

#### UNDERGRADUATE EMPHASIS (SUB-PLAN) REQUEST FORM MAJORS WITH EXISTING EMPHASES (SUB-PLANS)

Requests for the creation of a new emphasis requires approval from the school director/department head (managing administrator), college academic dean, Curricular Affairs, Undergraduate Council (UGC), and College Academic Administrators Council (CAAC). Complete this form (for each proposed emphasis) and submit to the <u>Office of Curricular Affairs</u>, no later than January 31, 2021 to be considered for inclusion in the 2021-2022 Academic Catalog.

I. Requested by (College & School/Department): Mel and Enid Zuckerman College of Public Health Dept of Community Environment and Policy

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

Aminata Kilungo, Assistant Professor of Practice and Program Director, Undergraduate and Graduate Programs Environmental Health Sciences <u>paminata@email.arizona.edu</u> (520) 626 8565

Kelly Reynolds, Professor and Chair, Community, Environment and Policy Dept. <u>reynolds@email.arizona.edu</u> (520) 626 8230

#### III. Degree, major and number of students currently enrolled in the major (include dual majors):

The degree is a Bachelor of Science with a major in Public Health. Between the two campuses there are 854 students enrolled in the pre-major and major. A breakdown of students by campus is below (May 2020).

Main campus:

- 449 pre-major
- 283 professional major

Arizona Online campus:

- 77 pre-major
- 45 professional major

# **IV. Total number of students that have completed the major in the past 3 years:** 815 students have completed the degree during the academic years 2017-2020 (May 2020).

# V. Complete the table below capturing information about your existing major emphases. Add columns as needed.

Name of existing emphasis plan(s)	Public Health Practice	Environmental and Occupational Health	Health Promotion
First term emphasis was offered	Fall 2018	Fall 2018	Fall 2018
Minimum units required to complete major core and emphasis (total)	58	58	58
Minimum upper division (300 level or above) units required to complete major core and emphasis (total)	-Complete 12 units of coursework from course options: HPS 404, PHPM 407, PHPM 415, PHP 421, HPS 499	-Complete EHS 484 and 9 units of coursework from course options: HPS 401, HPS 409, EHS 418, EHS 420, EHS 422, EHS 425, EHS 426, EHS 439A, EHS 489	-Complete 12 units of coursework from course options: HPS 400, HPS 401, HPS 403, HPS 404, HPS 409, HPS 481, HPS 497E, HPS 497G
Additional requirements to complete emphasis (supporting coursework*, lecture series, GPA, non-credit workshop)	n/a	n/a	n/a
Number of students enrolled in emphasis	25	33	89
Total number of students that have completed emphasis in past 3 years	8	35	42

\*- courses that do not count towards major units and major GPA, but are required for the major

Name of existing emphasis plan(s)	Health Systems: Theory and Practice	Global Health	Quantitative Methods in Public Health
First term emphasis was offered	Fall 2018	Fall 2018	Fall 2019
Minimum units required to complete major core and emphasis (total)	58	58	58
Minimum upper division (300 level or above) units required to complete major core and emphasis (total)	-Complete 12 units of coursework from course options: HPS 402, HPS 405, PHPM 407, HPS 412, PHPM 415, HPS 417, PHP 421, PHPM 458	-Complete 12 units of coursework from course options: HPS 401, HPS 404, HPS 409, EPID 411, HPS 416, HPS 417, EPID 479	- Complete 12 units of coursework from course options: HPS 401, EPID 411, EPID/BIOS 450, BIOS/EPID 451, BIOS/EPID 452, EPID/BIOS 453, EPID 479
Additional requirements to complete emphasis (supporting coursework*, lecture series, GPA, non-credit workshop)	n/a	n/a	n/a
Number of students enrolled in emphasis	82	89	10
Total number of students that have completed emphasis in past 3 years	96	52	4

## VI. Name of the proposed emphasis: One Health

VII. Campus and location offering-indicate the campus(es) and location(s) where this emphasis will be offered.

x Main x UA Dependent Distance (type in location(s) below): Online Biomedical

VIII. Provide a rationale for the proposed new emphasis. Survey your current majors to provide evidence of student interest in/demand for the proposed emphasis – attach the survey questions and results at the end of this proposal. Write a short summary of the findings of the survey. Ensure your survey seeks evidence of how the new emphasis will impact existing emphases. You may also include external data (Bureau of Labor Statistics, reports/letters of support from relevant bodies, etc.). Curricular Affairs can provide a job posting/ demand report by skills obtained/outcomes of the proposed emphasis. Please contact Office of Curricular Affairs to request the report for your proposal.

One Health is a relatively new academic discipline that has been recognized worldwide as a way to understand and address global challenges related to health. The One Health paradigm recognizes connections among the health of animals, the environment, and humans. New strategies are needed to cope with changing ecosystems that lead to altered patterns of disease transmission. Zoonotic infections (i.e., those spread between animals and people) are common in the U.S. and globally such as the current COVID-19 outbreak. For instance, since the Ebola outbreak in West Africa, United States Agency of International Development (USAID) initiated the One Health Workforce Project to develop the future of One Health work force to prevent, detect, and respond to infectious diseases through a partnership with different Universities in the US and across the globe<sup>1</sup>.

<sup>&</sup>lt;sup>1</sup> <u>https://vetmed.umn.edu/centers-programs/global-one-health-initiative/one-health-workforce/one-health-workforce-publications</u>

The Bachelors of Science degree in Public Health will prepare students for job opportunities in different areas including research, health education, community health and related discipline, and provides good foundations for graduate school. The emphasis area will prepare the next generation of public health professional on how to holistically address infectious diseases, epidemics and pandemics here in the US or abroad. Those who will pursue an advanced degree after their bachelor's degree, have the opportunity to specialize in different areas including One Health, Environmental Health Sciences, Epidemiology, Global Health, Veterinary Sciences and other health and research related fields. Job prospect for those graduating with either a BS or Graduate degree in Public Health are very good. Expected career growth in public health in just the few disciplines mentioned above are between 5-18 % with salaries ranging from \$46,000 -\$76,000<sup>2,3,4</sup>.

Despite the recognized need, there are less than 10 bachelor's level One Health programs across the U.S., including majors and minors and even fewer globally <sup>5</sup>. The University of Arizona has an opportunity to be an early adopter to attract and train undergraduates in the growing field of One Health globally. The emphasis area aims to target 1)on campus students; 2) UA online; and 3) Global campus.

IX. At minimum, provide two unique learning outcomes for the proposed emphasis. Which courses in the emphasis will Introduce, Practice, and/or Assess the learning outcomes? Use the table below to provide the information. Add rows as needed.

Learning Outcome	Introduced	Practiced	Assessed
Students will be able to communicate public health information, in written forms, through a variety of media the linkage between the environment, animals and health of humans	EPID/EHS 445/545 One Health Foundations		EPID/EHS 445/545
Students will be able to locate, use evaluate and synthesize public health information related to the prevention of infectious diseases	EHS 446/546 One Health Approach and Case Studies		EHS 446/546

X. Requirements to meet 40% commonality across emphases. <u>ABOR Policy 2-221-c. Academic Degree Programs</u> <u>Subspecializations</u> requires all undergraduate emphases within a major to share at least 40% curricular commonality across emphases (known as "major core"-courses counting towards major units and major GPA). List the required major core curriculum required of all emphases. Refer to your existing <u>advisement</u> <u>report(s)</u>, if needed. Include the prefix, course number, course title and number of units. Add rows as needed.

Requirement <u>Title/Description</u>	<u>Courses (include prefix, number, title, units)</u>	<u>Minimum units</u> <u>needed to satisfy</u> <u>requirement</u>
Major Core	<ol> <li>EPID 309 Introduction to Epidemiology -3 units</li> <li>PHPM 310 Health Care in the US -3 units</li> <li>HPS 350 Principles of Health Education and Health Promotion -3 units</li> </ol>	24

 <sup>&</sup>lt;sup>2</sup> Bureau Labor of Statistics- Health Educators: <u>https://www.bls.gov/ooh/community-and-social-service/health-educators.htm</u>
 <sup>3</sup> Bureau Labor of Statistics- Environmental Scientists : <u>https://www.bls.gov/ooh/life-physical-and-social-science/environmental-scientists-and-specialists.htm</u>

<sup>&</sup>lt;sup>4</sup> Bureau Labor of Statistics - <u>https://www.bls.gov/ooh/life-physical-and-social-science/epidemiologists.htm</u>

<sup>&</sup>lt;sup>5</sup> One Health Commission - <u>https://www.onehealthcommission.org/en/resources</u> services/oh opportunities bulletin board/

	4.	EHS 375 Introduction to Environmental and	
	4.		
		Occupational Health -3 units	
	5.	BIOS 376 Introduction to Biostatistics -3 units	
	6.	HPS 387 Health Disparities and Minority Health - 3	
		units	
	7.	HPS 433 Global Health -3 units	
	8.	HPS 478 or NSC 478 Public Health Nutrition -3	
		units	
Advanced Writing	1.	ENGL 307 Business Writing or ENGL 308 Technical	3
		writing or HPS 307 Public Health Narratives	
Human Physiology	1.	PSIO 201 or PSIO 380	4
Internship	1.	HPS 493a Fieldwork in Public Health or HPS 493h	6
_		Fieldwork in Public Health, Honors option – 6 units	
Core Major	1.	9 units of upper division Public health electives	9
Electives			
		Total major core upper division units required	42 units
		Total major core units required	46 units

XI. Requirements specific to the proposed emphasis. List the required emphasis core, electives, and any special conditions students must meet to complete the emphasis using the table below. Include the prefix, course number, course title, and units for each course. Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department. Highlight and label (NEW) any new courses that must be developed for the emphasis. Add rows as needed.

<u>Note: a proposed emphasis having similar curriculum with other plans (within department, college, or</u> <u>university) may require completion of a comparison chart. Total units required for each emphasis must be</u> <u>equal.</u>

<b>Requirement</b>	<u>Courses (include prefix, number, title, units)</u>	<u>Minimum units</u>
<b><u>Title/Description</u></b>		needed to satisfy
		<u>requirement</u>
Emphasis Core	Required courses	9
	1. EPID/EHS 445/545 One Health Foundations (new	
	course)	
	2. EHS 446/546 One Health Approach and Case	
	Studies (new course)	
	3. EHS 425 Public Health Lens to Climate Change	
	Complete additional 1 course from the following list <sup>6</sup>	3
	4. EHS 418 introduction to Health Risk Assessment	
	5. EPID 479 Infections and Epidemics	
	<ol> <li>HPS 409 Global Water, Sanitation and Hygiene (WaSH)</li> </ol>	
	7. EHS 420/520 Environmentally Acquired Illnesses	
	8. EHS 439A Outbreaks and Environmental	
	Microbiology	
	9. EPID 411 Health and Diseases Across Worlds	
	10. EHS 489 Public Health Preparedness	
	11. AIS 431A/531A Traditional Ecological Knowledge	
	12. ENV 477 Principles of Ecotoxicology	
	Total emphasis upper division units required	12
	Total major emphasis units required*	58

\* All emphases offered for this major must have the same minimum number of units required

<sup>&</sup>lt;sup>6</sup> Other additional courses from other colleges are being reviewed and will be added to the list of electives including ACBS 403R Biology of Animal Parasites, and ACBS 406 Diseases of Companion Animals.

XIII. Emphasis course/faculty information for existing courses. Complete the table below for all emphasis coursework. You can find information to complete the table using the <u>UA course catalog</u> or <u>UAnalytics</u> (Catalog and Schedule Dashboard> "Printable Course Descriptions by Department" On Demand Report; right side of screen). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department. Add rows as needed.

Course prefix and number	Title	<u>Course Description</u>	Typically Offered (F, Sp, Su, W) and Frequency (every year, odd years, etc.)	Home Department	Faculty members available to teach the courses
EHS 425	Public Health Lens to Climate Change	This course is designed to provide foundational knowledge in the various, complex mechanisms through which anthropogenic changes influence the health of the environment and subsequently human health. During this course, students will be introduced to key concepts including health risks associated with climate change and other human-mediated global environmental changes; local, regional, and national efforts underway to understand and manage the adverse impacts, and the factors influencing progress on this issue. Students will have the opportunity to engage with researchers and practitioners to learn about the current science as well as challenges and opportunities associated with identifying, managing, and addressing the health implications of climate change and other anthropogenic changes.	Spring, every year	EHS	Mona Arora
EHS 418	Introduction to Human Health Risk Assessment	The purpose of this course is to enhance students knowledge and skills related to environmental risk assessment, including hazard assessment, exposure assessment, toxicity assessment, and risk characterization	Fall, every year	EHS	Kelly Reynolds
EPID 479	Infections and Epidemics	This course will take a multidisciplinary approach to examining the impact of infectious diseases on human populations, with an emphasis on relevant epidemiologic concepts	Spring, every year	EPID	Katherine Ellingson
HPS 409	Global Water, Sanitation and Hygiene (WaSH)	The course is designed to provide the students an understanding of Global Water, Sanitation and Hygiene (WaSH). The course will examine the historic background, health impact and	Spring, every year	HPS	Aminata Kilungo

		global burden of diseases related to WaSH. In			
		addition, the course will examine the impact			
		of WaSH and gender, and look at WaSH			
		technologies and programming, current status			
	N	and challenges in achieving WaSH for all			
EHS 420/520	Environmentally	Illnesses related to environmental exposures	Spring, every	EHS	Kelly Reynolds
	Acquired Illnesses	are on the rise but frequently misdiagnosed	year		Jonathan Sexton
		due to a lack of understanding of the			
		complexities of multiple hazard exposures and			
		variable health outcomes. This course			
		provides an overview of common and			
		emerging Environmentally Acquired Illnesses			
		(EAIs) and explores the multitude of hazards,			
		conditions, and predisposing factors related to			
		human disease. Students will learn how to			
		identify gaps in the current model of patient			
		evaluation and treatment. In addition, they			
		will critique current research design and gain			
		hands on experience in developing a systems			
		approach to understanding, evaluating, and			
		communicating the impact and control of EAIs			
		relative to human health.			
EHS 439A	Outbreaks and	This course will explore the microbial and	Summer, every	EHS	Jonathan Sexton
	Environmental	environmental aspects and associated	year		
	Microbiology	intervention measures used during historical			
		and present-day outbreaks. The microbial aspect			
		will include characteristics specific to each			
		pathogen such as virulence factors, secondary			
		metabolites, routes of infection and the role			
		these factors played in the spread of the			
		pathogen. Environmental aspects will include			
		climate, location and related factors, societal			
		influence and the effects that these factors have			
		on the pathogens. Lastly, an overview of the			
		intervention strategies that were used to control			
		the spread and survival of the pathogen will be			
		assessed.			
EHS 489	Public Health	This course is designed to introduce students to	Fall, every year	EHS	Mona Arora
2110 107	Preparedness	the emergency preparedness discipline of public	i an, every year	2110	
	riepareuness	health using course work designed for current			
		public health practitioners. During this course,			
		students can expect to gain proficiency in the			

		National Incident Management System and attain Centers for Disease Control & Prevention (CDC) Emergency Responder Tier Two level credentials (i.e., Certification in FEMA courses ICS 100, 200, 700, and 800). Students will hear from subject matter experts on various topics in relation to public health emergency preparedness and develop a strong foundation in the principles of the discipline. The course is taught using a blended format of both online and in-class sessions.			
EPID 411	Health and Diseases Across Time and Worlds	This is a course that introduces students to human variation and corresponding global trends in disease prevalence, and how these trends may be driven by evolutionary, historical, genetic, cultural, and environmental factors. Topics include human evolution; current and past disease prevalence; geographical distribution of disease; demographic and epidemiological transitions; origins of health disparities; genetics, and epigenetics.	Spring, every year	EPID	Yann Klimentidis

XIV. Emphasis course/faculty information for NEW courses. Complete the table below. Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department. Add rows as needed. Add rows as needed.

Course	Title	Course Description	Status*	Anticipate d first term offered	Typically Offered (F, Sp, Su, W) and Frequency (every year, odd years, etc.)	Home Dept.	Faculty members available to teach the courses
EPID/EHS 445/545	One Health Foundations	The first emphasizes approaches and methods in One Health practice including outbreak investigations, risk factor analyses, surveillance, cost-effectiveness, evaluation, and advocacy. The second module examines how microorganisms influence health and interact simultaneously with humans,	S	Spring 2021	Sp, every year (Hybrid- in person) F, every year (Online)	EPID/E HS	Katherine Ellingson Mona Arora

		animals, and plants in the form of zoonotic diseases and environmental pathogens. The third module explores macro-level relationships such as human-animal companionship, agriculture, migration, climate change, and built environment.					
EHS 446/546	One Health Approach and Case Studies	This course will examines zoonotic diseases, diseases that can be transmitted from animals to humans, challenges and opportunities on how to address those diseases from One Health perspective. Multi-sectoral approach and collaborations being one of the key strengths of One Health approach, this course will also examine the role of collaborations including communities, and the role of cultural competency in addressing public health issues globally.	S	Fall 2020	F, every year	EHS	Aminata Kilungo, Jonathan Sexton

\*In development (D); submitted for approval (S); approved (A)

**XIV.** Using the table below, list each faculty member who will contribute to the teaching of courses in this emphasis and the teaching FTE they will contribute. Add rows as needed.

Course(s)	Name	Department	Rank	Degree	Faculty/% effort
EHS 418 (existing)	Kelly Reynolds	Environmental Health Sciences	Professor	PhD	0.10
EPID 479 (Existing)	Katherine Ellingson	Epidemiology and Statistics	Assistant Professor	PhD	0.10
EHS 425 (Existing)	Mona Arora	Environmental Health Sciences	Principle Research Specialist	PhD	0.10
HPS 409 (Existing)	Aminata Kilungo	Health Promotion Sciences /Environmental Health Sciences	Assistant Professor	PhD	0.10
EHS 420/520 (Existing)	Kelly Reynolds	Environmental Health Sciences	Professor	PhD	0.10
EHS 439A (Existing)	Jonathan Sexton	Environmental Health Sciences	Senior Research Specialist	PhD	0.10
EHS 489 (Existing]	Mona Arora	Environmental Health Sciences	Principle Research Specialist	PhD	0.10
EPID/EHS 445/545 (New)	Katherine Ellingson	Epidemiology and Statistics	Assistant Professor	PhD	0.10
EHS 446/546 (New)	Aminata Kilungo/ Jonathan Sexton	Health Promotion Sciences & Environmental Health Sciences / Environmental Health Sciences	Assistant Professor / Senior Research Specialist	PhD	0.10

**XV. Special conditions for admission to/declaration of this emphasis** – explain in detail the criteria to declare this emphasis, including GPA requirements, completion of courses prior to declaration, application process, interviews, etc. These conditions must be approved by faculty governance to be enforced.

There are no additional special conditions to join the subplan other than being admitted to the public health major

XVI. **Emphasis productivity** – provide a detailed plan in the case the emphasis does not attract the number of anticipated students and/or the new courses have low enrollments. Will emphasis courses continue to be offered as described in Section XIII and XIV or will students be offered alternative courses from outside the emphasis as substitutions? Is the department/school/college committed to offering the courses regardless of the emphasis productivity? Yes

- XVII. Do you want the emphasis name to appear on the transcript?  $\boxtimes$  Yes  $\Box$  No
- XVIII. Do you want the emphasis name to appear on the diploma? oxtimes Yes  $\Box$  No
- XIX. Anticipated semester and year to launch the proposed emphasis: Fall 2021
- **XX. Number of new faculty hires required to deliver the emphasis:** There are no new faculty hires required to deliver the emphasis area other than the existing faculty listed in table XIV.
- **XXI. Budgetary impact** indicate new resources needed and source of funding to implement the proposed emphasis. If reallocating resources, indicate where resources will be taken from and the impact this will have on the students/faculty/program/unit.

Only two new courses were developed for the new emphasis area. All other courses are already existing courses. The development of the new emphasis area including the two new courses and faculty support was funded through the Provost Investment Funds. **We anticipate the program to generate \$135,000 by year 3** to cover the teaching and program improvements going forward. This number is based on a low enrollment, considering the following projections;

- a net major increase of 5 students enrolled in One Health emphasis in year 1, 10 in year 2, and 20 in year 3.
- a net increase in non-major students across college and campus enrolled in courses; 10 in year 1, 20 in year 2 and

The One Health emphasis area was developed taking into account current faculty expertise. All faculty from different departments who will be teaching new and existing courses in the new emphasis area were part of the courses and emphasis area development. While the concept of One Health is not new, the discipline itself in academia is new and there are a handful programs in the US. The emphasis area was developed to address the current public health workforce needs in the area of One Health. One Health being multisectoral collaborative approach, as part of the program improvement, the College of Public Health will also seek buy in from other Colleges on campus. In addition, a quality improvement plan will also be developed to obtain feedback from students, graduates, alumni, and faculty to revise, update, and enhance program curriculum and to ensure alignment with any relevant competency and alignment standards to address current and future workforce needs.

Decision process for approval will include:

- 1) efficiency of course offerings.
- 2) course offerings are appropriate and match the expertise of the faculty.
- 3) evidence of sufficient student demand.
- 3) no major conflict with existing programs.

#### XXII. Required signatures

Managing Unit Administrator (print name and title): Dr. Aminata Kilungo, Assistant Professor of Practice

Managing Administrator's Signature:	Date: 06/15/2020
Managing Unit Administrator (print name and title): <b>Dr. K</b> Environment and Policy	<b>Celly Reynolds</b> , Professor, Department Chair of Community,
Managing Administrator's Signature:	Date: 6/12/2020
Dean (print name and title): <b>Dr. John Ehiri</b> , Interim Assoc	ciate Dean for Academic Affairs
Dean's Signature: Joluv Kluic	_ Date: 6/12/2020
Juan Haray	d Professor, Mel & Enid Zuckerman Endowed Chair of Public Health
Dean's Signature:	Date: 6/12/2020
	rning and/or fully online must include the following signature. nent to invest in this program. Any potential investment
Craig Wilson, Vice Provost, Online Education	
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	

□ Create approval memo

 $\Box$  Send memo to college/dept and acad\_org listserv

□ Create emphasis code in UAccess, including secondary major emphasis code

 $\Box$  Upload approval memo and proposal documents to UAccess

 $\Box$  Notify acad\_org of the plan code creation

□ Notify ADVIP team, include proposers

### MEMO

# DATE: June 17, 2020

- TO: Kelly Reynolds, Professor and Head, Environmental Health Sciences Aminata Kilungo, Assistant Professor of Practice and Program Director, Environmental Health Sciences
- FROM: Matthew Sakiestewa Gilbert, Professor and Head, American Indian Studies
- RE: Use of AIS course (s) in the One Health minor and new BS emphasis area

We approve the course(s) for use in the undergraduate curriculum for the **One Health** minor and emphasis area, as specified below:

# AIS 431A/531A Traditional Ecological Knowledge; emphasis area elective, minor elective

Managing Administrator: Matthew Sakiestewa Gilbert, Professor and Head, American Indian Studies

Managing Administrator's Signature:

u A.

Date: June 17, 2020

Dear Dr. Chorover,

Thank you for your quick response and for your support.

Sincerely, Aminata

From: Chorover, Jon - (chorover)
Sent: Friday, June 19, 2020 11:46 AM
To: Kilungo, Aminata P - (paminata) <paminata@arizona.edu>
Cc: Heffernan, Linda T - (heffernl) <heffernl@arizona.edu>
Subject: RE: memorandum of support for a new minor and emphasis area in One Health

Dear Aminata,

I did discuss this with our curriculum committee and the instructor of the course, and all are highly in favor of the listing.

Best regards, Jon

From: Kilungo, Aminata P - (paminata) paminata@arizona.edu
Sent: Friday, June 19, 2020 11:44 AM
To: Chorover, Jon - (chorover) <<u>chorover@arizona.edu</u>>
Cc: Heffernan, Linda T - (heffernl) <<u>heffernl@arizona.edu</u>>
Subject: FW: memorandum of support for a new minor and emphasis area in One Health
Importance: High

Dear Dr. Chorover,

I hope this email finds you well. Please, see my request below. We were hoping to submit this today, and wanted to check if you had a chance to review and make a decision.

Sincerely,

Aminata Kilungo, PhD Assistant Professor of Practice Health Promotion & Environmental Health Sciences Program Director, Environmental Health Sciences Mel and Enid Zuckerman College of Public Health Drachman A247 The University of Arizona 1295 N. Martin Ave Tucson, AZ 85724 Office: 520.626.8565 https://publichealth.arizona.edu/

From: Kilungo, Aminata P - (paminata)
Sent: Tuesday, June 16, 2020 11:29 AM
To: chorover@email.arizona.edu
Cc: Heffernan, Linda T - (heffernl) <<u>heffernl@arizona.edu</u>>
Subject: memorandum of support for a new minor and emphasis area in One Health
Importance: High

Dear Dr. Jon Chorover,

I hope this email finds you well. The Mel and Enid Zuckerman College of Public Health is proposing a new emphasis area in One Health for the Bachelor of Science degree program and a minor in One Health. We would like to add one of your courses, **ENVS 477/577 Principles of Ecotoxicology** as one of the electives. I have attached the memorandum of support for your review and signature. Please, let me know if you have any questions or would like additional information. Your support is very much appreciated.

Sincerely,

Aminata Kilungo, PhD Assistant Professor of Practice Health Promotion & Environmental Health Sciences Program Director, Environmental Health Sciences Mel and Enid Zuckerman College of Public Health Drachman A247 The University of Arizona 1295 N. Martin Ave Tucson, AZ 85724 Office: 520.626.8565 https://publichealth.arizona.edu/