSTANTIAL CHANGES TO AN EXISTING UNDERGRADUATE MINOR

A request for substantial changes to an existing program requires approval from the school director/department head (managing administrator), college academic dean, Curricular Affairs, Undergraduate Council (UGC), and College Academic Administrators Council (CAAC). Additional approvals may be required, depending on the requested changes. Complete this form and submit to Martin Marquez ([martinmarquez@email.arizona.edu](mailto:martinmarquez@email.arizona.edu)) no later than October 25, 2019 to be considered for inclusion in the 2020-2021 Academic Catalog.

**I. Requested by (College & School/Department):**

College of Agriculture & Life Sciences/Department of Environmental Science

**II. Proposer's name, title, email and phone number:**

Dr. Jon Chorover, Department Head, [chorover@email.arizona.edu](mailto:chorover@email.arizona.edu), 621-7228

**III. Minor name and number of students enrolled in the minor:**

Environmental Science, 11 currently enrolled

**IV. Describe proposed changes to the minor. Provide a rationale and explanation for making changes to the minor and include any relevant supporting data. Are changes being made to the corresponding major (if applicable)?**

The *Environmental Science* minor is being revised to serve a wider segment of the UA undergraduate body, with the purpose of enhancing environmental scientific literacy upon graduation, and to increase student interest in the minor. The focus is being shifted away from the current emphasis on soil science and water management to a broader environmental science focus (the Soil and Water minor will still be available to students seeking a minor with a more chemistry and physics focus). ENVS 210 *Fundamentals of Environmental Science and Sustainability* has been retained as a required course.

Newly added requirements include:

ENVS 270 *Critical Zone Science* that introduces students to environmentally important aspects of soils, geology, and hydrology has been added. The purpose of this class is to explore the interdependence and close relationships of geologic materials, soils, and water in the environment.

A science communications course has been added in response to employers' expressed need for job candidates with good science-based communication skills.

A choice of a course in environmental policy, law, or ethics has been added. The courses in this group have been selected because they connect the science of the environment to human activities; their inclusion is designed to illustrate practical applications of environmental science to human society.

The list of selectives has been reduced from 108 to 26 to provide a stronger environmental science focus to the minor. The selectives include environmental physics, microbiology, chemistry, conservation, and history; water management; aquatic biology; geographic information systems; global change; ecotoxicology; and climate science.

The units required for the minor are being reduced from 20 to 18.

No changes to the corresponding major (*Environmental Science*) are being requested.

**V. Comparison Chart**—complete the chart below using your existing [academic advisement report](#). You may not need to complete all portions. Highlight row(s) indicating the proposed significant changes. You can find course information to help complete the chart below by using the [UA course catalog](#) or [UAnalytics](#) (Catalog and Schedule Dashboard> “Printable

Course Descriptions by Department” On Demand Report; right side of screen). Proposed changes resulting in similar curriculum with other plans (within department, college, or university) may require completion of an additional comparison chart.

	<b>Existing Minor Requirements</b>	<b>Proposed Minor Requirements</b>
Minor name	Environmental Science	Environmental Science
CIP code–lookup <a href="#">here</a> or contact <a href="#">Martin Marquez</a> for assistance, if needed	03.0104, Environmental Science	03.0104, Environmental Science
Total units required to complete the minor	20	18
Upper -division units required to complete the minor	9	9
Total transfer units that may apply to this minor	17	15
List any special requirements to declare or gain admission to this minor (completion of specific coursework, minimum GPA to declare, workshop attendance, application, etc.)	None	None
Minor requirements. List all minor requirements including core and electives. Courses listed must include prefix, number, units, and title. Mark new coursework (New). Include any limits/restrictions in place/needed (house number limit, etc.). Provide email(s)/letter(s) of support from home department head(s) for courses being added and are not owned by your department. Recommend ordering requirements in the same order as your advisement report.	<p>MCB 181R (3) Introductory Biology I or ECOL 182R (3) Introductory Biology II</p> <p>ENVS 195A (1) Careers in Environmental Science</p> <p>ENVS 200 (3) Introduction to Soil Science</p> <p>ENVS 201 (1) Soils Laboratory</p> <p>ENVS 210 (3) Fundamentals of Environmental Science &amp; Sustainability</p> <p>---</p> <p>Complete 3 units from the following:</p> <p>ENVS 454 (3) Water Harvesting</p> <p>ENVS 450 (3) Green Infrastructure</p>	<p>ENVS 210 (3) Fundamentals of Environmental Science &amp; Sustainability</p> <p>ENVS 270 (3) Critical Zone Science</p> <p>---</p> <p>Environmental Communication: Complete 3 units from the following</p> <p>ENVS 408 (3) Scientific Writing for Environmental, Agricultural and Life Sciences</p> <p>ENVS 275 (3) Data Analysis for Life and Environmental Sciences</p> <p>ENVS 397A (3-4) Teaching Workshop</p> <p>ENVS 415 (3) Translating Environmental Science</p> <p>---</p>

	<p>GEOG 304 (3) Water, Environment, and Society</p> <p>GEOG 468 (3) Water and Sustainability</p> <p>---</p> <p>Complete 6 units from the following</p> <p>ANTH 307 (3) Ecological Anthropology</p> <p>ANTH 332 (3) Environmental Archaeology</p> <p>ANTH 373 (3) Toxic! The Anthropology of Exposure</p> <p>ANTH 418 (3) Southwest Land and Society</p> <p>ANTH 424A (3) Political Ecology</p> <p>AREC 464 (3) Economics of Policy Analysis</p> <p>AREC 476 (3) Environmental Law and Economics</p> <p>AREC 479 (3) Economic Analysis of Water, Food &amp; Environmental Policies</p> <p>ATMO 336 (3) Weather, Climate and Society</p> <p>ATMO 471 (1) Synoptic Meteorology</p> <p>ATMO 489 (3) Atmospheric Electricity</p> <p>ATMO 436A (3) Fundamentals of the Atmospheric Sciences</p>	<p>Human Impacts: Complete 3 units from the following. Note: students must complete a total of 9 upper division (300/400 level) units for the minor:</p> <p>ENVS 310 (3) Ecosystem Health &amp; Justice</p> <p>CHS 350 (3) Environment, Health, and Society</p> <p>ECOL 206 (3) Environmental Biology</p> <p>EHS 426 (3) Topics in Environmental Justice</p> <p>EVS 374 (3) Geography, Social Justice and the Environment</p> <p>(NEW) LAW 445 (3) Applied Environmental Law</p> <p>PA 481 (3) Environmental Policy</p> <p>PA 482 (3) Environmental Governance</p> <p>PHIL 323 (3) Environmental Ethics</p> <p>---</p> <p>Complete 6 units from the following. No more than 3 units from HIST 335, HIST 356, and HIST 358 may be used towards this requirement:</p>
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	<p>ATMO 469A (3) Air Pollution I: Gases</p> <p>ATMO 469B (3) Air Pollution II: Aerosols</p> <p>BIOC 384 (3) Foundations in Biochemistry</p> <p>BIOC 385 (3) Metabolic Biochemistry</p> <p>BIOC 462A (4-5) Biochemistry</p> <p>BIOS 376 (3) Introduction to Biostatistics</p> <p>CE 423 (3) Hydrology</p> <p>CHEE 478 (3) Introduction to Hazardous Waste Management</p> <p>CHEE 370L (1) Environmental and Water Engineering Laboratory</p> <p>CHEE 370R (3) Environmental and Water Engineering</p> <p>CHEE 400R (3) Water Chemistry for Engineers</p> <p>CHEM 405 (1) Chemical Safety</p> <p>CHEM 480A (3) Physical Chemistry</p> <p>ECOL 302 (4) Ecology</p> <p>ECOL 320 (4) Genetics</p> <p>ECOL 335 (4) Evolutionary Biology</p>	<p>GEOS 439A (4) Introduction to Dendrochronology</p> <p>ATMO 336 (3) Weather, Climate and Society</p> <p>ENVS 340 (3) Environmental Chemistry</p> <p>ENVS 399, 499 (1-4) Independent Study</p> <p>ENVS 410 (3) Microbial Biogeochemistry and Global Change</p> <p>ENVS 418 (3) Introduction to Human Health Risk Assessment</p> <p>ENVS 420 (3) Environmental Physics</p> <p>ENVS 425 (3) Environmental Microbiology</p> <p>ENVS 450 (3) Green Infrastructure</p> <p>ENVS 454 (3) Water Harvesting</p> <p>ENVS 462 (3) Environmental Soil and Water Chemistry</p> <p>ENVS 464 (3) Environmental Organic Chemistry</p> <p>ENVS 442 (4) Limnology</p> <p>ENVS 474 (4) Aquatic Plants &amp; the Environment</p> <p>ECOL 475 (4) Freshwater and Marine Algae</p>
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	<p>ECOL 475 (4) Freshwater and Marine Algae</p> <p>ECOL 406R (3) Conservation Biology</p> <p>ECOL 497A (1-5) Undergraduate Teaching Training in Ecology and Evolutionary Biology</p> <p>ECON 373 (3) Environmental Economics</p> <p>EHS 418 (3) Introduction to Human Health Risk Assessment</p> <p>ENTO 310 (3) Living in Symbiosis</p> <p>ENVS 300 (3) Soil Ecology of Sustainable Systems</p> <p>ENVS 310 (3) Ecosystem Health and Justice</p> <p>ENVS 316 (3) Soil Fertility and Plant Nutrition</p> <p>ENVS 340 (3) Environmental Chemistry</p> <p>ENVS 401 (3) Sustainable Management of Arid Lands &amp; Salt- Affected Soils</p> <p>ENVS 425 (3) Environmental Microbiology</p> <p>ENVS 426 (2) Environmental Microbiology Laboratory</p> <p>ENVS 440 (3) Biodegradation of</p>	<p>ENVS 477 (4) Principles of Ecotoxicology</p> <p>ENVS 480 (3) Environmental Assessment for Contaminated Sites</p> <p>ENVS 490 (3) Remote Sensing for the Study of Planet Earth</p> <p>ENVS 495A (6) Environmental Conservation in Australia</p> <p>GEOS 412A (3) Ocean Science</p> <p>GEOS 478 (3) Global Change</p> <p>RNR 403 (3) Applications of Geographic Information Systems</p> <p>RNR 417 (3) Geographic Information Systems for Natural and Social Sciences</p> <p>HIST 355 (3) US Environmental History</p> <p>HIST 356 (3) Global Environmental History</p> <p>HIST 358 (3) Natural History of Disasters</p> <p>---</p>
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	<p><b>Pollutants in Soil and Groundwater</b></p> <p>ENVS 442 (4) Limnology</p> <p>ENVS 450 (3) Green Infrastructure</p> <p>ENVS 454 (3) Water Harvesting</p> <p><b>ENVS 461 (3) Soil and Water Conservation</b></p> <p>ENVS 462 (3) Environmental Soil and Water Chemistry</p> <p>ENVS 464 (3) Environmental Organic Chemistry</p> <p><b>ENVS 470 (3) Soil Physics</b></p> <p>ENVS 474 (4) Aquatic Plants and the Environment</p> <p>ENVS 480 (3) Environmental Assessment for Contaminated Sites</p> <p><b>ENVS 482 (3) Reclamation and Redevelopment of Impacted Lands</b></p> <p>ENVS 397A (3-4) Teaching Workshop</p> <p><b>ENVS 431R (3) Soil Genesis and Classification</b></p> <p><b>ETCV 310 (3) Integrating Technology into the Curriculum</b></p> <p><b>GEOG 304 (3) Water, Environment, and Society</b></p>	
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	<p>GEOG 330 (3) Introduction to Remote Sensing</p> <p>GEOG 362 (3) Environment and Development</p> <p>GEOG 397A (1) Field Study in Geography Workshop</p> <p>GEOS 400 (3) Introduction to Geochemistry</p> <p>GEOS 450 (4) Geomorphology</p> <p>GEOS 453 (3) Glacial and Quaternary Geology</p> <p>GEOS 478 (3) Global Change</p> <p>GEOS 397A (2-3) Teaching Geosciences</p> <p>GEOS 412A (3) Ocean Sciences</p> <p>GEOS 439A (4) Introduction to Dendrochronology</p> <p>HIST 355 (3) U.S. Environmental History</p> <p>HIST 356 (3) Global Environmental History</p> <p>HWRS 350 (3) Principles of Hydrology</p> <p>HWRS 431 (4) Hydrogeology</p> <p>HWRS 349A (2) Principals of Hydrology</p> <p>HWRS 349B (1) Principals of Hydrology Lab</p>	
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	<p>MATH 363 (3) Introduction to Statistical Methods</p> <p>MATH 466 (3) Theory of Statistics</p> <p>MCB 411 (3-4) Molecular Biology</p> <p>MCB 473 (4) Recombinant DNA Methods and Applications</p> <p>MIC 328R (3) Microbial Physiology</p> <p>PA 461 (3) Global Climate Change: Integrating Science, Policy, and Decision Making</p> <p>PA 480 (3) Formation of Public Policy</p> <p>PA 481 (3) Environmental Policy</p> <p>PHIL 323 (3) Environmental Ethics</p> <p>PLG 472(3) Environmental Land Use Planning</p> <p>PSY 374 (3) Environmental Psychology</p> <p>PTYS 407 (3) Chemistry of the Solar System</p> <p>RAM 382 (3) Rangeland Plant Communities of the West</p> <p>RAM 446 (4) Management and Restoration of Wildland Vegetation</p>	
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	<p>RAM 456A (4) Rangeland Inventory and Monitoring</p> <p>RELI 428A (3) Globalization, the Environment, and Indigenous Religions</p> <p>RNR 316 (3) Natural Resources Ecology</p> <p>RNR 321 (3) Ecological Surveys and Sampling</p> <p>RNR 384 (3) Natural Resources Management Practices</p> <p>RNR 403 (3) Applications of Geographic Information Systems</p> <p>RNR 417 (3) Geographic Information Systems for Natural and Social Sciences</p> <p>RNR 440 (3) Climate Change Adaptation: Perspectives at the Nexus of Science, Society, &amp; Resource Management</p> <p>RNR 448 (3) Conservation Planning &amp; Wildland Recreation</p> <p>RNR 480 (3) Natural Resources Policy and Law</p> <p>RNR 485 (3) The Economics &amp; Social Connections to Natural Resources</p> <p>RNR 495F (3-6) Conservation Biology: Field Studies in Developing Countries</p>	
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	RNR 495G (3) Amazon Rainforest Conservation Biology in Ecuador SOC 307 (3) Environmental Sociology SOC 313 (3) Social Movements and Activism SOC 350 (3) Environment, Health, and Society TLS 318 (3) Teaching and Learning with New Technologies TLS 431 (3) Environmental Learning WSM 452 (4) Dryland Ecohydrology and Vegetation Dynamics WSM 462 (4) Watershed Management WSM 468 (3) Wildland Water Quality WSM 460A (4) Watershed Hydrology	
Internship, practicum, applied course requirements. (Yes/No). If yes, provide description.	No	No
Senior thesis or senior project required (Yes/No). If yes, provide description.	No	No
Additional requirements (provide description)	Nine or more units must be unique to the minor.	None

**VI. Peer institution comparison-** describe how your modified minor requirements are similar and different from minor requirements of two peer institutions. Select peers from (in order of priority) [ABOR approved institutions](#), [AAU members](#), and/or other relevant institutions recognized in the field.

Two peer institutions, Ohio State University and the University of Minnesota, with minors similar to the UA *Environmental Science* minor were selected for peer comparisons.

The Ohio State University *Environmental Science* minor requires 15 total units. All students must complete Introduction to Environmental Science, as is the case with the UA Environmental Science minor. For The Ohio State minor, students must complete two courses from earth science, soil science, hydrology, ecology, information systems, plant or animal biology, or

study abroad. In the UA proposal, students are required to take ENV 270, *Critical Zone Science*, which is an integrated earth systems approach to the interactions among key processes in hydrology, geology, ecology, and soil science that drive landscape evolution and habitability. Most of the parent discipline courses (hydrology, geology, ecology, etc.) are included in a list of selectives. In addition, our proposal requires students to take an environmental communications course, and a course in environmental law, policy, ethics, or justice, which we assert are key components of the environmental scientific literacy that we seek to achieve. The Ohio State minor divides selectives into three categories (Ecosystem Restoration, Soil Resources and Environmental Sustainability, and Water Science). Students must select three courses from one of these three emphasis areas. In contrast, the UA minor will allow students to shape their own focus by choosing from a broad array of selectives covering environmental physics, microbiology, chemistry, conservation, and history; water management; aquatic biology; geographic information systems; global change; ecotoxicology; and climate science.

The University of Minnesota *Environmental Sciences, Policy and Management* minor requires 16 to 20 units. This must include two courses from ecology, sustainability, soil science, or conservation biology. The UA proposal requires *Fundamentals of Environmental Science and Sustainability*, and *Critical Zone Science*. Whereas the University of Minnesota requires an additional 10 units of environmental education and communication; environmental management and policy; and environmental and biological sciences, the UA specifies that 6 units must be comprised of science communication and environmental law, policy, ethics, or justice. The remaining units can be selected from a broad array of environmental science related courses.

**VII. Faculty impact**—indicate if new faculty hires will be required to deliver the proposed modified/new curriculum.


The requested changes will not require new faculty hires.

**VIII. Budgetary Impact**— indicate new resources needed and source of funding to implement the proposed changes. If reallocating resources, indicate where resources will be taken from and the impact this will have on students/faculty/program/unit.

No new resources will be required to implement the proposed changes. All courses included in this minor are existing courses.

**IX. Required signatures**

Managing unit administrator (print name and title): Dr. Jon Chorover, Head of Department of Environmental Science

Managing administrator's signature:  Date: September 29, 2019

Managing unit administrator (print name and title): \_\_\_\_\_

Managing administrator's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Dean (print name): Michael Staten, Associate Dean \_\_\_\_\_

Dean's signature:  Date: 10/16/2019

Dean (print name): \_\_\_\_\_

Dean's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Note: In some situations, signatures of more than one unit head and/or college dean may be required.

For use by Curricular Affairs:

Committee	Approval date
Academic Programs Subcommittee	
Undergraduate Council	
College Academic Administrators Council	

- Notify proposers of approval
- Upload proposal documents to relevant plan table values
- Notify ADVIP team, include proposers

**If name change requested & approved:**

- Create approval memo
- Send memo to college/dept and acad\_org listserv
- Create new plan code
- Add last admit term to previous plan code
- Upload proposal documents to relevant plan table values
- Notify ADVIP team, include proposers

Environmental Science Minor

Department/School	Class	Contact	Date Sent	Response Date
Ecology & Evolutionary Biology	ECOL 206	worobey@email.arizona.edu	10/11/2019	11/26/2019
			11/13/2019	
Environmental Health Sciences	EHS 426	paminata@email.arizona.edu	10/11/2019	10/15/2019
School of Geography & Development	EVS 374	liverman@email.arizona.edu	10/11/2019	11/9/2019
			10/11/2019	
History	HIST 358	afutrell@email.arizona.edu	11/13/2019	11/13/2019
College of Law	LAW 445	catherineogrady@email.arizona.edu	10/10/2019	10/18/2019
School of Government and Public Policy	PA 482	schlager@email.arizona.edu	10/10/2019	10/14/2019

**MEMO**

**DATE:** October 7, 2019

**TO:** Jon Chorover, Professor and Head, Environmental Science

**FROM:** Michael Worobey, Professor and Head, Ecology & Evolutionary Biology

**RE:** Use of ECOL course in the Environmental Sciences minor curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Environmental Sciences** minor, ENVSMINU, as specified below:

**ECOL 206 Environmental Biology; minor selective**

Managing Administrator: Michael Worobey, Professor and Head, EEB

Managing Administrator's Signature: \_\_\_\_\_



Date: 11/26/2019

**MEMO**

**DATE:** October 7, 2019

**TO:** Jon Chorover, Professor and Head, Environmental Science

**FROM:** Aminata Kilungo, Program Director,  
Environmental Health Sciences

**RE:** Use of EHS course in the Environmental Sciences minor curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Environmental Sciences** minor, ENVSMINU, as specified below:

**EHS 426 Topics in Environmental Justice; minor selective**

Managing Administrator: Aminata Kilungo, Program Director, Environmental Health Sciences

Managing Administrator's Signature: *Akilungo* Date: 10/15/2019

**MEMO**

**DATE:** October 7, 2019

**TO:** Jon Chorover, Professor and Head, Environmental Science

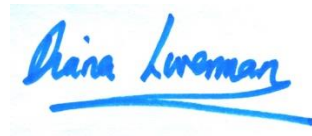
**FROM:** Diana Liverman, Director & Regents' Professor,  
School of Geography and Development

**RE:** Use of EVS course in the Environmental Sciences minor curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Environmental Sciences** minor, ENVSMINU, as specified below:

**EVS 374 Geography, Social Justice and the Environment; minor selective**

Managing Administrator: Diana Liverman, Director & Regents' Professor, SGD



Oct 26<sup>th</sup> 2019

Managing Administrator's Signature: \_\_\_\_\_ Date: \_\_\_\_\_



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## Use of HIST course in the Environmental Sciences minor curriculum

4 messages

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**Trent Patrick Rodriguez** <trentrodriguez@email.arizona.edu>

Wed, Oct 9, 2019 at 3:23 PM

To: environmentalscience@email.arizona.edu

[afutrell@email.arizona.edu](mailto:afutrell@email.arizona.edu)

Dear Dr. Futrell,

The Department of Environmental Science is proposing significant changes to the undergraduate minor in Environmental Science. We would like to include one or more courses offered by your academic unit as a selective in the minor. Currently, there are approximately a dozen minors in the program, so the enrollment will not be significant. As part of the approval process we need to include a memorandum of support from you. We would be grateful if you would please review the attached information and sign the attached memorandum if you can. An electronic signature is fine. If you have any questions or concerns about our request, please let me know.

Once you have signed the memorandum, please return to me by email.

Sincerely,

-----  
Jon Chorover  
Professor and Head  
Department of Environmental Science  
University of Arizona  
Tucson, AZ 85721-0038  
Phone: (520) 621-1646  
Fax: (520) 621-1647  
Email: [chorover@email.arizona.edu](mailto:chorover@email.arizona.edu)

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 **HIST minor selective request 10.7.2019.docx**  
23K

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**Environmental Science** <EnvironmentalScience@email.arizona.edu>

Fri, Oct 11, 2019 at 7:55 AM

To: "Futrell, Alison - (afutrell)" <afutrell@email.arizona.edu>

Dear Dr. Futrell,

The Department of Environmental Science is proposing significant changes to the undergraduate minor in Environmental Science. We would like to include one or more courses offered by your academic unit as a selective in the minor. Currently, there are approximately a dozen minors in the program, so the enrollment will not be significant. As part of the approval process we need to include a memorandum of support from you. We would be grateful if you would please review the attached information and sign the attached memorandum if you can. An electronic signature is fine. If you have any questions or concerns about our request, please let me know.

Once you have signed the memorandum, please return to me by email.

Sincerely,

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Jon Chorover  
Professor and Head  
Department of Environmental Science  
University of Arizona  
Tucson, AZ 85721-0038  
Phone: (520) 621-1646  
Fax: (520) 621-1647  
Email: [chorover@email.arizona.edu](mailto:chorover@email.arizona.edu)<mailto:chorover@email.arizona.edu>

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 **HIST minor selective request 10.7.2019.docx**  
23K


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**Landeen, Kathleen A - (klandeen)** <[klandeen@email.arizona.edu](mailto:klandeen@email.arizona.edu)>  
To: "Futrell, Alison - (afutrell)" <[afutrell@email.arizona.edu](mailto:afutrell@email.arizona.edu)>  
Cc: "Vetter, Jeremy A - (jvetter)" <[jvetter@email.arizona.edu](mailto:jvetter@email.arizona.edu)>

Wed, Nov 13, 2019 at 10:38 AM

[Quoted text hidden]

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 **HIST minor selective request 10.7.2019.docx**  
23K

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**Landeen, Kathleen A - (klandeen)** <[klandeen@email.arizona.edu](mailto:klandeen@email.arizona.edu)>  
To: "Rodriguez, Trent Patrick - (trentrodriguez)" <[trentrodriguez@email.arizona.edu](mailto:trentrodriguez@email.arizona.edu)>

Fri, Nov 15, 2019 at 11:02 AM

From: Futrell, Alison - (afutrell) <[afutrell@email.arizona.edu](mailto:afutrell@email.arizona.edu)>  
Sent: Wednesday, November 13, 2019 4:07 PM  
To: Landeen, Kathleen A - (klandeen) <[klandeen@email.arizona.edu](mailto:klandeen@email.arizona.edu)>; Chorover, Jon - (chorover) <[chorover@email.arizona.edu](mailto:chorover@email.arizona.edu)>  
Cc: Vetter, Jeremy A - (jvetter) <[jvetter@email.arizona.edu](mailto:jvetter@email.arizona.edu)>  
Subject: Re: Use of HIST course in the Environmental Sciences minor curriculum

Hi Jon and Kathleen:

We're fine with the addition of Hist 358 as an elective for the Environmental Sciences curriculum. We're wondering, however, whether you will be keeping 355 and 356 for the minor? And perhaps you might want to consider adding any of the other upper-division environmental courses in History as options. May we suggest:

Hist 428: Food, Health, and Environment in History  
Hist/Mena 443: Environmental History of the Middle East  
Hist/Geog/EAS 460: Environmental History of East Asia

One caveat that might guide you in this: 358 is (so far - it's relatively new) taught as an online course, which has lower enrollment caps; it might be more difficult for your minors to get into this relatively higher demand course.

All best,

Alison (and Jeremy Vetter)

Prof. Alison Futrell  
Head  
Dept. of History  
University of Arizona

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From: Landeen, Kathleen A - (klandeen) <[klandeen@email.arizona.edu](mailto:klandeen@email.arizona.edu)<mailto:klandeen@email.arizona.edu>>  
Sent: Wednesday, November 13, 2019 10:38 AM

To: Futrell, Alison - (afutrell) <[afutrell@email.arizona.edu](mailto:afutrell@email.arizona.edu)<mailto:afutrell@email.arizona.edu>>  
Cc: Vetter, Jeremy A - (jvetter) <[jvetter@email.arizona.edu](mailto:jvetter@email.arizona.edu)<mailto:jvetter@email.arizona.edu>>  
Subject: Use of HIST course in the Environmental Sciences minor curriculum

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19K

**DATE:**           **October 24, 2019**

**TO:**             **Jon Chorover, Professor and Head, Environmental Science**

**FROM:**        **Keith Swisher, Director, BA in Law and MLS Programs, James E. Rogers College of Law**

**RE:**            **Use of LAW course in the Environmental Sciences minor curriculum**

We approve the following course for use in the undergraduate curriculum for the **Environmental Sciences** minor, ENVSMINU, as specified below:

**LAW 445 Applied Environmental Law; minor selective**

Managing Administrator's Signature:



Keith Swisher  
Professor of Legal Ethics  
Director, B.A. in Law and MLS Programs



Department of Environmental  
Science



428 Shantz Building, #38  
1200 E. South Campus Drive  
P.O. Box 210038  
Tucson, AZ 85721-0038 USA  
(520) 621-1606  
FAX: (520) 621-1647  
swes.cals.arizona.edu

**MEMO**

**DATE:** October 7, 2019

**TO:** Jon Chorover, Professor and Head, Environmental Science

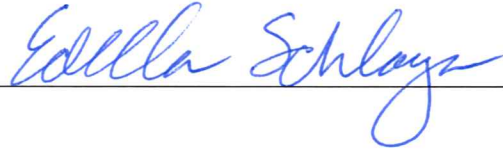
**FROM:** Edella Schlager, Professor and Director,  
School of Government and Public Policy

**RE:** Use of PA course in the Environmental Sciences minor curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Environmental Sciences** minor, ENVSMINU, as specified below:

**PA 482 Environmental Governance; minor selective**

Managing Administrator: Edella Schlager, Professor and Director, SGPP

Managing Administrator's Signature:  Date: 10/14/19