

## New Academic Program Workflow Form

### General

**Proposed Name: One Health**

Transaction Nbr: 00000000000075

Plan Type: Specialization

Academic Career: Undergraduate

Degree Offered: Undergraduate Certificate

Do you want to offer a minor? N

Anticipated 1st Admission Term: Sprg 2021

### 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

#### ONLN

LOCATION	DESCRIPTION
ONLN	Online

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

**Plan admission types:**

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

Non Degree Certificate (UCRT only): N

Other (For Community Campus specifics): N

**Plan Taxonomy:** 51.0001, Health and Wellness, General.

Program Length Type: Program Length Value: 0.00

Report as NSC Program:

SULA Special Program:

**Print Option:**

Diploma: Y Undergraduate Certificate, One Health

Transcript: Y Undergraduate Certificate, One Health

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

Students are required to have a High School Diploma or equivalent. There are no prerequisites outside or beyond the undergraduate requirement of certificate program.

**Requirements for Accreditation:**

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

**Program Comparisons**

**University Appropriateness**

The proposed program supports UAs ambitions for institutional excellence and distinctiveness. The expansion of a One Health program to include additional trainings to improve public health is aligned with the MEZCOPH mission in service learning and to the 2016 Council on Education for Public Health (CEPH) accreditation criteria associated with providing students with an ecological perspective on the connections among human health, animal health, and ecosystem health. The proposed initiative will establish the UA as a distinct leader in education and training. A focus on global partnership building and a multi-pronged learning strategy will ensure availability of a workforce that is prepared and equipped to address present challenges at the transect of humans, animals, and the environment.

**Arizona University System**

NBR	PROGRAM	DEGREE	#STDNTS	LOCATION	ACCRDT
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## Peer Comparison

According to the One Health Commission, there are a total of only 11 undergraduate programs in the US and 8 graduate certificate programs. As far as we know, this will be the first undergraduate certificate program in One Health.

## Faculty & Resources

### Faculty

Current Faculty:

INSTR ID	NAME	DEPT	RANK	DEGREE	FCLTY/%
01011437	Jonathan Sexton	4206	Instructor	Doctor of Philosophy	15.00
02914662	Priscilla Magrath	4205	Lecturer	Doctor of Philosophy	10.00
08605812	Kelly Reynolds	4206	Professor	Doctor of Philosophy	10.00
22060697	Marc Verhougstraete	4206	Assit. Prof	Doctor of Philosophy	10.00

Additional Faculty:

None

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	3	5	10	61	66	71	15.00	15.00	15.00

### 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 undergraduate certificate in One Health will be managed under the existing Public Health undergraduate program at MEZCOPH.

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**

9/17/2020 11:04 AM

JEHIRI

<b>Comments</b>
Approved.

9/17/2020 4:29 PM

SWIELAND

<b>Comments</b>
Approved.

9/18/2020 1:05 PM

ESANDMAR

<b>Comments</b>
Approved.



## UNDERGRADUATE CERTIFICATE – ADDITIONAL INFORMATION FORM

Note: Certificate programs offered at the University of Arizona, at the undergraduate or graduate level, are not approved as eligible programs for federal student financial aid. Although students enrolled in certificate programs are not eligible for any federal student aid programs, students may be eligible for private loans, outside scholarships, and University of Arizona department funding. For more information, please see [Federal Student Financial Aid Eligibility for Programs](#).

- I. **CERTIFICATE DESCRIPTION-** provide a catalog description of this program to be used to market the certificate. Include information regarding the main content, knowledge areas, key questions to be explored, skillsets to be developed and opportunities for application of the subject matter. The description should match departmental and college websites, handouts, promotional materials, etc.

*Description of proposed certificate:* The **Undergraduate Certificate in One Health** will provide the current and future public health workforce professional additional knowledge and skills regarding the protection of the public's health by being able to create better surveillance on the interaction between human health, animal health and the environment. Students will be able to complete the 12 unit program in one year. The Public Health workforce will upgrade their knowledge and skills regarding the importance of epidemiology, the environment, outbreaks and disease prevention and surveillance as in relation to protecting the Public's Health.

### **Core Courses (Existing) (12 units)**

EHS 195: One Health in Action (3 units)

EHS 420: Environmentally Acquired Illnesses (3 units)

EHS 439A: Outbreaks and Environmental Microbiology: Then to Now (3 units)

HPS 433: Global Health (3 units)

**II. PURPOSE-** Discuss the primary intent of this certificate and describe what makes this program distinct from other existing programs on campus.

The Undergraduate Certificate in One Health is intended to: 1) enhance the education of undergraduate students and professional students beyond their regular course of study; 2) provide additional training to professions already in the field including researchers and Public Health practitioners. In addition, the undergraduate certificate also serves as a feeder program into our Public Health programs, including the graduate One Health program.

**III. PROGRAM AFFILIATION** – Specify whether the UA offers an affiliated undergraduate program – the affiliated program may or may not have the same name as the proposed certificate.

The UA, College of Public Health offers Bachelors of Science Major in Public Health. This program will be affiliated with the Environment Health Sciences program in the Mel & Enid Zuckerman College of Public Health.

**IV. CERTIFICATE DEMAND**– *is there sufficient student demand for the certificate?*

- a. What is the anticipated student enrollment for this certificate by the third year the certificate is offered? Please provide measurable indicators of student interest in the certificate (survey results of current students or alumni) and with reference to similar programs elsewhere. Provide market analysis or other tangible evidence to support projected enrollment numbers. Curricular Affairs can provide a job posting/demand report by skills obtained/outcomes of the proposed certificate. Please contact [Office of Curricular Affairs](#) to request the report(s) for your proposal.

<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	6	11	25	25	25

Data/evidence used to determine projected enrollment numbers:

We currently do not have an Undergraduate Certificate program. The estimate is based on our current Graduate Certificate program. Anticipated student enrollment for the first year is 6 students, and increase to 11 and 25 second and third year respectively. However, it is possible that we will have more students given the online nature of the program and the growing interest in One Health programs.

- b. What community needs, preparation for professional certification exams, degree program recruitment, or employability enhancements will this certificate provide? Please provide evidence of feedback from potential employers regarding the value of the proposed program.

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>.

The Certificate in One Health serves many needs. It will help us reach out to support the current public health workforce to cross-train people in One Health. The certificate will also prepare students for job opportunities in different areas including research, health education, community health and related discipline, in addition to providing good foundations for graduate school. The additional training 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, with additional training in One Health will have the opportunity to specialize in different areas for job opportunities as well as career advancement. To name a few, potential areas of job opportunities include Environmental Health Sciences, Epidemiology, Global Health, Veterinary Sciences, community-based research involving outbreak surveillance and diseases management.

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

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> .

- c. Will there be any collaboration with other departments or universities to maximize resources? If there is collaboration, please include a memo of support from the applicable parties.

The program will involve collaboration between the Health Promotion Sciences, Epidemiology & Biostatistics, and Environmental Health Sciences programs in the College of Public Health.

**V. TARGET AUDIENCE(S)-** describe the target audience(s) for this certificate and the specific audience needs this certificate aims to address. Address the relevant points below based on your target audience(s).

- i. Does this certificate meet the needs of an **industry or workforce partner**? Explain the industry needs this certificate is proposing to address. Provide a list of industry partners with whom you are working and confirmation of this support.

One Health is a collaborative, multisectoral, and trans-disciplinary approach to understanding and addressing complex public health problems. Hence, enhanced knowledge and skills in One Health are not limited to just one profession or partner.

Industry or workforce partners' whose needs are met with this program include:

- Public health workforce: local, state public health agencies
- Environmental health
- Food safety and security
- Occupational health professions
- Healthcare professions

In addition, there is a growing interest in veterinary medicine and people currently working in animal health to better understand about how to monitor diseases that interact between humans and animals, and the environment.

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<sup>2</sup> Bureau Labor of Statistics- Health Educators: <https://www.bls.gov/ooh/community-and-social-service/health-educators.htm>

<sup>3</sup> Bureau Labor of Statistics- Environmental Scientists : <https://www.bls.gov/ooh/life-physical-and-social-science/environmental-scientists-and-specialists.htm>

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



- ii. Does this certificate provide an **introductory pathway to an existing graduate degree**? Provide the name(s) of the degree(s).

The undergraduate certificate program will prepare students in One Health, including those who plan to pursue graduate degrees in One Health or other related disciplines including Global Health, Environmental Health Sciences, Epidemiology, and many others.

- iii. Does this certificate serve as **professional development for the targeted audience**? Explain how this certificate will help the audience develop professionally.

The One Health Certificate serves as a professional development for a segment of the targeted audience. The Undergraduate Certificate in One Health will provide the current and future public health workforce professional additional knowledge and skills regarding the protection of the public’s health by being able to create better surveillance on the interaction between human health, animal health and the environment.

**VI. CERTIFICATE REQUIREMENTS** - complete the table below to list the certificate requirements, including number of credit hours required and any special requirements for completion. Certificate requirements should include sufficient units to provide a substantive program and an appropriate level of academic rigor and in no case be less than 12 units of credit. Delete the **EXAMPLE** column before submitting/uploading. **Note: future changes to the curriculum originally approved for the certificate must be approved by the Undergraduate Council.**

<b>Minimum total units required</b>  <i>*minimum 12 units</i>	<p style="text-align: center;">12</p>
<b>Minimum upper-division units required</b>  <i>*minimum 6 units of credit must be upper division UA coursework</i>	<b>Core Courses (12 units)</b>  EHS 439A: Outbreaks and Environmental Microbiology: Then to Now (3 units)

	EHS 420: Environmentally Acquired Illnesses (3 units) HPS 433: Global Health (3 units)
<b>Total transfer units that may apply to the certificate.</b>	3
<b>List any special requirements to declare/admission to this certificate (completion of specific coursework, minimum GPA, interview, application, etc.)</b>	MATH109C or equivalent 2.0 GPA
<b>Certificate requirements. List all required certificate 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>	<b>Complete 12 Units</b> <b>Core Courses (12 credits)</b> EPID 195: One Health in Action (3 units), NEW EHS 439A: Outbreaks and Environmental Microbiology: Then to Now EHS 420: Environmentally Acquired Infections (3 units) HPS 433: Global Health (3 units)
<b>Internship, practicum, applied course requirements (Yes/No). If yes, provide description.</b>	No
<b>Additional requirements (provide description)</b>	Students may substitute 3 units with Director of Undergraduate Studies approval.
<b>Any <a href="#">double-dipping restrictions</a> (Yes/No)? If yes, provide description.</b>	Students may apply 6 units towards Bachelor of Science with a public health major.

***\*A maximum of 6 units may double-dip with a degree requirement (major, minor, General Education) or second certificate.***

**VII. CURRENT COURSES**—using the table below, list all existing courses included in the proposed certificate. 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 certificate 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)
EHS 439A	3	Outbreaks and Environmental Microbiology: Then to Now	This course will explore the microbial and environmental aspects and associated 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	EPID/CPH 309 Introduction to Epidemiology or MIC 205A strongly recommended or permission of Instructor	Online	SU	Yes

			the spread and survival of the pathogen will be assessed.				
EHS 420	3	Environmentally Acquired Infections	Illnesses related to environmental exposures are on the rise but frequently misdiagnosed 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.	None	In-person	Sp	Yes
HPS 433	3	Global Health	Examines major health problems of underdeveloped, developed, and emerging nations. Students conduct in-depth analyses of health problems among various populations in multicultural settings, both nationally and internationally.	HPS/CPH 200 and EPID 309 or permission of instructor	Online In-person	F, Sp	Yes

**VIII. 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.

No new courses are needed.

Course prefix and number (include cross-listings)	Units	Title	Course Description	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
EHS 195	3	One Health in Action	One Health in Action course will provide a thorough introduction to the basics of one health through the different perspectives of disease ecology, conservation, veterinary and human medicine, and environmental health. The course will include lectures based on active learning, in class activities, case studies, augmented or simulated environmental experiences, and a semester long writing assignment on topical issues.	None	Online	D	Sp	Sp	Yes	Yes

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

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

- IX. 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 [Office of Curricular Affairs](#) if you have concerns about CV information being “publicly visible”.

Faculty Member	Involvement	UA Vitae link or “CV attached”
Priscilla Anne Magrath	Teach HPS 433	<a href="https://publichealth.arizona.edu/directory/priscilla-magrath">https://publichealth.arizona.edu/directory/priscilla-magrath</a>
Kelly A Reynolds	Certificate development and Teach EHS 420	<a href="https://profiles.arizona.edu/person/reynolds">https://profiles.arizona.edu/person/reynolds</a>
Jonathan D Sexton	Teach EHS 420 and EHS 439A	<a href="https://publichealth.arizona.edu/directory/jonathan-sexton">https://publichealth.arizona.edu/directory/jonathan-sexton</a>
Marc Verhougstraete	Teach EHS 195	<a href="https://profiles.arizona.edu/person/mverhougstraete">https://profiles.arizona.edu/person/mverhougstraete</a>

- X. STUDENT LEARNING OUTCOMES AND CURRICULUM MAP** – describe what students should know, understand, and/or be able to do after completing this certificate. Provided a detailed curricular map linking student outcomes to specific courses and class activities. Consider working with [Office of Instruction and Assessment](#) to create a curricular map using Taskstream.

Outcomes				
Demonstrate conceptual skills in addressing zoonotic diseases from One Health perspectives	Critique public health interventions utilized in regard to effectiveness of reducing the spread of disease as well as	Provide environmental description for major causes of communicable diseases	Specify emerging environmentally acquired illnesses (EAls) and related outcomes	Understand the connections between global health and local experiences (Globalization and Health)

	ethical considerations			
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<b>Courses and Learning Activities</b>					
EHS 195 One Health in Action	A	I	A		A
EHS 439A: Outbreaks and Environmental Microbiology: Then and Now	A	A	A		A
HPS 433: Global Health	I	I	I		A
EHS 420: Environmentally Acquired illnesses	I		I	A	
LEGEND: I = Introduced A = Assessed					

**XI. ASSESSMENT PLAN FOR STUDENT LEARNING**– identify factors that indicate that completion of the certificate enhances the undergraduate experience. Describe measures for programmatic assessment, and provide a detailed plan for assessing certificate outcomes.

Program assessment will be measured by the following:

- a. **Course embedded assessments** including exams and quizzes, written assignments, presentations and group projects.
- b. **Exit survey** that students are asked to complete post completion of all certificate requirements.
- c. **Job placement** determined through the student/alumni survey at different intervals.

**MARKETING AND RECRUITMENT** - provide a detailed and robust marketing strategy for this certificate.

The marketing of the Certificate is part of the broader One Health program development, marketing and recruitment for students. We have budgeted for the marketing and student recruitment efforts to begin Summer of 2020-Summer 2021. As part of these efforts, we will work with the University of Arizona Mel and Enid Zuckerman College of Public Health Western Region Public Health Training Center and will explore other partners.

As part of the marketing and recruitment process, we will target a diverse body of students and working professionals. MEZCOPH has a diverse body of faculty and the course will be taught by existing faculty.

## **XII. CONTACTS AND ADMINISTRATION**

- a. List the name and contact information for the primary point of contact for the certificate.

Aminata Kilungo, PhD  
Assistant Professor and Director, Environmental Health Sciences  
Mel and Enid Zuckerman College of Public Health  
Email: paminata@email.arizona.edu

- b. List the name and contact information for the person or persons who will serve in the role of Director of Undergraduate Studies (DUS) for the certificate (this is not always the same as the DUS for affiliated programs or head of the managing academic unit.)

Director of Undergraduate Studies: Melanie Fleck, Coordinator, Public Health Undergraduate Programs  
Mel and Enid College of Public Health  
Email: mfleck@email.arizona.edu



- c. If known, list the members of the certificate oversight committee for this certificate. *Note: undergraduate certificate oversight committees shall consist of a minimum of 3 members, 2 of which are faculty and at least one of the 2 is participating faculty in the certificate program. The oversight committee is responsible for 1) qualifications of participating faculty, 2) coordination of admissions recommendations with the Office of Admissions, and 3) curricular changes.*

Certificate Oversight Committee Members:

John Ehiri, PhD, Professor and Dean, Academic Affairs

Kelly Reynolds, PhD, Professor and Dept Chair, Environmental Health Sciences

Aminata Kilungo, PhD, Assistant Professor, Health Promotion

Mona Arora, PhD, MSPH, Principal Research Specialist & Course Instructor

Melanie Fleck, Coordinator, Public Health Undergraduate Programs

**BUDGET PROJECTION FORM**
**Name of Proposed Program or Unit: COPH One Health Undergraduate Certificate Program 12 units**

Budget Contact Person: John Ehiri, PhD	Projected		
	1st Year 2021 - 2022	2nd Year 2022- 2023	3rd Year 2023 - 2024
<b>METRICS</b>			
Net increase in annual college enrollment UG	3	5	10
Net increase in college SCH UG	36	60	120
Net increase in annual college enrollment Grad	-	-	-
Net increase in college SCH Grad	-	-	-
Number of enrollments being charged a Program Fee			
New Sponsored Activity (MTDC)			
Number of Faculty FTE			
<b>FUNDING SOURCES</b>			
<b><u>Continuing Sources</u></b>			
UG RCM Revenue (net of cost allocation)	5,400	9,000	18,000
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>\$ 5,400</b>	<b>\$ 9,000</b>	<b>\$ 18,000</b>
<b><u>One-time Sources</u></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>\$ 5,400</b>	<b>\$ 9,000</b>	<b>\$ 18,000</b>
<b>EXPENDITURE ITEMS</b>			
<b><u>Continuing Expenditures</u></b>			
Faculty			
Other Personnel			
Employee Related Expense			
Graduate Assistantships			
Other Graduate Aid			
Operations (materials, supplies, phones, etc.)			
Additional Space Cost			
Other Items (attach description)			
<b>Total Continuing</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b><u>One-time Expenditures</u></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>\$ -</b>	<b>\$ -</b>
<b>Net Projected Fiscal Effect</b>	<b>\$ 5,400</b>	<b>\$ 9,000</b>	<b>\$ 18,000</b>

## Peer Comparison

According to the One Health Commission, there are a total of only 11 undergraduate programs in the US and 8 graduate certificate programs. As far as we know, this will be the first undergraduate certificate program in One Health.