**1) Title: Public Health At UC Merced**

**2) Names of Principal Authors**

Prepared by Paul Brown on behalf of the Public Health Advisory Group (Appendix A).

Since its inception, the campus has recognized the need and importance of Public Health in the region. We propose to emphasize community engagement and, in both research and training, focus on areas (prevention sciences, infectious disease, environmental health, public health genetics, and health services research) that will improve the quality of life of people in the region. These areas also happen to be the focuses that will make UC Merced world-renowned in Public Health research and training.

Our approach to developing the proposal for Public Health has been fair and equitable in that we are trying to grow Public Health by first looking to integrate existing faculty with interests in Public Health, develop proposals for joint positions by which a faculty would be located in a discipline (e.g., sociology) but have teaching and research interests relevant to Public Health, and to use these new hires to build or augment selected areas of Public Health that fit within UC Merced's mission.

The Public Health Advisory Group (PHAG; see Appendix A for current members) is open to faculty with an interest in Public Health. The Strategic Vision outlined in this proposal has been discussed with members of the PHAG in series of meetings over the past three months. This document summarizes the consensus view of the future of PH at UC Merced. All members were given an opportunity to contribute to the development of this Strategic Initiative

Our proposed vision includes undergraduate and graduate education programs. We see both as important for our overall mission - the undergraduate degree preparing our students for rewarding careers in Public Health in the San Joaquin and graduate study, and our graduate programs preparing graduates for research careers in Public Health.

**3) Executive Summary (150 word max)**

Public Health is a multidisciplinary area of research and study focusing on measuring, understanding and improving the health of the population, including the health needs of vulnerable populations, the causes and determinants of poor health, and ways to improve the public health system and the health of the population. As described below, by 2020, UC Merced will have an accredited School of Public Health that offers MPHs and PhDs in Public Health, a popular undergraduate program that prepares students for careers in the SJV and graduate study, an active funding base to support public health researchers, and faculty helping to deliver a unique Medical Education program training doctors to address the challenges in the SJV. The model that we propose is interdisciplinary and takes advantages of existing resources and strengths on campus. We are well on our way to realizing the goal laid out in the 2009 Strategic Academic Vision.

**4) Initiative Description**

**I. Advances in Public Health since 2009 Strategic Academic Vision:**

The 2009 Strategic Academic Vision included “Human Health” as a major theme, with 3 objectives: 1) to establish the Health Sciences Research Institute (HSRI), 2) establish a School of Medicine, and 3) evaluate the potential for a School of Public Health. The develops involving human health research and Medical Education are addressed in more detail in the ***Health Sciences Research Institute's (HSRI)*** Strategic plan. The purpose of this plan is to address developments in Public Health and to argue that in accordance with the 2009 Strategic Academic Vision, UCM should establish a School of Public Health.

It is well known that the San Joaquin Valley has some of the most dire health statistics in the country, with health disparities and levels of poverty comparable to the poorest Appalachian regions, and comparable to developing countries. The region also includes numerous communities that are federally designated as a Health Professional Shortage Area (HPSA), meaning that the population of this region has significant health issues and restricted access to health care. UC Merced is located in one of the most ethnically diverse regions in the country, with significant underserved populations (e.g., Hmongs, Latinos, lower SES) who are typically underrepresented in clinical trials and without access to most advanced medical treatments and public health interventions., it is crucial that UC Merced establishes a School of Public Health to serve this region..

At the time of the last Strategic Academic Vision, Public Health did not exist in any formalized way at UC Merced. In the last four years, Public Health has become a well-established research and teaching entity, and is serving as the catalyst for health-related training and research on campus and in the region. Currently the Public Health Group, in conjunction with UCSF Fresno, other UCM departments, and local public health departments, is spearheading a research project on Valley Fever, a understudied fungal infection which is predominant in the SJV, but is understudied. HSRI and members of the Public Health Group have submitted a grant to the National Institutes of Health to develop infrastructure regarding addressing obesity in the SJV. Public health group members are currently active in developing multi-disciplinary and multi-department grants which address health issues in the region and will be submitted to state and national level funders. By growing and developing a School of Public Health, UCM will be poised to rapidly respond to health issues in SJV as they are identified.

Academic demand for Public Health degrees at UCM also points to the need to develop a School of Public Health that offers accredited undergraduate and graduate public health degrees. Since its introduction in 2010, the Minor in Public Health has proven to be extremely popular with students, and is currently the 7th most popular minor at UC Merced. Public Health has continued to advance with the hiring of a Professor of Public Health, the formation of a multi-disciplinary Public Health Advisory Group (PHAG; see Appendix A for current membership), the hiring of three Assistant Professors of Public Health, and three more positions set to begin in the Fall of 2014. In addition, the Public Health Graduate Group (PHGG) admitted our first group of graduate students in 2012 (through the Social Sciences Graduate Group) and, as described below, is proposing to form its own graduate program (PhD in Public Health), its own Bylaw 55 unit, and introduce both a Bachelor of Arts and a Bachelor of Science in Public Health. Establishing a formal School of Public Health would provide crucial infrastructure to maintain these programs.

Currently, Public Health encompasses many of the key features being promoted by UC Merced: Inter-disciplinary course of study, addressing a major issues in the region, producing graduates that are demanded by government, university, and private employers, and is integral to the future development of medical education at UC Merced.

**II. Goal for 2020**

Our goal is to have UC Merced recognized by 2020 as a top 20 Public Health program in the US.

We will achieve this through:

* **Increased research productivity** - We will focus on research areas in which we can achieve a high volume of research output, large income from grants and foundational support, and international reputation as a research leader in specific areas. By focusing on the research areas described below, we will be able to achieve international recognition.
* **Research influence** - In addition to citations, research influence in Public Health is also determined by the extent to which the researcher and the Public Health group has regional and national exposure in areas pertinent to the SJV.
* **Teaching and training** - We will provide undergraduate and graduate education that focuses on research excellence while providing students with the skills required to succeed after graduation.

As stated previously, the Public Health group is currently engaged in intra-departmental and inter-disciplinary research that focuses on health issues in the SJV. Members of Public Health are actively seeking grant and foundational support for research in the SJV. In addition, Public Health is rapidly growing a core undergraduate and graduate curriculum that integrates research on local public health issue areas with traditional public health course offerings.

**III. What will Public Health look like in 2020?**

By 2020, Public Health would look as follows:

***Key Focus Areas***

Public Health at UC Mercedwill have developed a School of Public Health that focuses on researching key issues in the SJV region - including improving access and quality of care, developing strategies for researching hard-to-reach communities, providing interventions and treatments that are appropriate for diverse communities, developing effective health promotion and awareness campaigns.

Public Health programs consist of five core Public Health subject areas: Epidemiology, Health Services Research & Policy, Biostatistics, Environmental Health, and Social and Behavioral Health -- - The core Public Health subjects are taught in all schools; however, top Schools of Public Health have concentrated expertise for which they are renowned. For example, as the University of North Carolina is renowned for international health management; Northwestern for urban health issues; Johns Hopkins for international health and urban health; and the University of Kentucky for working with Public Health Departments. As a new institution, UC Merced has the luxury of being able to choose the area or areas in which to grow between now and 2020. The UC Merced Public Health Group has chosen to target those areas that offer the best opportunities for addressing pressing health issues in the region and has identified five areas for focus on developing by 2020:

* ***Prevention Sciences*** – Public Health at UC Merced will emphasize understanding the social determinants of disease and developing interventions for the prevention of illness and promote good health in order to address major non-communicable diseases endemic in the region including obesity, diabetes, cancer, and other metabolic diseases.
* ***Infectious disease*** – Public Health at UC Merced will also focus on infectious disease transmission and control, including the social determinants impacting who gets sick and public health strategies aimed at prevention. There are many communicable diseases, such as Hepatitis B and C, West Nile Virus, HIV/AIDS, and Sexually Transmitted Diseases, that are prevalent in the SJV and whose etiology and transmission need to be addressed. This includes addressing so called “orphan diseases,” such as Valley Fever, that are endemic to the SJV region but do not receive wide attention because it is confined to smaller areas of the US.
* ***Public Health Services Research and Administration*** – Public Health at UC Merced will work to improve access to health care, quality of care, and the organization and cost of health services. This area is critical to ensuring that the people of the SJV region have access to good, quality, affordable care that is offered in culturally appropriate ways.
* ***Environmental Health*** – Members of the UC Merced School of Public Health will seek to understand the contribution of our physical environment to human health and identify ways that we can ensure people live in a healthy environment. This is critically needed in the region given the multitude of environmental problems we face in the SJV, including air pollution, pesticide use, ground water contamination, and indoor air quality.
* ***Public Health Genetics*** - The genetic diversity in this region provides a tremendous opportunity to explore the interaction between genetic makeup, environmental factors, and health behavior. This is a growing and promising area of Public Health that will allow cross-disciplinary research between various departments at UC Merced.

Given the issues in our region, we would be remiss if we did not focus our training and research on the issues that are likely to improve the health of the people in the region. This is part of UC Merced's mission. Focusing on these areas also provides a strategic advantage for UC Merced to develop a unique identity. UC Merced is the only UC located outside of a (mostly wealthy) urban setting, and we were put here in part to help provide the benefits of a research institution to the more than 4 million people in our catchment region. By focusing on these areas, we could become world-renowned and would be able to offer a program that was unique not just among the other UC schools, but in the world.

***Graduate, Undergraduate, and Medical Training at UC Merced***

By 2020 Public Health will have established a BA and BS in Public Health, a graduate program in Public Health, and be active participants in the UC Merced Medical Education Program. These degrees and programs would be located in a UC Merced School of Public Health.

**Undergraduate training** -Public Health is currently proposing the introduction of two undergraduate programs for the Fall of 2014: BA focusing on Prevention Sciences, and a BS focusing upon Infectious Disease or Genetics (see Appendix B for proposed course of study). While once relatively rare, undergraduate public health degrees are now commonplace at universities with active Public Health Departments or Schools. For instance, UC Berkeley undergraduate program is so popular that they have had to cap enrolment and institute a minimum GPA requirement. As a result, we anticipate a high demand for offering Public Health training at the undergraduate level.

Initially, students who complete our undergraduate degree will be encouraged to focus on one of two areas:

* **Prevention Sciences** - Provides students with an understanding of health disparities and the social determinants of disease, with an emphasis on developing interventions that can promote prevention of illness. This track of study is being developed in conjunction with the Psychology and Sociology Departments.
* **Infectious disease** - Students will emerge with an understanding of the biology of infectious disease transmission and control, as well as social determinants impacting who gets sick and public health strategies aimed at prevention. This track of study is being developed in conjunction with the MCB group.

By 2020, we will have at least three other areas of study, including Environmental Health, Public Health Genetics, and Health Services Research. These programs of study will be developed in conjunction with other departments here at UC Merced.

As part of our program, we are introducing a Research/Service Learning requirement whereby students learn about health issues facing people in the San Joaquin Valley and then either engage in research relevant to the region or work with a community organization on a project relevant to a health issue in the region. We are integrating regional health research projects into core undergraduate classes as well. Graduates with an undergraduate degree in Public Health from UC Merced will be prepared to pursue careers in health organizations in the region and for graduate study in either Medicine or Public Health.

**Graduate degree offerings** - Beginning in the Fall of 2014, we will admit our first group of graduate students interested in pursuing a Master of Science and PhD in Prevention Sciences (see Appendix C). This program has been developed in concert with Sociology and Health Psychology, and we expect that Public Health students will interact closely with graduate students in these areas in the coming years.

Initially, our graduate program will be administered through the Social Science Graduate Group. However, we are in the process of proposing our own graduate group and degrees: Master of Science (Public Health) and PhD (Public Health). Depending on the speed of approval, we expect this to be formally available in Fall of 2015.

Among the UC campuses, Davis, Berkeley, and UCLA offer MPHs and PhDs in Public Health. UC Irvine has an agreement with Long Beach State to provide public health training for its medical residents, and UCSD and SDSU have a unique joint PhD program in Public Health (students take their MPH courses at SDSU, have joint supervision between UCSD and SDSU faculty, and get their PhD through UCSD). In our region, Fresno State offers an MPH in three accredited areas (Health Administration, Community Health, and Environmental Health), although their program is mostly vocationally focused (not a research degree).

The PHAG has concluded that there is sufficient student and employer demand for UC Merced to ultimately offer a research based MPH and PhD in Public Health. Our consultations with providers (e.g., Public Health Departments and healthcare providers) in the region suggest that UC Davis and UC Berkeley programs do not train students who are going to work in the region. Furthermore, our program would compliment rather than compete with Fresno State's program, and their Department of Public Health has expressed an interest in exploring a UCSD/SDSU type arrangement. Stanislaus State's Nursing and Kinesiology Program have also expressed interest in a similar type of arrangement. While such endeavors will require significant time to develop, it does signal the important role that other institutions in the region see for UC Merced in training graduate students in Public Health. Establishing a School of Public Health at UC Merced would provide a linkage point where joint school programs could be housed.

Over the coming months, we will look to introduce a Public Health graduate courses of study in Health Services Research (in concert with Economics), Infectious Disease and Public Health Genetics (in concert with MCB), and Environmental Health (in concert with Environmental Systems). Thus, by 2020 UC Merced will have an active Public Health graduate program that trains students in areas that are important to the region and thus consistent with UC Merced's mission.

Note that being accredited and thus being able to offer an MPH (as opposed to a Master of Science (Public Health) requires a sufficient critical mass of faculty in the five areas of concentration.

**Medical education** - As described in HSRI's Strategic Plan, the proposed UCSF-Fresno/UC Merced Joint Medical Program would involve students spending three years at UC Merced, having case-based learning sessions led by UC Merced faculty and selected people from the region, receiving their initial clinical training at Mercy and/or Golden Valley, emerge with a Master of Science in either Public Health or Biomedicine, and then complete their clinical training at UCSF-Fresno. This program is modeled on the UC Berkeley/UCSF JMP, with the Berkeley program being administered by the School of Public Health.

The PHAG is enthusiastic about the prospect of UC Merced adopting this type of Medical Program. Our focus on the health of our diverse communities would fit perfectly with the focus of the proposed JMP. Our faculty look forward to adapting the case-based learning programs for our diverse communities, thereby providing the opportunity to train Medical Students in how to work with our communities. This would make the JMP unique in the world.

**School of Public Health -** At the present time, Public Health is part of the Psychological Sciences Bylaw Unit with SSHA. The Faculty and Dean of SSHA have been very supportive in promoting the development of Public Health, and we thank them for creating a fertile environment to initially grow.

By 2020, however, there should be a School of Public Health. The multidisciplinary nature of public health means that the administration of the programs requires faculty from across the campus. In addition, Schools of Public Health tend to operate differently from schools of Natural Science or Humanities. Rather than expecting these other organizations to accommodate two different groups of faculty and programs, most universities have concluded that Public Health programs become Departments within Medical Schools or independent schools. Since we are not likely to have a Medical School in the foreseeable future and since there are good reasons why Public Health groups do better outside of Medical School, we should aim to establish a School of Public Health by 2020.

***Growing a Public Health at UC Merced***

If you look at most Schools or Departments of Public Health around the country, most are stand alone units that hire their own researchers, teach their own students, and have relatively little involvement with researchers from other disciplines. . So despite being 'multidisciplinary' in theory, Public Health is often siloed and isolated in practice. Public Health is a unique field in that it is truly interdisciplinary. UC Merced has chosen to develop via an inclusive model, and the establishment of a truly interdisciplinary School of Public Health could make UC Merced a model for other universities who wish to establish a School of Public Health.

**Growing a Public Health Group:** UC Merced Public Health has chosen to become an inter-disciplinary research and teaching group that seeks to integrate members from other departments and other schools. Even before the formation of the PHAG, UC Merced had a number of researchers located in differing departments with teaching and/or research interests relevant to Public Health. These researchers, as well as other more recent hires, have joined together to develop an interdisciplinary Public Health Group. Given this unique start, Public Health seeks to develop first a Program, then a School that will become a home for all faculty with an interest in Public Health and that will promote inter-departmental and inter-disciplinary health-related research.

We propose to do this by continuing to integrate existing faculty with interests in Public Health in the PHAG and then the Public Health Bylaw unit. We expect that there will be a core group of faculty with 100% appointments in Public Health, but a larger, more diverse group of faculty with 0% appointments in Public Health and 100% appointments in their home disciplines. As we develop strategies to expand our offerings and faculty positions, we will explore joint positions in which the faculty would be located in a discipline (e.g., sociology) but have teaching and research interests relevant to Public Health as well as faculty with areas unique to Public Health.

**Research growth -** We would expect that by 2020 there will be a large number of Public Health Research Scientists. Public Health is one of those areas where there is the potential for large amounts of research funding, particularly if paired with a Medical Education program. As noted in the HSRI Strategic Plan, UCSF-Fresno, Fresno State, and UC Merced (HSRI) have different areas of strength - UCSF-Fresno has clinicians, patients, and access to clinical partners, Fresno State has a research infrastructure that can provide access to hard to reach communities, and HSRI has academics with diverse areas of expertise and the time to do research. Public Health research is likely to be a major area of research growth within HSRI, and our strengths complement the other partners in the region.

How big might this research infrastructure get? It is difficult to find information regarding the specific funding levels for Schools of Public Health, but note that most major public health schools require their tenured faculty to bring in between 50% and 80% of their salary at all times....and the faculty are able to achieve this. That means that, unlike other disciplines, there is funding available.

**What will the School of Public Health look like by 2020?** **Summary of resource needs:**

The UC Merced School of Public Health will have a Dean with overall responsibility for administering the Public Health Undergraduate and Graduate Programs, oversight (either joint or sole) of the UC Merced/UCSF-Fresno JMP, be responsible for a core group of Public Health faculty, and oversee a large cadre of Public Health Research scientists. The faculty would sit within the new Health Sciences Research and Education Building (HSREB) in which house HSRI, the Public Health administrative staff (10 to 15 staff members) and faculty (15 to 20 faculty), and a large number of post-doctoral students and Research Scientists (10 to 15).

* Feasibility plan for new School of Public Health (est. $20,000)
* New Dean of School of Public Health
* 10 to 14 new FTEs (2 per year) in areas of core with particular interests in helping develop unique case based JMP model for SJV
* Office space in HSREB (45 to 50 offices)

**IV. Summary -** This strategic plan has outlined a vision of what Public Health could look like in 2020. In order to realize this vision, UC Merced needs to do the following steps:

* Introduce Public Health Undergraduate Programs (Submit Fall 2013 for Fall 2014)
* Introduce Public Health Graduate Program (Prevention Sciences) (Fall 2014)
* Undertake feasibility plan for new School of Public Health (Spring 2014)
* Propose new Graduate Group and Graduate Program (Submit in Spring 2014 for Fall 2015)
* Hire core faculty in Public Health (Spring 2013 to 2020)
  + Epidemiology, Health Services Research, Health Communication, Environmental Health
* Hire Dean - Advertise in Fall 2014 to being Fall 2015
* School of Public Health - Fall 2016
* Public Health faculty work with JMP staff to develop case based JMP model for Medical Education - Fall 2016 onward
* Achieve accreditation - Fall 2018

**5) Impact metrics including enrollment and FTE actuals and estimates**

### Graduate students

The Public Health program currently has four graduate students (admitted in 2012),all of whom had master's degrees before entering the program. We are now set to admit our first group of students with only undergraduate degrees. We will aim for an initial class of 7 students, all of whom intend to pursue a PhD. Using a ratio of 4 graduate students to faculty and an average completion rate of 5 years, we expect to cap enrolment at 15 PhD students, leading to the following pattern of student numbers and faculty:

|  |  |  |  |
| --- | --- | --- | --- |
| Entry year | Number of new students | Total number of graduate students | Faculty equivalents  (4 to 1 ratio) |
| 2014 | 7 | 7 | 2 |
| 2015 | 10 | 17 | 4 |
| 2016 | 13 | 30 | 8 |
| 2017 | 15 | 45 | 11 |
| 2018 | 15 | 60 | 15 |
| 2019 | 15 | 68 | 17 |
| 2020 | 15 | 73 | 18 |

Note that some faculty supervisors might be in other department.

### Undergraduate students

Projecting student enrollment for a new major is an inexact science, but we would note since its introduction in 2010, the Minor in Public Health has proven to be extremely popular with students, rising to become the 7th most popular minor at UC Merced. To gauge the level of interest in UC Merced offering PH as a undergraduate Major and as a Graduate Degree, we polled 150 Social Science and Natural Sciences students, asking them to indicate their interest in pursuing a Minor in PH, a Major in PH, and/or a Graduate Degree PH. As shown in the table below, there is a high level of interest in the Minor in PH, but increased interest in having an Undergraduate major and Graduate degree.

**Table 1: Interest in Minor, Major and Graduate Study in Public Health**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Minor in Public Health?** | **Major in Public Health?** | **Graduate study in Public Health?** |
| **Overall** | 58% | 68% | 71% |
| **Social Science** | 54% | 61% | 67% |
| **Natural Science** | 69% | 90% | 83% |

The demand is particularly high among Natural Science students, suggesting that offering a course of study that tailors to these students’ interests would be very much in demand. The students were also asked to indicate their level of interest in different areas of graduate study. As shown below, students expressed a high level of interest in each of the four areas polled, with Natural Science students showing a particular interest in Environmental Health.

**Table 2: Interest in Graduate Study in Public Health**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Health promotion**  **/communication** | **Epidemiology** | **Environmental Health** | **Health policy** |
| **Overall** | 88% | 82% | 90% | 83% |
| **Social Science** | 89% | 84% | 89% | 84% |
| **Natural Science** | 86% | 79% | 93% | 83% |

In developing our program, we have used UC Berkeley as a model. In our conversations with faculty and staff associated about their program, the advised us to be prepared: Their program became so popular so fast that they have had to cap the enrolment at 300 and place entry restrictions to control demand.

### Compared to other UC Departments and Schools of Public Health

The Public Health group is too new to compare our research productivity to other UC Faculty, but we are using these faculty as our comparators. Each Assistant Professor has been asked to identify a mentor/advisor from another UC with whom they will meet and develop a research plan for their tenure process. This will serve as a guide to helping our faculty understand the criteria they will need to meet to be granted tenure. We are therefore using faculty at the other UC Public Health Schools and Departments as our comparators.

Appendix A

### Composition of Public Health Advisory Group

Developments in Public Health at UC Merced have being overseen by the Public Health Advisory Group. At present, the group consists of the following:

UC Merced

Paul Brown (Chair) Public Health

Ricardo Cisneros Public Health

Susana Ramirez Public Health

Mariaelena Gonzalez Public Health

Andrea Joyce Public Health (Jan 1, 2014)

Carol Sipan Visiting Assistant Professor in Public Health

Steve Wooding Visiting Assistant Professor in Public Health

Jan Wallander Health Psychology

Anna Song Health Psychology

Linda Cameron Health Psychology

Deb Wiebe Health Psychology

Zulema Valdez Sociology

David Ojcius Natural Sciences

Jinah Choi Natural Sciences

Rudy Ortiz Natural Sciences

Macros Garcia-Ojeda Natural Sciences

Miriam Barlow Natural Sciences

Steve Roussos Blum Center and HSRI

Derry Ridgway HSRI

External Advisors

Paul Mills UCSF – Fresno

Nancy Young Community government

Kathleen Grassi Merced Country Department of Public Health

Erica Robbins Pre-Health Advisor (Natural Sciences)

Alisha Kimble Public Health Minor Advisor (SSHA)

**Appendix B Undergraduate courses of study**

**BA Degree - Public Health**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Paul Brown** | **Ricardo Cisneros** | **Susana Ramirez** | **Mariaelena Gonzalez** | **Steve Wooding** | **Andrea Joyce** | **New Hire** | **Lecturer** |
| **Required courses - Lower Division (20 units)** | |  |  |  |  |  |  |  |  |
| **PH 01:   Introduction to public health** | Public Health | X | X | X | X | X | X |  | X |
| BIO 003: Molecular Basis of Health and Disease | Nat Sci |  |  |  |  |  |  |  |  |
| Statistics Course: MATH 18 or PSY 10 | Nat Sci/SSHA |  |  |  |  |  |  |  |  |
| PH 05 Global Public Health | Public Health | X | X | X | X |  |  |  | X |
| Research Methods: **PH 115 GIS Mapping** or  NEW COURSE Public Health Research Methods | Public Health | X | X | X | X |  |  |  | X |
| **Required Courses - Upper Division (28 units)** |  |  |  |  |  |  |  |  |  |
| **PH 100: Introduction to Epidemiology** | Public Health |  |  |  |  |  |  | X | X |
| **PH 105: Introduction to US Healthcare System** | Public Health | X |  |  |  |  |  |  |  |
| **PH 102: Health behavior and promotion** | Public Health |  |  | X |  |  |  | X |  |
| **PH 185 Health care ethics** | Public Health |  |  |  |  |  |  | X | X |
| **PH 111 Environmental Health** | Public Health |  | X |  |  |  |  |  |  |
| **PH 103 Health communication** | Public Health |  |  | X |  |  |  |  |  |
| **PH 111: Social epidemiology and social determinants of health** | Public Health |  |  | X | X |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| **Service learning Requirement (8 units)** |  |  |  |  |  |  |  |  |  |
| PH 108 Introduction to Health Care (4) | Public Health | X | X | X | X | X | X | X | X |
| PH 181 Public Health Research (4) | Public Health | X | X | X | X | X | X | X | X |
| **Optional courses (1 course/4 units)** |  |  |  |  |  |  |  |  |  |
| PSY 147: Health Psychology | SSHA |  |  |  |  |  |  |  |  |
| NEW COURSE Public Health Genetics | Public Health |  |  |  |  | X | X |  |  |
| **PH 125: Public Health Threats** | Public Health |  |  | X | X |  |  |  | X |
| **PH 104 Health and the Media** | Public Health |  |  | X |  |  |  |  |  |
| **PH XXX Latina/o Health** | Public Health |  |  | X | X |  |  |  |  |
| **PH XXX Immigrant Health** | Public Health |  |  |  | X |  |  |  |  |
| **PSY 124 Health Disparities** | SSHA |  |  | X | X |  |  |  |  |
| NEW COURSE Insects and Public Health | Public Health |  |  |  |  |  | X |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Year 1** |  | **Year 2** |  | **Year 3** |  | **Year 4** |  |
| **1** | **2** | **1** | **2** | **1** | **2** | **1** | **2** |
| PH 1 - Intro to Public health | Statistics | Ethics | Epidemiology | Environmental Health | BIO 003: Molecular Basis of Health and Disease | PH 108 | Research/service learning course |
| Global Public Health | Public Health Research Methods | Health promotion | Public health research methods | Intro health care system | Social Epi and Health disparities | Health Communications | **Optional course** |
| CORE 1 | WRI 10 | SSHA UD GE | SSHA UD GE | Humanities GE | SSHA UD GE | Soc Sci GE | SSHA UD GE |
| **Optional courses** | PSY 147: Health Psychology | PH 125: Public Health Threats | PH 104: Health and the Media | PSY 124 Health Disparities | NEW COURSE Insects and Public Health | NEW COURSE Public Health Genetics |  |

**BS - Public Health (92 units total)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Required courses - Lower Division (48 units)** | | **Paul Brown** | **Ricardo Cisneros** | **Susana Ramirez** | **Mariaelena Gonzalez** | **Steve Wooding** | **Andrea Joyce** | **New Hire** | **Lecturer** |
| PH 01:   Introduction to public health | Public Health | X | X | X | X | X | X |  | X |
| BIO 1 – Contemporary Bio | Nat Sci |  |  |  |  |  |  |  |  |
| BIO 2 - Intro to Molecular BIO | Nat Sci |  |  |  |  |  |  |  |  |
| CHEM 2 – General Chemistry II [4 units] | Nat Sci |  |  |  |  |  |  |  |  |
| CHEM 8: Principles of Organic Chemistry [4 units] | Nat Sci |  |  |  |  |  |  |  |  |
| CHEM 10: General Chemistry II [4 units] | Nat Sci |  |  |  |  |  |  |  |  |
| MATH 11 – Calculus I for BIO | Nat Sci |  |  |  |  |  |  |  |  |
| MATH 12 – Calculus II for BIO | Nat Sci |  |  |  |  |  |  |  |  |
| Statistics Course: MATH 18 or PSY 10 | Nat Sci |  |  |  |  |  |  |  |  |
| PHYS 18 – Intro Physics I for BIO | Nat Sci |  |  |  |  |  |  |  |  |
| PHYS 19 – Intro Physics II for BIO | Nat Sci |  |  |  |  |  |  |  |  |
| Computer Science Course: CSE 5, 20 or MATH 15 | Nat Sci |  |  |  |  |  |  |  |  |
| **PH Required Courses - Upper Division (20 units)** |  |  |  |  |  |  |  |  |  |
| PH 100: Introduction to Epidemiology | Public Health |  |  |  |  |  |  | X | X |
| PH 105: Introduction to US Healthcare System | Public Health | X |  |  |  |  |  |  |  |
| NEW Health promotion and behavior | Public Health |  |  | X |  |  |  | X |  |
| PH 185 Health care ethics | Public Health |  |  |  |  |  |  |  | X |
| PH 111 Environmental Health | Public Health |  | X |  |  |  |  |  |  |
| **Research /Medical Requirement (8 units)** |  |  |  |  |  |  |  |  |  |
| PH 108 Introduction to Health Care | Public Health | X | X | X | X | X | X | X | X |
| PH 181 Public Health Research | Public Health | X | X | X | X | X | X | X | X |
| **Specialty Upper Division Required Courses (3 courses: 12 units)** |  |  |  |  |  |  |  |  |  |
| Infectious disease option:   * BIO 110-Cell biology * BIO 151-Immunology * BIO 120 -Microbiology | Nat Sci  Nat Sci  Nat Sci |  |  |  |  |  |  |  |  |
| **Optional courses (1 course from the following: 4 units)** |  |  |  |  |  |  |  |  |  |
| Infectious disease option:   * BIO 127-Virology * BIO 122 – Microbial Pathogenesis\*\* * BIO 123- Human Parasitology\*\* * Insect and Public Health | Nat Sci  Nat Sci  Nat Sci  Nat Sci  Public Health |  |  |  |  |  |  | X |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Year 1** |  | **Year 2** |  | **Year 3** |  | **Year 4** |  |
| **1** | **2** | **1** | **2** | **1** | **2** | **1** | **2** |
| *CHEM 2 – General Chemistry I* | CHEM 10 – General Chemistry II | BIO 1 – Contemp Bio | BIO 2-Intro to Molecular BIO | *Statistics Course* | SP R 1 | SP R 2 | SP O 1 |
| *MATH 11 – Calculus I for BIO* | MATH 12 – Calculus II for BIO | CHEM 8 – Organic Chemistry | *PHYS 18 – Intro Physics I for BIO* | Physics 19 – Intro Physics II for BIO |  | SP R 3 |  |
| PH 1 - Intro to Public health | Health promotion | Epidemiology | PH 185 Health care ethics | Environmental Health | Intro health care system | PH 108 | Research/service learning course |
| WRI 10 | CORE 1 | Computer Science Course | Arts/Humanities GE | Soc Sci GE | UD Writing GE | UD SSHA GE |  |
| Infectious disease | Required | BIO 110-Cell biology | BIO 151-Immunology | BIO 120 -Microbiology |  |  |  |
| Options (1 of 4) | BIO 127-Virology | BIO 122 – Microbial Pathogenesis\*\* | BIO 123- Human Parasitology\*\* | Insect and Public Health | Public Health Genetics |  |

Appendix C

**Public Health Graduate Program PhD**

|  |
| --- |
| **1st year courses** |
| Research Methods in Public Health |
| Environmental Health |
| Epidemiology |
| Health behavior and promotion |
| Intro to Statistics/Biostatistics |
| Social Epidemiology |
| PH Seminar |
| **2nd year courses** |
| Health Communication |
| Health Psychology |
| Intervention design and evaluation |
| Health Care Organization |
| Statistics II |
|  |
| **Optional courses (3rd year)** |
| Health Disparities |
| Selected courses from Sociology Graduate Program |
| Selected Courses from Health Psychology Graduate Program |
|  |
| Advanced research methods |
| PH Seminar |
| Thesis research |