1. List in detail your Student Learning Outcomes (SLOs) for each graduate degree/certificate offered.

B. PhD in Biomedical Sciences (Epidemiology)

1. Sufficient breadth and depth of knowledge to assume responsibility for developing academic programs in Epidemiology at the graduate level and sufficient specialized knowledge to teach introductory and advanced courses in Epidemiology; to mentor and supervise graduate student research.

2. Specialized knowledge in an area of epidemiologic research, including familiarity with the literature and methods; and experience in the design and conduct of epidemiologic investigations including the collection, analysis and interpretation of data sufficient to enable them to initiate and continue research successfully as independent researchers.

3. Ability to draft manuscripts sufficient to be acceptable for publication in scholarly journals.

4. Ability to prepare oral presentations and posters of their research findings of sufficient quality to be accepted at workshops, seminars, or meetings of scientific societies;

5. A degree of understanding and scientific maturity sufficient to enable them to critically assess epidemiologic reports and presentations;

6. To have a basic understanding of grant preparation and submission, basic fund raising, and the administrative procedures common to fund raising and the administration of grants.

7. To have a basic understanding of administrative procedures in institutions that conduct epidemiologic research and teaching.

2. Where are these SLOs published (e.g., departmental web page)?

These SLOs are published on the web page for the Department of Public Health Sciences and Epidemiology (DPHSE), on the web page for the UH Graduate Division, and in the Student Handbook published by the DPHSE which is given to each incoming student. These some of these materials may be distributed to prospective applicants by e-mail. New incoming doctoral students are given an early appointment with a prospective faculty advisor. The purpose of this
appointment is to discuss the program’s academic objectives, establish avenues of communication for the student with the graduate faculty, the student body, and to cover other important orientation issues.

3. **Explain how your SLOs map onto your curriculum, i.e., how does your program of graduate studies produce the specific SLOs in your students?**

Applicants for the PhD in Epidemiology are not admissible without having completed a master’s degree in epidemiology. The masters degree, or its equivalent, is reviewed by the doctoral admission committee to assure that the necessary courses and related knowledge and skills have been obtained prior to matriculation into the doctoral program. A significant measure of the listed SLOs should have been met by the completion of the master degree. There is not a specific curriculum or credit requirement for the PhD. “Mapping” of SLOs therefore into the doctoral curriculum begins with the first meeting of the student and their respective Epidemiology graduate faculty mentor or faculty advisor where the program in its entire and the expectations of the student are mapped out. During the first term in the program in consultation with their advisor, doctoral students may take various advanced courses in epidemiology or statistics that may be offer at the time, directed readings/research courses for variable credit, or proceed with a research program.

4. **What population(s) is covered by your assessment(s)?**

The PhD Epidemiology program has always been relatively small in terms of students enrolled. Therefore, all students admitted to the PhD program in Epidemiology are covered by the assessments described.

5. **Please list/describe all the assessment events and devices used to monitor graduate student progress through the program. Consider the following questions:**

   – **How are written exams used to assess graduate students?**

   A. Late in the first term of enrollment, all new students are expected to take a Qualifying Exam. This exam may last one or two days, is essentially essay in format, and can include be open and or closed book questions. The purpose of this exam is two fold. One, is diagnostic to identify strengthens, weakness, or gaps in the students knowledge and skills, and secondly to assess the student’s depth and breadth of epidemiology and epidemiologic statistics. The Qualifying Exam is organized, supervised, and evaluated by the PhD Academics Committee made up from Epidemiology graduate faculty.

   B. The Comprehensive Exam is given in the following terms when the student and his or her advisor agree that depth in a chosen research area has been sufficiently mastered and a proposal for doctoral dissertation research will be ready for presentation. The exam may have a written component but will include an oral presentation of the student’s research proposal. The
prospective doctoral committee members will have been identified and participate in the Comprehensive Exam. Following satisfactory completion of this exam, no further course work is taken. The student is full time by registering for one credit hour of dissertation research PH 800.

- **How are independent and/or culminating projects (theses, dissertations, performances, capstone courses, etc.) used to assess graduate students?**

The philosophy of our program is that a PhD is the training of the mind. The culminating project for this training is the doctoral dissertation.

Each dissertation is reviewed by a graduate faculty committee selected by the student ostensibly for their expertise in the area of the student’s research. One member of the committee must come from another discipline. The doctoral dissertation is the basis for assessing the attainment of research expertise, the ability to conduct independent research, and the acquisition of scientific maturity.

- **How are oral presentations/reports/performances used to assess graduate students?**

Oral presentations are required throughout the doctoral experience. Virtually all advanced graduate level courses in Epidemiology require oral presentations and written reports. Presentations are also required in journal clubs and in the culminating experience.

Oral presentations are used to assess a vital communication skill in epidemiology in particular and in science in general. Oral presentations are also used to assess the student’s ability to use up to date computer based presentation applications. The student must show ability in the articulation and organized delivery of complex material. Assessments are made by faculty and feedback from attendees.

6. **Please list/describe how your graduate students contribute to your discipline/academic area? Consider the following questions:**

- To what extent do your graduate students present their work at professional conferences?

Although it is not a requirement of our program, almost all of the PhD students in the Epidemiology have presented posters or delivered papers at local, national, and international meetings prior to graduation.

- To what extent do your graduate students publish their work?

Again this is not a requirement for graduation. However, because our students are mentored by active researchers, most have one or more publications at the time of graduation from the program.

Our graduate faculty fully recognizes that outstanding doctoral students are an asset directly to the ongoing research programs as well as to the overall academic program.
7. **What attempts are made to monitor student post-graduate professional activities?**

There is no formal program of surveying our graduates, although information on future address at the time of graduation is requested. Information on each graduate is entered into an alumni database maintained by the School. We would like to add here that one of our most famous master of public health graduates, Dr. J. W. Lee, is currently the Director General of the World Health Organization. Three of our previous doctoral students have become accomplished researchers at the Cancer Research Center of Hawaii.

- In which industries/professions do your graduates find employment?

Graduates in epidemiology have ready opportunities in academia, state and regional health departments, federal agencies like CDC, international organizations such as NGOs, state institutions of students who are foreign nationals and return to their home country, and the private sector such as pharmaceutical companies.

- How successful are your graduates in their chosen professions and careers?

The faculty wishes for the best possible success for all our graduates. Other than that we have no way of knowing.

8. **How were the assessment data/results used to inform decisions concerning the curriculum and administration of the program?**

- Was pedagogy changed?

Research is the principle intellectual force that drives the doctoral program in Epidemiology. The rapid pace of discoveries in the field is the principal driving factor in program development and evolution. Both the mentor and student contribute to student research directives that result in original contributions by the student that forms the core of the doctoral dissertation.

- Did you make administrative changes?

In the past year and a half, a PhD Executive Committee, an Admission Committee, and an Academic Committee have been established. The program previously had been less administratively structured.

- Were there changes in interactions with students? Advising, counseling, etc.

The newer more structured administrative changes have made for more clearly delineated lines of responsibility for various aspects of our graduate program; more rigorously defined the program’s expectations, and established a mechanism for providing this guidance to students in a timely fashion.

- Were degree requirements changed?
Degree requirements have not been changed.

– Were courses changed?

As far as program content is concerned, changes are on going, as dictated by new knowledge.