

## New Academic Program Workflow Form

### General

**Proposed Name: Environmnt & Occupation Health**

Transaction Nbr: 00000000000093

Plan Type: Minor

Academic Career: Undergraduate

Degree Offered:

Do you want to offer a minor? N

Anticipated 1st Admission Term: Sprg 2022

### Details

Department(s):

#### PBLH

DEPTMNT ID	DEPARTMENT NAME	HOST
4206	Community, Environment & Pol	Y

Campus(es):

#### GLBD

LOCATION	DESCRIPTION
ONLN	UA Online

#### MAIN

LOCATION	DESCRIPTION
TUCSON	Tucson

**Admission application terms for this plan:** Spring: Y Summer: Y Fall: Y

**Plan admission types:**

Freshman: Y Transfer: Y Readmit: Y Graduate: N

Non Degree Certificate (UCRT only): N

Other (For Community Campus specifics): N

**Plan Taxonomy:** 51.2202, Environmental Health.

Program Length Type: Program Length Value: 0.00

Report as NSC Program:

SULA Special Program:

**Print Option:**

Diploma: Y Minor, Environmental and Occupational Health

Transcript: Y Minor, Environmental and Occupational Health

**Conditions for Admission/Declaration for this Major:**

At the declaration of this minor, a minimum cumulative GPA of 2.0 is required.

**Requirements for Accreditation:**

There are no additional requirements, other than the university requirement.

**Program Comparisons**

**University Appropriateness**

The proposed program supports the University of Arizona's ambitions for institutional excellence and distinctiveness. The expansion of an Environmental and Occupational Health program which includes additional trainings to improve public health is aligned with the MEZCOPH mission in service learning and to the 2019 Council on Education for Public Health (CEPH) accreditation criteria associated with 1) the underlying science of human health and disease, including opportunities for promoting and protecting health across the life course and 2) the socioeconomic, behavioral, biological, environmental and other factors that impact human health and contribute to health disparities.

In addition to providing much needed skills to address current and emerging public health threats, the minor program will further position MEZCOPH to be a leader in supporting and training the current and future public health workforce.

**Arizona University System**

NBR	PROGRAM	DEGREE	#STDNTS	LOCATION	ACCRDT
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**Peer Comparison**

Please see attachment.

**Faculty & Resources**

**Faculty**

Current Faculty:

INSTR ID	NAME	DEPT	RANK	DEGREE	FCLTY/%
00909419	Mona Arora	4206	Instructor	Doctor of Philosophy	10.00
02134265	Aminata Kilungo	4205	Assit. Prof. Pract.	Doctor of Philosophy	10.00
08605812	Kelly Reynolds	4206	Professor	Doctor of Philosophy	10.00
16508329	Paloma Beamer	4206	Assoc. Prof	Doctor of Philosophy	5.00
22056977	Yann Klimentidis	4204	Assoc. Prof	Doctor of Philosophy	5.00
23121038	Stephanie Griffin	4206	Assit. Prof	Doctor of Philosophy	5.00

Additional Faculty:

We expect to add .10 Faculty FTE over the next 3 years. Details in budget.

Current Student & Faculty FTE

DEPARTMENT	UGRD HEAD COUNT	GRAD HEAD COUNT	FACULTY FTE
4206	0	56	15.00

Projected Student & Faculty FTE

DEPT	UGRD HEAD COUNT			GRAD HEAD COUNT			FACULTY FTE		
	YR 1	YR 2	YR 3	YR 1	YR 2	YR 3	YR 1	YR 2	YR 3
4206	8	15	25	61	66	71	15.00	15.05	15.10

**Library**

Acquisitions Needed:

none

**Physical Facilities & Equipment**

Existing Physical Facilities:

Existing physical facilities and equipment are adequate for this program.

Additional Facilities Required & Anticipated:

none

**Other Support**

Other Support Currently Available:

The MEZCOPH Office of Student Services and Alumni Affairs offers academic advising for all undergraduate degrees in our college. In

addition, teaching assistants are assigned to courses with large enrollments.

Other Support Needed over the Next Three Years:

No additional support staff or assistance will be needed for the next three years.

### Comments During Approval Process

5/25/2021 9:42 AM

JEHIRI

Comments
Approved.

5/25/2021 1:31 PM

YISSELS

Comments
AZ Online currently adding: Global Health & Aging and Population health to the online campus. Online students do not tend to enroll in minors so fewer options are necessary. COPH can work directly with Rachel Abraham to add this minor to the Online campus in future terms should we see demand. Thank you

5/25/2021 1:33 PM

YISSELS

Comments
Deny Reason: AZ Online currently adding: Global Health & Aging and Population health minor to the online campus. Online students do not tend to enroll in minors so fewer options are necessary. COPH can work directly with Rachel Abraham to add this minor to the Online campus in future terms should we see demand. Thank you

6/17/2021 2:09 PM

ESANDMAR

Comments
Removed ONLN campus from Details tab due to YISSELS comment above. Updated additional information form with latest version.



**NEW ACADEMIC PROGRAM-STANDALONE UNDERGRADUATE MINOR  
ADDITIONAL INFORMATION FORM**

- I. MINOR DESCRIPTION**– provide a marketing/promotional description for the proposed minor. Include the purpose, nature, and highlights of the curriculum, faculty expertise, etc. The description should match departmental and college websites, handouts, promotional materials, etc.

The Mel and Enid Zuckerman College of Public Health is dedicated to promoting health and wellness of individuals and communities in the southwest and globally with an emphasis on achieving health equity through excellence in research, teaching, and service. We currently offer an emphasis area in the undergraduate major as well as a Master of Public Health (MPH) degree in Environmental and Occupational Health. **We propose a Minor in Environmental and Occupational Health (EOH)** as an extension of our mission of promoting health and environmental justice locally and globally. Environmental health is a multidisciplinary field focusing on understanding the effect of the environment and occupational exposure on human health. Environmental and Occupational Health (EOH) profession is one of the largest segments of the workforce in the country. They are responsible for providing environmental and public health services. However, environmental health programs in the country graduate few students to meet the workforce needs. Environmental Health professionals are trained to diagnose, intervene and, prevent public health threats. As a discipline, students in the field are trained to deal with current public health issues such as air and water pollution, food safety, worker safety, waste management and many others, as well as emerging public health threats. Emerging public health threats may include potential new foodborne, waterborne or airborne illnesses and exposures, some of which we are already experiencing at the moment such as COVID-19. Students minoring in EOH will take courses in different disciplines within the College of Public Health, in addition to Environmental Health Sciences. The Mel and Enid Zuckerman College of Public Health (MEZCOPH) has faculty expertise in Environmental Health and other areas of public health including Epidemiology, Biostatistics, Global Health and Health Promotion to name a few, all relevant areas to support the current proposed minor in EOH.

- II. NEED FOR THE MINOR/JUSTIFICATION**- provide market analysis data or other tangible evidence of the need for and interest in the proposed minor. This might include results from surveys of current students, alumni, and/or employers or reference to student enrollments in similar programs in the state or region. Curricular Affairs can provide a job posting/demand report by skills obtained/outcomes of the proposed minor. Please contact the [Office of Curricular Affairs](#) to request the report for your proposal.

Although Environmental Health as a profession needs to produce more graduates to meet the workforce needs, it is lagging behind. There are challenges in research for public health departments, and gaps exist in training workforce to provide essential services such as drinking water

quality, wastewater management, food safety, and to address emerging public health threats.<sup>1,2</sup> The minor in EOH will further allow students who are majoring in different disciplines to expand their knowledge and their future employment opportunities. This will also allow the Environmental Health discipline at MEZCOPH to gain more visibility, attract more students, including non-traditional students. In addition to providing much needed skills to address current and emerging public health threats, the minor program will further position MEZCOPH to be a leader in supporting and training the current and future public health workforce.

There are a few Environmental and Occupational Health minors offered by several universities across the country. The School of Public Health at the University of Washington offers a minor in Environmental Health. This minor is 27 credits, and focuses on the influence and impact of environmental factors on human health.<sup>3</sup> This program is similar to the proposed program with the exception of number of credits. Students in this program take multidisciplinary courses including microbiology and outbreaks, and environmental risk assessment. Both programs focus on chemical, physical and microbial exposure. The University of Northridge, California, is another University that offers a minor in EOH. However, the focus of the program is very limited to occupation, environment, and policy<sup>4</sup> even with a requirement of 21 credits.

A minor in EOH will prepare students for job opportunities in industrial settings, with local, tribal, state, national and international health departments/agencies. Others may work with non-governmental organizations, or relief agencies to address environmental and occupational determinants of health and promote population health. Job prospect for those graduating with either a BS or Graduate degree in environmental health and other related Public Health disciplines are very good. Expected career growth in just the few disciplines mentioned above are between 5-18 % with salaries ranging from \$46,000 -\$76,000<sup>5,6,7</sup>

A minor in occupational and environmental health will be very attractive to students from across UArizona campuses. We also expect that some students who successfully complete the minor would consider undertaking our Bachelors, Masters, and doctoral programs. To further increase enrollment, we will actively market the minor to our external constituents, including local, state, and tribal health departments, faith-based organizations, foundations, industry, government and non-governmental organizations working in the US and overseas.

**III. MINOR REQUIREMENTS**– complete the table below by listing the minor requirements, including minimum number of credit hours, required core, electives, and any special requirements. Note: information in this section must be consistent

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<sup>1</sup>Brooks, et al., (2020) Environmental Health Practice Challenges and Research Needs for U.S. Health Departments:

<https://ehp.niehs.nih.gov/doi/full/10.1289/EHP5161>

<sup>2</sup> [https://www.cdc.gov/nceh/ehs/docs/jeh/2006/June\\_2006\\_Herring.pdf](https://www.cdc.gov/nceh/ehs/docs/jeh/2006/June_2006_Herring.pdf)

<sup>3</sup> The University of Washington, School of Public Health. Environmental & Occupational Health Sciences, Environmental Health Minor:

<https://deohs.washington.edu/environmental-health-minor>

<sup>4</sup> California State University, Northridge: <https://www.csun.edu/health-human-development/environmental-occupational-health/minor-environmental-and-occupational>

<sup>5</sup> Bureau Labor of Statistics- Health Educators: <https://www.bls.gov/ooh/community-and-social-service/health-educators.htm>

<sup>6</sup> Bureau Labor of Statistics- Environmental Scientists : <https://www.bls.gov/ooh/life-physical-and-social-science/environmental-scientists-and-specialists.htm>

<sup>7</sup> Bureau Labor of Statistics - <https://www.bls.gov/ooh/life-physical-and-social-science/epidemiologists.htm>

throughout the proposal documents (comparison charts, curricular/assessment map, etc.).

<b>Minimum total units required</b>	18
<b>Minimum upper-division units required</b>	18
<b>Total transfer units that may apply to minor</b>	0
<b>List any special requirements to declare/admission to this minor (completion of specific coursework, minimum GPA, interview, application, etc.)</b>	At the declaration of this minor, a minimum cumulative GPA of 2.0 is required.
<b>Minor requirements. List all required minor requirements including core and electives. Courses listed must include course prefix, number, units, and title. Mark new coursework (New). Include any limits/restrictions needed (house number limit, etc.). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.</b>	<p><b>Core requirements (15 units)</b></p> <ul style="list-style-type: none"> <li>• EPID 309: Introduction to Epidemiology (3 units)</li> <li>• EHS 375: Introduction to EOH (3 units)</li> <li>• EHS 439A: Outbreaks and Environmental Microbiology (3 units)</li> <li>• EHS 418: Intro to Health Risk Assessment (3 units)</li> <li>• EHS 425: Public Health Lens to Climate Change (3 units)</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• EHS 484: Fundamentals of Industrial &amp; Environmental Health (3 units)</li> </ul> <p><b>Electives (3 units)</b></p> <ul style="list-style-type: none"> <li>• EHS 420: Environmentally Acquired Illnesses (3 units)</li> <li>• HPS 409: Global Water, Sanitation and Hygiene (WaSH) (3 units)</li> <li>• HPS 401: Introduction to Mapping for Public Health (3 units)</li> <li>• EHS 489: PH Preparedness course (3 units)</li> <li>• EHS 484: Fundamentals of Industrial &amp; Environmental Health (3 units)</li> <li>• EHS 426: Topics in Environmental Justice (3 units)</li> <li>• EHS 422: Safety Fundamentals (3 units)</li> <li>• EPID 411: Health and Disease Across Time and the World (3 units)</li> <li>• HPS 459: Management of Public Health Emergencies (3 units)</li> </ul>
<b>Internship, practicum, applied course requirements (Yes/No). If yes, provide description.</b>	None

Additional requirements (provide description)	None
Any <a href="#">double-dipping restrictions</a> (Yes/No)? If yes, provide description.	Students may apply 6 units towards Bachelor of Science with a public health major.

**IV. CURRENT COURSES**—using the table below, list all existing courses included in the proposed minor. You can find information to complete the table using the [UA course catalog](#) or [UAnalytics](#) (Catalog and Schedule Dashboard> “Printable Course Descriptions by Department” On Demand Report; right side of screen). If the courses listed belong to a department that is not a signed party to this implementation request, upload the department head’s permission to include the courses in the proposed minor and information regarding accessibility to and frequency of offerings for the course(s). Upload letters of support/emails from department heads to the “Letter(s) of Support” field on the UAccess workflow form. Add rows to the table, as needed.

Course prefix and number (include cross-listings)	Units	Title	Course Description	Pre-requisites	Modes of delivery (online, in-person, hybrid)	Typically Offered (F, W, Sp, Su)	Dept signed party to proposal? (Yes/No)
EPID 309	3	Introduction to Epidemiology	Introduce students to basic principles and methods used in epidemiology. Includes basic research designs, estimating outcome measures, and establishing cause and effect and effectiveness of interventions to prevent and cure disease	None	Online/in-person	F & Sp	Yes
EHS 375:	3	Introduction to Environmental and Occupational Health	Introduces students to physical, chemical and biological hazards found in the environment and health risks associated with workplace and community exposure to them. Risks to special populations and	EPID 309 Introduction to Epidemiology	Online	F	Yes



			mechanisms of reducing or controlling these risks are discussed.				
EHS 439A	3	Outbreaks and Environmental Microbiology	This course will examine historical and present-day outbreaks in regard to the environmental microbiology of pathogens. Different pathogen control interventions that were used to mitigate the outbreaks will also be explored.	None	Online	Su	Yes
EHS 420	3	Environmentally Acquired Illnesses	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 acquire skills in evaluation of environmental hazards and assessment of chemical and microbial exposures in various populations and the probability of associated health effects on the human population or the environment.	None	Online	Sp	Yes
EHS 418	3	Introduction to 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.	None	Flex-In Person	F	Yes
EHS 425	3	A Public Health Lens to Climate Change	This course is designed to provide foundational knowledge in the various, complex mechanisms through which anthropogenic changes influence	None	Online	F	Yes

			the health of the environment and subsequently human health.				
EHS 484	3	Fundamentals of Industrial & Environmental Health	This course introduces students to physical, chemical and biological hazards found in the environment and health risks associated with workplace and community exposure to them. Risks to special populations and mechanisms of reducing or controlling these risks are discussed.	College level general chemistry (at least at the Chem 103 level), introductory statistics (e.g., CPH 376), and algebra (e.g., Math 112).	Online	F	Yes
HPS 409	3	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 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 and challenges in achieving WaSH for all.	None	Online	Sp	Yes
HPS 401:	3	Introduction to Mapping for Public Health	This course provides an introduction to public health mapping. Course content includes fundamental mapping concepts, current applications of mapping within the public health field, and exercises to gain practical experience using web-based GIS technology to communicate public health messages.	None	Online	Su	Yes
EHS 489	3	PH Preparedness	This course is designed to introduce students to the emergency preparedness	None	Online	F	Yes

			discipline of public 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).				
EHS 426	3	Topics in Environmental Justice	This course provides an introduction to environmental justice concepts as they apply to public health. Issues relating to race/ethnicity, gender, social class, environmental policy and law will be used to critically examine environmental health disparities.	None	In-person	F	Yes
EHS 422	3	Safety Fundamentals	This course is designed to teach the fundamentals of occupational safety, emphasizing regulatory requirements and best-practices that are targeted to eliminate major sources of occupational injuries. Hazard identification, behavioral safety, and incident investigation will be discussed. Safety data will be analyzed with the statistics package R.	BIOS376, EHS 375, or equivalent; or consent of instructor	In-person	Sp	Yes
EPID 411	3	Health and Disease Across Time and the World	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 evolutions; current and past	A previous course in the biological sciences recommended.	In-person	Sp	Yes

			disease prevalence; geographical distribution of disease; demographic and epidemiological transitions; origins of health disparities; genetics and epigenetics.				
HPS 459	3	Management of Global Public Health Emergencies	Students will develop the knowledge and skills to work in national and international contexts by contributing to and managing global public health humanitarian crises and programs.	None	Online, icourse	F & Sp	Yes

**V. NEW COURSES NEEDED** – using the table below, list any new courses that must be created for the proposed program. If the specific course number is undetermined, please provide level (i.e. CHEM 4\*\*). Add rows as needed. Is a new prefix needed? If so, provide the subject description so Curricular Affairs can generate proposed prefix options.

Course prefix and number (include cross-listings)	Units	Title		Pre-requisites	Modes of delivery (online, in-person, hybrid)	Status*	Anticipated first term offered	Typically Offered (F, W, Sp, Su)	Dept signed party to proposal? (Yes/No)	Faculty members available to teach the courses
None										

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

Subject description for new prefix (if requested). Include your requested/preferred prefix, if any:

**VI. FACULTY INFORMATION-** complete the table below. If UA Vitae link is not provided/available, attach a short CV (2-3 pages) to the end of the proposal or upload to the workflow form. UA Vitae profiles can be found in the [UA directory/phonebook](#). Add rows as needed. Delete the EXAMPLE rows before submitting/uploading. **NOTE: full proposals are distributed campus-**

wide, posted on committee agendas and should be considered “publicly visible”. Contact the [Office of Curricular Affairs](#) if you have concerns about CV information being “publicly visible”.

Faculty Member	Involvement	UA Vitae link or “CV attached”
Kelly Reynolds, PhD	Department Chair; Instructor for EHS 418 EHS 420	UA Vitae Link: <a href="https://profiles.arizona.edu/person/reynolds">https://profiles.arizona.edu/person/reynolds</a>
Aminata Kilungo, PhD	Director, Environmental and Occupational Health Program Instructor for 409	CV Link: <a href="https://www.publichealth.arizona.edu/directory/aminata-kilungo">https://www.publichealth.arizona.edu/directory/aminata-kilungo</a>
Stephanie Griffin, Ph.D.	Instructor for EHS 484	CV Link: <a href="https://www.publichealth.arizona.edu/directory/stephanie-griffin">https://www.publichealth.arizona.edu/directory/stephanie-griffin</a>
Mona Arora, PhD	Instructor for EHS 425; EHS 489	UA Profile Link: <a href="https://www.publichealth.arizona.edu/directory/mona-arora">https://www.publichealth.arizona.edu/directory/mona-arora</a>
Paloma Beamer, Ph.D.	Instructor for EHS 426	CV Link: <a href="https://www.publichealth.arizona.edu/directory/paloma-beamer">https://www.publichealth.arizona.edu/directory/paloma-beamer</a>
Yann Klimentidis, PhD	Instructor for EPID 411	CV Link: <a href="https://www.publichealth.arizona.edu/directory/yann-klimentidis">https://www.publichealth.arizona.edu/directory/yann-klimentidis</a>

**VII. STUDENT LEARNING OUTCOMES AND CURRICULUM MAP**—describe what students should know, understand, and/or be able to do at the conclusion of this minor. Work with [Office of Instruction and Assessment](#) to create a curricular map using Taskstream. Include your curricular map in this section (refer to Appendix A for sample Curriculum Map generated using Taskstream).

<i>Learning Outcome</i>					
<i>Course and Learning Activities</i>	<i>Outcome 1:</i> Identify potential environmental and occupational risks from environmental hazards and determine ways to mitigate the risk.	<i>Outcome 2:</i> Describe pathogen/microbe specific traits that are associated with outbreaks and how these traits influence the spread of disease.	<i>Outcome 3:</i> Classify the major types of chemical, physical and biological exposure agents capable of inducing disease in the public.	<i>Outcome 4:</i> Conduct qualitative and quantitative assessment of environmental and occupational health risks, using computer modeling tools.	<i>Outcome 5:</i> Develop outreach tools for Environmentally Acquired Illness awareness and assessment.
EHS 375: Introduction to EOH  EPI 309: Introduction to Epidemiology	I/P	I/P	I/P	I/P	I
EHS 439A: Outbreaks and Environmental Microbiology	I/A	P/A	P/A	I	I
EHS 420 Environmentally Acquired Illnesses	I	I	I/P	I/P	P/A
EHS 418: Introduction to Health Risk Assessment	I/P	I/P	I/P	P/A	P/A
EHS 425: Public Health Lens to Climate Change	I	I	I	I	I
EHS 484: Fundamentals of Industrial & Environmental Health	I/P	I/P	P/A	P/A	P/A
<b>LEGEND</b>					
I = Introduced; P = Practiced; A = Assessed; I/P = Introduced/Practiced; P/A = Practiced/Assessed					

**Curriculum Map:**

**VIII. ASSESSMENT PLAN FOR STUDENT LEARNING-** Using the table below, provide a schedule for program assessment of intended student learning outcomes 1) while students are in the program and 2) after completion of the minor.

<b>Learning Outcomes</b>	<b>Sources(s) of Evidence</b>	<b>Assessment Measures</b>	<b>Data Collection Points</b>
<i>Outcome 1:</i> Identify potential environmental and occupational risks from environmental hazards and determine ways to mitigate the risk.	Course-embedded assessments. Student course survey Student course survey	Weekly discussion assignments, quizzes, writing assignments, and self-evaluation.	Continuous weekly, mid-term, end of course.
<i>Outcome 2:</i> Describe pathogen/microbe specific traits that are associated with outbreaks and how these traits influence the spread of disease.	Course-embedded assessments. Student course survey	Quizzes, weekly discussions assignments, writing assignments, mid-term exam, final exam	Weekly continuous, mid-term, end of course.
<i>Outcome 3:</i> Classify the major types of chemical, physical and biological exposure agents capable of inducing disease in the public.	Course-embedded assessments. Student course survey	Weekly quizzes, reflection and presentation assignments, self-assessments, mid-term exam, final exam	Continuous weekly, mid-term, end of course
<i>Outcome 4:</i> Conduct qualitative and quantitative assessment of environmental and occupational health risks, using computer modeling tools.	Course-embedded assessments. Student course survey	Graded homework assignments, participation exercises, mid-term exam, final exam	Continuous weekly, mid-term, end of course.
<i>Outcome 5:</i> Develop outreach tools for Environmentally Acquired Illness awareness and assessment.	Course-embedded assessments. Student course survey	Weekly discussion assignments, mid-term exam, end of course portfolio.	Continuous weekly, mid-term, end of course.

**IX. ANTICIPATED STUDENT ENROLLMENT**-complete the table below. What concrete evidence/data was used to arrive at the numbers?

<b>5-YEAR PROJECTED ANNUAL ENROLLMENT</b>					
	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year
Number of Students	10	20	33	40	45

Data/evidence used to determine projected enrollment numbers:

The anticipated student enrollment for the first year is 10 students. However, it is possible that we will have more students given the online nature of the program, the paucity of, and the growing interest in Public Health programs.

**X. ANTICIPATED MINORS AWARDED**- complete the table below, beginning with the first year in which minors will be awarded. How did you arrive at these numbers? Take into consideration departmental retention rates.

<b>PROJECTED MINORS AWARDED ANNUALLY</b>					
	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year
Number of Minors	9	18	30	36	41

Data/evidence used to determine number of anticipated minors awarded annually:

Graduation rates are based on an estimated 90% retention.

**XI. PROGRAM DEVELOPMENT TIMELINE**- describe plans and timelines for 1) marketing the minor and 2) student recruitment activities.

We have budgeted for the marketing and student recruitment efforts for the Environmental and Occupational Health minor program to begin Spring/Summer 2021. As part of these efforts, we will use a multi-pronged approach that will include working with the University of Arizona Mel and Enid Zuckerman College of Public Health's Director for Online Education, Director of Communications, Online Undergraduate



Coordinator, UArizona Online, alumni, and Public Health Student Ambassadors to recruit potential students. Recruitment strategies will also deploy social media campaigns, presentations and information sessions to high school students as well as in freshman classes throughout campus.

**XII. DIVERSITY AND INCLUSION**-describe how you will recruit diverse students and faculty to this minor. In addition, describe retention efforts in place or being developed in order to retain students.

As part of the marketing and recruitment process, we will target a diverse body of students and working professionals – locally, regionally, nationally and globally. MEZCOPH has a diverse body of faculty who will contribute to courses offered in the minor. The minor in Environmental and Occupational Health will be taught by existing faculty.

**Undergraduate Minor Peer Comparison Chart-** Select two peers for completing the comparison chart from (in order of priority) [ABOR-approved institutions](#), [AAU members](#), and/or other relevant institutions recognized in the field. The comparison chart will be used to identify typically required coursework, themes, and experiences for minor programs within the discipline. The comparison programs are not required to have the same minor name as the proposed UA program. Information for the proposed UA program must be consistent throughout the proposal documents. Delete **EXAMPLE columns** once ready to submit/upload.

<b>Minor name, institution</b>	<b>Proposed UA Program:</b>	<b>Peer 1: Environmental Health Minor, University of Washington</b>	<b>Peer 2: Occupational Safety and Health Minor, Texas A &amp; M University</b>
<b>Current# of enrolled students</b>		65	57
<b>Minor program description</b>	<p>Environmental health is a multidisciplinary field focusing on understanding the effect of the environment and occupational exposure on human health. Environmental and Occupational Health (EOH) profession is one of the largest segments of the workforce in the country. However, environmental health programs in the country graduate few students to meet the workforce needs. Environmental Health professionals are trained to diagnose, intervene and prevent public health threats. As a discipline, students in the field are trained to deal with current public health issues such as to address air and water pollution, food safety, workers safety, waste managements and many others, as well as emerging public health threats. Emerging public health threats may include potential new foodborne, waterborne or airborne illnesses and exposures, some of which we are already experiencing at the moment such as COVID-19. Students minoring in the EOH concentration will take courses in different disciplines within the College of Public Health, in addition to Environmental Health Sciences.</p>	<p>From: <a href="https://deohs.washington.edu/environmental-health-minor">https://deohs.washington.edu/environmental-health-minor</a></p> <p>The minor is designed to help students understand the influences and impact of environmental factors on human health. Students can declare the Environmental Health Minor with their major adviser. Descriptions and syllabi for all ENV H courses can be found on the Courses Webpage. Students in the minor are encouraged to contact the Environmental Health Advisor if they have questions about course selection.</p>	<p>From: <a href="https://public-health.tamu.edu/degrees/minors.html#tab-panel-3">https://public-health.tamu.edu/degrees/minors.html#tab-panel-3</a></p> <p>Students in the Occupational Safety and Health minor will gain a basic understand of public health practices to address the risks at various workplaces and how to prevent injuries and fatalities.</p>

<b>Target careers</b>	Health and Safety Coordinators in - Government and non-governmental agencies - Health Departments/Agencies -Engineering firms -Manufacturing -Business firms	Health and Safety Coordinators in - Government and non-governmental agencies - Health Departments/Agencies -Engineering firms -Manufacturing -Business firms	Health and Safety Coordinators in Government and non-governmental agencies - Health Departments/Agencies -Engineering firms -Manufacturing -Business firms
<b>Minimum total units required</b>	18	27	15
<b>Minimum upper-division units required</b>	18	21	15
<b>Total transfer units that may apply to minor</b>	0	No available information	No available information
<b>List any special requirements to declare/admission to this minor (completion of specific coursework, minimum GPA, interview, application, etc.)</b>	A minimum of 2.0 GPA	No available information	Completion of application, and one completed semester at Texas A&M with a 2.0 gpa
<b>Minor requirements. List all minor requirements including core and electives. Courses listed must include course prefix, number, units, and title. Mark new coursework (New). Include any limits/restrictions needed (house number</b>	<p><b>Core requirements (15 units)</b></p> <ul style="list-style-type: none"> <li>EHS 375: Introduction to EOH</li> <li>EHS 439A Outbreaks and Environmental Microbiology</li> <li>EHS 420 Environmentally Acquired Illnesses</li> <li>EHS 418 intro to health risk assessment</li> <li>EHS 425 Public Health Lens to Climate Change OR <ul style="list-style-type: none"> <li>EHS 484 Fundamentals of Industrial &amp; Environmental Health</li> </ul> </li> </ul> <p><b>Electives (3 units)</b></p> <ul style="list-style-type: none"> <li>HPS 409: Global Water, Sanitation and Hygiene (WaSH)</li> </ul>	<p><b>Core Course – 3 credits, choose one from:</b></p> <ul style="list-style-type: none"> <li>ENV H 311 Introduction to Environmental Health (3) A,Sp</li> </ul> <p>-or-</p> <ul style="list-style-type: none"> <li>ENV H 111 Exploring Environment and Health Connections (3) A,W</li> </ul> <p><b>Selective Courses - 9 credits, choose any three* from:</b></p> <ul style="list-style-type: none"> <li>ENV H 431 Environmental and Occupational Sampling and Analysis (3) A</li> <li>ENV H 440 Water, Wastewater and Health (3) A</li> <li>ENV H 445 Solid Waste Management (3) A</li> <li>ENV H 448 Community Air Pollution (3) Sp</li> </ul>	<p>The minor will consist of 15 hours of upper-level Public Health coursework. The following 12 hours of coursework are required:</p> <ul style="list-style-type: none"> <li>PHLT 331 – Occupational Safety and Health I</li> <li>PHLT 333 - Accident Investigation</li> <li>PHLT 432 – Human Factors and Ergonomic Health and Safety</li> <li>PHLT 434 - Project Costs Benefit and Economics</li> </ul> <p>Select 3 hours from the following coursework:</p>

<p>limit, etc.).  <b>Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.</b></p>	<ul style="list-style-type: none"> <li>• HPS 401: Introduction to Mapping for Public Health</li> <li>• EHS 489: PH Preparedness course</li> <li>• EHS 484: Fundamentals of Industrial &amp; Environmental Health</li> <li>• EHS 426: Topics in Environmental Justice</li> <li>• EHS 422: Safety Fundamentals</li> <li>• EPID 411: Health and Disease Across Time and the World</li> <li>• HPS 459: Management of Public Health Emergencies</li> </ul>	<ul style="list-style-type: none"> <li>• ENV H 451 Ecology of Environmentally Transmitted Microbiological Hazards (3) A</li> <li>• ENV H 453 Industrial Hygiene (3) A</li> <li>• ENV H 472 Environmental Risk and Society (3) A</li> </ul> <p>*If a student takes more than 3 selectives, the additional courses will be counted toward the elective requirement</p> <p><b>Elective Courses - 15 credits, choose any from list below</b></p> <ul style="list-style-type: none"> <li>• ENV H 205 Environmental Health in Media (3) SP</li> <li>• ENV H 310 Green Chemicals, Green Products, Green Processes: Crafting a Less Toxic World (3) A</li> <li>• ENV H 405 Toxic Chemicals and Human Health (3) Sp</li> <li>• ENV H 417 Case Studies in Children's Environmental Health Disparities (3) Sp</li> <li>• ENV H 432 Environmental and Occupational Sampling and Analysis II (4) W</li> <li>• ENV H 433 Environmental and Occupational Sampling and Analysis III (4) Sp</li> <li>• ENV H 439 One Health: Human and Animal Health in a Changing Environment (3) Sp</li> <li>• ENV H 441 Food Protection (3) W</li> <li>• ENV H 442 Zoonotic Diseases and Their Control (3) W</li> <li>• ENV H 444 Antibiotic Resistant Bacteria/Genes Impact on the Environment and Public Health (4) A</li> <li>• ENV H 446 Hazardous Waste Management (3) W</li> <li>• ENV H 447 Environmental Change and Infectious Disease (3) Sp</li> <li>• ENV H 451 Ecology of Environmentally Transmitted Microbiological Hazards (3) A</li> </ul>	<ul style="list-style-type: none"> <li>• PHLT 330 - The Environmental and Public Health</li> <li>• PHLT 305 - Epidemiology in Public Health</li> </ul>
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		<ul style="list-style-type: none"> <li>• ENV H 452 Detection and Control of Environmentally Transmitted Microbiological Hazards (3) W</li> <li>• ENV H 460 Occupational Safety Management (3) Sp</li> <li>• ENV H 462 Technical Aspects of Occupational Safety (3) W</li> <li>• ENV H 473 Environmental Health Policy and Practice (3) Sp</li> </ul>	
<b>Internship, practicum, applied course requirements (Yes/No). If yes, provide description.</b>	No	No	No
<b>Additional requirements (provide description)</b>	None	None	The student's home department must approve of the minor.

\*Note: comparison of additional relevant programs may be requested.

**BUDGET PROJECTION FORM**
**Name of Proposed Program or Unit: Undergraduate Minor in Environmental and Occupational Health (Main Campus)  
 offered by the Department of Community, Environment and Policy**

	Projected		
	1st Year 2021 - 2022	2nd Year 2022 - 2023	3rd Year 2023 - 2024
Budget Contact Person: Kelly Reynolds, PhD			
<b>METRICS</b>			
Net increase in annual college enrollment UG	5	20	33
Net increase in college SCH UG	45	180	297
Net increase in annual college enrollment Grad			
Net increase in college SCH Grad			
Number of enrollments being charged a Program Fee/credit			
New Sponsored Activity (MTDC)			
Number of Faculty FTE		0.05	0.10
<b>FUNDING SOURCES</b>			
<b>Continuing Sources</b>			
UG RCM Revenue (net of cost allocation)	6,750	27,000	44,550
Grad RCM Revenue (net of cost allocation)			
Program Fee RCM Revenue (net of cost allocation)			
F and A Revenues (net of cost allocations)			
UA Online Revenues			
Distance Learning Revenues			
Reallocation from existing College funds (attach description)			
Other Items (attach description)			
<b>Total Continuing</b>	<b>\$ 6,750</b>	<b>\$ 27,000</b>	<b>\$ 44,550</b>
<b>One-time Sources</b>			
College fund balances			
Institutional Strategic Investment			
Gift Funding			
Other Items (attach description)			
<b>Total One-time</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL SOURCES</b>	<b>\$ 6,750</b>	<b>\$ 27,000</b>	<b>\$ 44,550</b>
<b>EXPENDITURE ITEMS</b>			
<b>Continuing Expenditures</b>			
Faculty	-	5,500	11,000
Other Personnel			
Employee Related Expense	-	1,705	3,410
Graduate Assistantships			
Other Graduate Aid			
Operations (materials, supplies, phones, etc.)			
Additional Space Cost			
Other Items (attach description)			
<b>Total Continuing</b>	<b>\$ -</b>	<b>\$ 7,205</b>	<b>\$ 14,410</b>
<b>One-time Expenditures</b>			
Construction or Renovation			
Start-up Equipment			
Replace Equipment			
Library Resources			
Other Items (attach description)			
<b>Total One-time</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL EXPENDITURES</b>	<b>\$ -</b>	<b>\$ 7,205</b>	<b>\$ 14,410</b>
<b>Net Projected Fiscal Effect</b>	<b>\$ 6,750</b>	<b>\$ 19,795</b>	<b>\$ 30,140</b>

**BUDGET PROJECTION FORM**
**Name of Proposed Program or Unit: Undergraduate Minor in Environmental and Occupational Health (Online Campus) offered by the Department of Community, Environment and Policy**

	Projected		
	1st Year 2021 - 2022	2nd Year 2022 - 2023	3rd Year 2023 - 2024
Budget Contact Person: Kelly Reynolds, PhD			
<b>METRICS</b>			
Net increase in annual college enrollment UG	5	20	33
Net increase in college SCH UG	45	180	297
Net increase in annual college enrollment Grad			
Net increase in college SCH Grad			
Number of enrollments being charged a Program Fee/credit			
New Sponsored Activity (MTDC)			
Number of Faculty FTE		0.05	0.10
<b>FUNDING SOURCES</b>			
<b>Continuing Sources</b>			
UG RCM Revenue (net of cost allocation)			
Grad RCM Revenue (net of cost allocation)			
Program Fee RCM Revenue (net of cost allocation)			
F and A Revenues (net of cost allocations)			
UA Online Revenues	16,200	64,800	106,920
Distance Learning Revenues			
Reallocation from existing College funds (attach description)			
Other Items (attach description)			
<b>Total Continuing</b>	<b>\$ 16,200</b>	<b>\$ 64,800</b>	<b>\$ 106,920</b>
<b>One-time Sources</b>			
College fund balances			
Institutional Strategic Investment			
Gift Funding			
Other Items (attach description)			
<b>Total One-time</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL SOURCES</b>	<b>\$ 16,200</b>	<b>\$ 64,800</b>	<b>\$ 106,920</b>
<b>EXPENDITURE ITEMS</b>			
<b>Continuing Expenditures</b>			
Faculty	-	5,500	11,000
Other Personnel			
Employee Related Expense	-	1,705	3,410
Graduate Assistantships			
Other Graduate Aid			
Operations (materials, supplies, phones, etc.)			
Additional Space Cost			
Other Items (attach description)			
<b>Total Continuing</b>	<b>\$ -</b>	<b>\$ 7,205</b>	<b>\$ 14,410</b>
<b>One-time Expenditures</b>			
Construction or Renovation			
Start-up Equipment			
Replace Equipment			
Library Resources			
Other Items (attach description)			
<b>Total One-time</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>TOTAL EXPENDITURES</b>	<b>\$ -</b>	<b>\$ 7,205</b>	<b>\$ 14,410</b>
<b>Net Projected Fiscal Effect</b>	<b>\$ 16,200</b>	<b>\$ 57,595</b>	<b>\$ 92,510</b>