



The University of Georgia®

University Council
Athens, Georgia 30602

February 3, 2017

UNIVERSITY CURRICULUM COMMITTEE – 2016-2017

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Dear Colleagues:

The attached proposal from the College of Public Health for a new Graduate Certificate in Infectious Disease Epidemiology will be an agenda item for the February 10, 2017, Full University Curriculum Committee meeting.

Sincerely,

Alison Alexander, Chair
University Curriculum Committee

cc: Provost Pamela S. Whitten
Dr. Rahul Shrivastav

**OUTLINE FOR AN
INTERDISCIPLINARY CERTIFICATE PROGRAM**

I. Basic Information

1. Institution: University of Georgia Date: 3/30/2016
2. School/College: College of Public Health
3. Department/Division: Epidemiology and Biostatistics
4. Certificate Title (as it will appear in the *Bulletin*): Graduate Certificate in Infectious Disease Epidemiology
5. Level (undergraduate or graduate): Graduate
6. Proposed starting date for program: Semester after approval
7. Abstract of the program for the University Council's agenda:
Provide a one or two page summary of the proposed program that includes an overview and highlights of the response to the criteria in Section II.

This certificate will give currently enrolled students in the College of Public Health and other units at UGA who want to focus on the area of infectious disease epidemiology a formal recognition of their concentration in that area in the form of a certificate.

To earn the certificate, students have to take 15 credits of graduate coursework in courses that focus on different aspects of infectious diseases and epidemiology, especially as it relates to infectious diseases affecting human populations. Section 4 below describes the course requirements in more detail.

8. Submit letters of support from the various academic unit heads involved in developing the program initiative or whose support is vital to its success.

Letters of support from Fred Quinn (Chair of the Infectious Disease department in the Vet School); Don Harn, Director of the Faculty of Infectious Diseases; and Vanessa Ezenwa, Director of the Infectious Disease Ecology Across Scales Ph.D. program in Ecology and member of the initial committee overseeing the certificate (see below) are attached.

Also attached are letters of support from the units whose courses will be eligible to be counted as part of the certificate.

SIGNATURES:



Department Head



Dean of School/College

II. Response to the Criteria for All Programs

The criteria that proposed new programs are expected to meet in order to be approved and implemented within the University of Georgia are listed below. Please provide sufficient explanation as to how the proposed program satisfies each criterion.

1. *The purpose and educational objectives of the program must be clearly stated, and must be consistent with the role, scope, and long-range development plan of the institution.*

A. State the purpose and educational objectives of the program and explain how the program complements the role, scope, and long-range development plan of the institution.

The purpose of this certificate is to provide students already enrolled at UGA, who have a strong interest in infectious diseases at the human population level, a program of study and formal recognition in this area.

Infectious diseases continue to remain an important threat to public health. Recent outbreaks of Ebola, Zika, and other diseases vividly illustrate the need to be well prepared against infectious disease threats. As such, students who can demonstrate strong training in the area of infectious diseases are and will remain in demand at organizations such as local and state health departments, the CDC, WHO, and many other institutions, both public and private, that deal with public health. By earning this certificate, our students will be able to explicitly demonstrate infectious disease-related training and skills, which will make them more competitive.

UGA has a recognized strength in the area of infectious disease research, ranging all the way from the bench sciences (microbiology, virology, immunology, etc.) to health on the human and animal population level (epidemiology, ecology, veterinary population health, etc.). This certificate will further strengthen the department of Epidemiology and Biostatistics, the College of Public Health, and UGA's reputation in the area of infectious diseases.

B. Describe the interdisciplinary nature of the proposed program. Which school(s) or college(s) and department(s) will be involved in the development of the program? Describe the expected stage of development for this program within five years.

While the certificate will be housed in and administered by the Department of Epidemiology and Biostatistics in the College of Public Health, some of the courses that can be counted toward earning this certificate are offered through other departments and colleges (see below). As such, the certificate crosses disciplines.

2. *There must be a demonstrated and well-documented need for the program.*

A. Explain why this program is necessary.

UGA overall has a well-recognized strength in infectious disease research. The department of Epidemiology & Biostatistics also has a recognized strength in the area of infectious diseases. Many students in our department, college, and across campus are interested in pursuing studies in the area of infectious diseases at the population level. Currently, there is no formal way for students to concentrate in this area and receive acknowledgement of such a concentration. This certificate would provide formal recognition to students specializing in infectious diseases at the population level.

B. In addition, provide the following information:

1. Semester/Year of Program Initiation
2. Semester/Year Full Implementation of Program
3. Semester/Year First Certificates will be awarded
4. Annual Number of Graduates expected (once the program is established)
5. Projected Future Trends for number of students enrolled in the program

We will implement this certificate program once it is fully approved. We expect that for most students, it will take about two years—as part of their regular graduate training—to take the courses required for the certificate.

We expect to have around five students in the program during the first years. As increasing awareness of the program spreads, the number of Ph.D. students in the College of Public Health increases, and other increases in infectious disease graduate training (e.g., the NSF funded IDEAS graduate training program housed in Ecology, which has several Epidemiology faculty as participants), we expect between 5-10 students to enroll each year. Overall, we expect a total of 10-20 students to be enrolled in the certificate at any one time.

3. *There must be substantial evidence that student demand for the program will be sufficient to sustain reasonable enrollments in the program.*

A. Provide documentation of the student interest in the program, and define what a reasonable level of enrollment is for a program of this type. Provide evidence that student demand will be sufficient to sustain reasonable enrollments.

Some of the following suggest that there is current and potential future student interest:

- Across UGA, infectious disease research is a recognized strength, and many graduate students in different colleges and schools, such as Public Health, Veterinary Medicine, Ecology, and others are engaged in infectious disease research and coursework.
- Every year during the fall semester, our department offers EPID 8500, Infectious Disease Epidemiology, and the usual enrollment is around 30 students. We also regularly offer other specialized graduate courses focused on infectious diseases within our department, which usually have enrollment of 10-20 students.
- A significant percentage of students who take our infectious disease epidemiology graduate classes are not graduate students in the College of Public Health and likely interested in earning recognition/a certificate in infectious disease epidemiology.
- One faculty member in our department, Dr. Whalen, is the PI of an NIH training grant in infectious disease epidemiology which trains two Ph.D. epidemiology students a year. These students are very likely to participate in this certificate program.
- Dr. Ezenwa in Ecology is the PI on an NSF funded graduate program on infectious diseases (IDEAS) that will fund and train at least six students per year. Some of the students in this program are also likely candidates for this certificate.

To further quantify interest, we surveyed our existing MPH Epidemiology students. The survey went to 34 students asking them if they were potentially interested in earning an infectious disease certificate in addition to their MPH degree. A total of 20 students responded to the survey; 19 indicated they would be interested, 1 student indicated no interest.

B. In addition, provide the following information:

To what extent will minority student enrollments be greater than, less than, or equivalent to the proportion of minority students in the total student body?

Since the main target group for this certificate program are current UGA graduate students, we expect the proportion of minority students to mirror that of the graduate student body among the students most likely to take this program (students in the Colleges of Public Health and Veterinary Medicine, School of Ecology, as well as other units across campus.)

4. *The design and curriculum of the program must be consistent with appropriate disciplinary standards and accepted practice.*

Provide the following information:

A. Present a detailed curriculum outline of the program listing specific course requirements (to include programs of study, course prefix, number, and title).

The program will consist of the following courses and requirements:

- Minimum 15 total graduate-level credits
- Prerequisites (see also #10 below):
 - Enrolled in a UGA graduate program of study
 - EPID 7010 and BIOS 7010 or equivalent knowledge (as determined by the certificate coordinator when students apply)
 - Good academic standing
 - Approval by major professor/advisor of the student
- 1 required course:
 - EPID 8500 – Infectious Disease Epidemiology
- 2 courses related to infectious disease epidemiology, selected from the following options:
 - EPID 8510 – Dynamical Systems Approach to Infectious Disease Epidemiology
 - EPID(ECOL)(IDIS) 8515 – Modeling Infectious Diseases
 - EPID 8560 or EPID(BIOS) 8060 – Analysis of Infectious Disease Data or Modern Applied Data Analysis
 - EPID 8550 – HIV and AIDS: Global Issues and Perspectives
 - EPID 8200 – Molecular Epidemiology
- 2 courses broadly related to infectious disease epidemiology. The following is a listing of suitable elective courses we have currently identified:
 - BIOS(EPID) 8150 – Spatial Epidemiology
 - EHSC(EPID) 8250 - Biomarkers: Public Health, Clinical, and Environmental Toxicology Applications
 - EHSC(EPID) 8540-8540L - Microbial Quantitative Risk Assessment
 - EHSC 7310 - Public Health Microbiology
 - ECOL(BIOL) 4150/6150-4150L/6150L - Population Biology of Infectious Diseases
 - ECOL 8930 - Ecology and Evolution of Infectious Diseases
 - IDIS 8010 - Advanced Studies in Infectious Diseases
 - IDIS 8020 - Vaccines: From Design to Development
 - IDIS 8030 - Parasites and Parasitic Diseases
 - IDIS 8050 - Special Topics in Ecology and Evolution of Infectious Diseases

The list of courses will be updated as new appropriate courses are identified or become newly available. To be added to the list of courses, the new course must be deemed applicable by the certificate coordinator and the certificate review committee (see 5A).

Courses not listed can be counted if the certificate coordinator considers the course in question is appropriate for the purpose of the certificate.

- Courses can be taken in any order, subject to requirements and prerequisites placed on individual courses by their instructors/departments.
- To receive the certificate, students must receive a grade of B- or better in each course, and the average grade for all courses must be a B or better.
- If students have taken any of the courses that can be counted toward the certificate before deciding to formally entering the certificate program, these course credits will be counted toward the certificate (provided the grade is a B- or better).

- B. Identify which aspects of the proposed curriculum already exist and which constitute new courses.

All courses currently exist and have been offered in the past.

- C. Identify model programs, accepted disciplinary standards, and accepted curricular practices against which the proposed program could be judged. Evaluate the extent to which the proposed curriculum is consistent with these external points of reference and provide a rationale for significant inconsistencies and differences that may exist.

All courses in this certificate are approved UGA graduate-level courses. The prerequisites and required courses ensure that students pursuing this certificate receive a solid foundation in infectious disease epidemiology; the elective courses ensure a good mix of breadth and depth.

- D. If program accreditation is available, provide an analysis of the ability of the program to satisfy the curricular standards of such specialized accreditation.

The certificate is fully housed within the College of Public Health and is therefore subject to assessment by the Council on Education for Public Health (CEPH), the college's accreditation body, as part of the college's regular accreditation process.

5. *Faculty resources must be adequate to support an effective program.*

- A. Define the size, experience, and specializations of the full-time faculty needed to support an effective program. Identify the extent to which such faculty resources currently exist at the institution, and what additions to the faculty will be needed to fully implement the program. Specify how many full-time faculty will provide direct instructional support to this program.

The certificate consists entirely of courses already offered on a regular basis. As such, the only extra support for the program will need to be a certificate coordinator. This person will be a faculty member within the Department of Epidemiology and Biostatistics. Since we don't anticipate this to be a large time commitment, it will be done by a faculty member as part of his or her regular service activity.

The chair of the department of Epidemiology and Biostatistics appoints the certificate coordinator.

In addition to the certificate coordinator, there will be a three-person certificate committee helping to oversee the certificate, approve new courses, and mediate if there any disagreements between the certificate coordinator and students. The members of this committee will be the department chair in epidemiology and biostatistics, the faculty member in the college of public health holding the "Ernest Corn Professor of Infectious Disease Epidemiology" Chair (currently Dr. Chris Whalen), and a third faculty member selected by the department chair from outside the department with expertise in infectious disease.

The work load for the committee is anticipated to be minor and will not require any additional resources.

- B. In addition, for each faculty member directly involved in this program, list:

- 1) Name, rank, degrees, academic specialty, educational background
- 2) Special qualifications related to this program
- 3) Relevant professional and scholarly activity for past five years

- 4) Projected responsibility in this program and required adjustments in current assignments

We anticipate that Dr. Handel (Associate Professor in Epidemiology & Biostatistics) will serve as the inaugural certificate coordinator.

Dr. Cordero, Professor in Epidemiology & Biostatistics, is the department chair and will serve on the certificate committee.

Dr. Chris Whalen, the Ernest Corn Professor of Infectious Disease Epidemiology, will also serve on the certificate committee.

Dr. Vanessa Ezenwa, Associate Professor of Ecology and Infectious Diseases and Director of the Infectious Disease Ecology Across Scales Ph.D. program in Ecology, has been asked and agreed to serve as the inaugural faculty outside the department.

Other faculty are only involved inasmuch as they teach courses that can be counted toward the certificate. However, these courses are offered independent of the certificate and, as such, those faculty have no direct involvement.

6. *Library, computer, and other instructional resources must be sufficient to adequately support the program.*

- A. Describe the available library resources for this program and the degree to which they are adequate to support an effective program. Identify the ways and the extent to which library resources need to be improved to adequately support this program.
- B. Likewise, document the extent to which there is sufficient computer equipment, instructional equipment, laboratory equipment, research support resources, etc. available to adequately support this program. Specify improvements needed in these support areas.

The resources are available for this program.

7. *Physical facilities necessary to fully implement the program must be available.*

Describe the building, classroom, laboratory, and office space that will be available for this program and evaluate their adequacy to fully support an effective program. Plans for allocating, remodeling, or acquiring additional space to support the program's full implementation of the program should also be identified.

The resources are available for this program.

8. *The expense to the institution (including personnel, operating, equipment, facilities, library, etc.) required to fully implement the program must be identified.*

- A. Detailed funding to initiate the program and subsequent annual additions required to fully implement the program are needed below. Estimates should be based upon funding needed to develop an effective and successful program and not upon the minimal investment required to mount and sustain a potentially marginal program.

	First Year	Second Year	Third Year
(1) Personnel	_____	_____	_____
(2) Operating Costs	_____	_____	_____
(3) Capital Outlays	_____	_____	_____
(4) Library Acquisitions	_____	_____	_____
(5) Total	_____	_____	_____

Since the program targets already enrolled students at UGA and consists of already existing courses, no further financial resources will be needed.

A good number of students in our college and beyond are interested in infectious disease epidemiology. By providing a specific pathway to earn a certificate in that area, we expect that interest will increase further and students will be enticed to enroll in the courses leading to the certificate. We expect that any additional enrollment will not be large enough to cause logistical challenges for the courses participating in the certificate, but instead will help recruit additional students to those often small courses.

- B. Indicate the extent of student support (fellowships, assistantships, scholarships, etc.) available for this program, and evaluate the adequacy of this support. Assistantships funded from institutional (as opposed to sponsored) funds should be included in this funding analysis as well.

Fellowships, assistantships, and scholarships are not available from this program.

9. *Commitments of financial support needed to initiate and fully develop the program must be secured.*

- A. Identify the sources of additional funds needed to support the program and the probability of their availability.
- B. It is particularly important to include in this response the long-range plans for additional or expanded facilities necessary to support an effective program. Evaluate the timing and likelihood of such capital funding.

This program will make use of reallocated funds.

10. *Provisions must be made for appropriate administration of the program within the institution and for the admission to and retention of students in the program in keeping with accepted practice.*

Describe and evaluate the structure for the administration of the program. Explain the degree to which that structure is in keeping with good practice and accepted standards. Similarly, explain how and by what criteria students will be admitted to and retained in the program, and how these procedures are consistent with accepted standards for effective and successful programs.

Students need to fulfill the following requirements to be eligible for the certificate program:

- Currently enrolled as degree-seeking graduate students at UGA and in good academic standing.
 - We expect the majority of students to be graduate students.
 - Undergraduate students, if they are at the same time enrolled as dual degree students in a graduate program (e.g., some of our dual BS/MPH students), can pursue the certificate, subject to their ability to fulfill the prerequisites and be able to take the required courses. Given the requirements of the certificate, we expect it to appeal to only a few undergraduate students.
- Evidence that they satisfy the prerequisites for the certificate (knowledge of material covered in EPID and BIOS 7010).
- Plan of study, outlining the sequence and times at which they anticipate taking the courses for the certificate.
- Written permission (which can be in the form of an email) from the advisor of their main program of study (either their major advisor or their graduate coordinator) allowing them to pursue the certificate.

Students can apply to participate in the certificate at any point in their study as long as they satisfy above requirements and have at least one semester remaining before graduation. Students will fill out an application form and plan of study, and provide additional

information (e.g., proof that they have taken EPID or BIOS 7010 or equivalent and permission from their advisor). The application material is reviewed by the certificate coordinator and other material requested as needed.

If the student does not have formal proof of knowledge of EPID/BIOS 7010, the certificate coordinator will perform a short oral exam to probe student understanding of this material.

The certificate coordinator decides if all criteria are fulfilled and if the student presented a feasible plan of study. If so, students will be admitted and informed of their admission in writing (by email).

Students who are enrolled in the certificate will have to provide the certificate coordinator with an update on their plan of study each semester. This update can be provided by email.

Changes to the plan of study, such as a change in elective courses, must be approved by the certificate coordinator.

Students can leave the certificate by informing the certificate coordinator and their major professor that they do not want to further pursue the certificate.

The certificate is fulfilled and granted once the student has completed the certificate requirements as stated in section 4A.



The University of Georgia

Graduate School

January 19, 2017

Dr. Pamela Whitten
Senior Vice President for Academic
Affairs and Provost
Administration Bldg.
Campus

Dear Dr. Whitten:

On January 18, 2017, the Graduate Council voted to approve the following proposal:

Graduate Certificate in Infectious Disease Epidemiology

The proposal is attached. I am pleased to forward this request to you with my endorsement. Please let me know if you have any questions.

Sincerely,

Suzanne Barbour
Dean

cc: Dean Phillip Williams
Dr. José Cordero
Dr. Andreas Handel
Ms. Fiona Liken



The University of Georgia

College of Veterinary Medicine
Department of Infectious Diseases

February 3, 2016

Dr. Andreas Handel
Department of Epidemiology and Biostatistics
College of Public Health
University of Georgia
Athens, GA 30602

Re: support for a graduate certificate in Infectious Disease Epidemiology

Dear Andreas,

Thank you for sharing your proposal for a graduate certificate in Infectious Disease Epidemiology. I read the proposal and I fully support it. I think this will be a great way for graduate students who are interested in infectious diseases at the human population level to get recognition for their studies and focus in that area.

I am quite certain that several of our students will be interested in this certificate, and that the certificate will help to further strengthen the recognition of UGA as a place of excellence in infectious disease research.

Please let me know if I can be of further assistance and best of luck.

Sincerely,

Frederick D. Quinn, PhD
Athletic Association Professor of Infectious Diseases and Head



The University of Georgia

College of Veterinary Medicine
Department of Infectious Diseases

Donald A. Harn, Ph.D.
Professor and Georgia Research Alliance
Distinguished Investigator
Director, Faculty of Infectious Diseases
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dharn@uga.edu

Dr. Andreas Handel
Department of Epidemiology and Biostatistics
College of Public Health
University of Georgia
Athens, GA 30602

March 21, 2016

Re: support for a graduate certificate in Infectious Disease Epidemiology

Dear Andreas,

Thank you for sharing your proposal for a graduate certificate in Infectious Disease Epidemiology. I read the proposal and I fully support it. I think this will be a great way for students who are interested in infectious diseases at the human population level to have a focused program of study in that area and to receive formal recognition for it.

Given UGA's strength in infectious disease research and the many students interested in that area, I am certain that there will be demand for this certificate, and that the certificate will help to further strengthen the recognition of UGA as a place of excellence in infectious disease research.

Sincerely,

Donald A. Harn



The University of Georgia

Odum School of Ecology

February 16, 2016

Dr. Andreas Handel
Department of Epidemiology and Biostatistics
College of Public Health
University of Georgia
Athens, GA 30602

Re: support for a graduate certificate in Infectious Disease Epidemiology

Dear Andreas,

Thank you for sharing your proposal for a graduate certificate in Infectious Disease Epidemiology. I read the proposal and I fully support it.

I think this will be a great way for graduate students who are interested in infectious diseases at the human population level to get recognition for their studies and focus in that area.

As we discussed, this certificate will nicely complement the graduate certificate in Interdisciplinary Disease Ecology Across Scales (IDEAS), which will be proposed in the near future.

I am quite certain that several of the IDEAS students, as well as other students in Ecology and beyond will be interested in this certificate, and that the certificate will help to further strengthen the recognition of UGA as a center of excellence in infectious disease research.

Sincerely,

Vanessa Ezenwa
Associate Professor
NRT-IDEAS Program Director
Odum School of Ecology &
Dept. of Infectious Diseases, College of Veterinary Medicine
University of Georgia
vezenwa@uga.edu