

# Proposal for a New Academic Minor in Population and Public Health

## Background and Purpose

In contrast to clinical medicine which focuses attention on individual patients, public health is concerned with the health of populations. Its efforts to control disease rely primarily on prevention rather than on curing individual patients. The Association of Schools of Public Health defines public health as, “the science and art of protecting and improving the health of communities through education, promotion of healthy lifestyles, and research for disease and injury prevention” ([www.whatispublichealth.org](http://www.whatispublichealth.org)). The responsibilities of public health professionals cover a wide range of services, including identifying the cause of a disease outbreak, monitoring air and water quality, vaccinating a community, preparing for emergencies, and inspecting restaurants. The emergence of public health as a distinct field may be dated to the 19<sup>th</sup> century with such events as the creation of the smallpox vaccine and the discovery that a London cholera outbreak could be traced to a single neighborhood water pump. In recent years, public health has taken on a broader set of issues such as social inequalities and global environmental challenges, and is increasingly insistent on scientific, “evidence-based” research and interventions.

With its foci on the common good and on protecting the public, particularly those who are disadvantaged, an education in population and public health prepares students for careers consistent with the John Carroll vision statement, to “graduate individuals of intellect and character who lead and serve by engaging the world around them and around the globe” ([www.jcu.edu/about/vmc2.htm](http://www.jcu.edu/about/vmc2.htm)). The university’s core values that are especially relevant to an education in public health include:

- A culture of service and excellence that permeates every program and office.
- A commitment to sharing our gifts in service to each other and the community.
- A campus that responds to demographic, economic, and social challenges.
- An appreciation that our personal and collective choices can build a more just world.

Because of its emphasis on action and service, an education in public health helps accomplish the goal of a JCU education:

The hallmark of this person-centered reality of Jesuit education is that it must always lead to action. Students are encouraged to use their knowledge and abilities in service to the world; to make a difference for others. In a world so desperately in need of life and hope, our students and graduates are challenged to be leaders in the service of all (<http://www.jcu.edu/academics/>).

Formal education in public health has until recently primarily been at the graduate level. In 2003, the Institute of Medicine of the National Academy of Sciences issued a report recommending that all undergraduates be provided access to education in public health as a way to improve citizen understanding of the issues involved in creating a healthier

society. This charge was taken up by the American Association of Colleges and Universities and the Association for Prevention Teaching and Research, and the Council of Colleges of Arts & Sciences in a collaborative project, *The Educated Citizen and Public Health*. Combining the Institute of Medicine charge with the emphasis on learning outcomes from AAC&U's National Leadership Council for Liberal Education and America's Promise (LEAP),<sup>1</sup> this project raised awareness and provided resources, including curricular recommendations, to encourage a dramatic expansion of undergraduate-level public health education. The result has been an increase in majors, minors, and concentrations in public health at American colleges and universities (see Appendix B). This proposal draws upon the recommendations, resources, and reports of that project.

The interest in public health education at JCU, however, not only comes from its promotion by national organizations, but also arises from student interest. Like their peers nationally, JCU students appear to be increasingly aware of public health as a possible career. In recent years, graduating JCU students have been accepted into some of the top graduate programs in public health in the country, including Emory, University of Pittsburgh, University of Michigan, Yale, and Tulane. At least five students from the classes of 2008 and 2009 are currently enrolled in MPH programs. Such positions are likely to become increasingly competitive in the future. We can help our students remain competitive by offering basic public health courses and indicating this on their transcripts as a minor. We have also had several students enter JCU in the past few years who already have an interest in public health. Assuming that the numbers of such students will increase as the field expands and becomes better known nationwide (for example, with increasing emphasis on prevention in the recent health care reform bill), the existence of a minor in public health will help us attract such students to JCU.

A minor in public health adds a new area of interdisciplinary study to John Carroll's curriculum. Since the field deals with the biological, social, environmental, ethical, cultural, and public policy influences on a population's health, one of the necessary skills of public health practitioners is to think critically about problems utilizing a range of approaches. Application of public health knowledge involves the ability to work in multidisciplinary settings and to think in interdisciplinary ways. The report of *The Educated Citizen and Public Health* project explains,

At its best, the study of public health combines the social sciences, sciences, mathematics, humanities, and the arts, while serving as a vehicle for the development of written and oral communication skills, critical and creative thinking, quantitative and information literacy, and teamwork and problem solving. It incorporates civic knowledge and engagement—both local and global, intercultural competence, and

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<sup>1</sup> National Leadership Council for Liberal Education and America's Promise (LEAP) calls on American society to give new priority to a set of educational outcomes that all students need from higher learning:

- knowledge of human culture and the natural and physical world
- intellectual and practical skills
- individual and social responsibility
- integrative learning.

ethical reasoning and action, while forming the foundation for lifelong learning. The study of public health, in other words, is a model for the implementation of a capacious vision of liberal education ([http://www.aacu.org/public\\_health/project\\_rationale.cfm](http://www.aacu.org/public_health/project_rationale.cfm)).

Furthermore, a public health minor plays to local strengths. In this era of global specialization, Cleveland's economic future is increasingly thought to be in the medical sector. We have here an amazing array of resources not only in Cleveland's well-known medical institutions, but also in our three local health departments (Cuyahoga County, Cleveland, Shaker Heights) and in the strong non-profit sector. On campus, John Carroll has long had a strong pre-health professions program as well as existing courses in a number of departments that are relevant to the field of public health.

For all of these reasons, a small group of faculty (Lissemore and Johnson from Biology and Barnes and Long from Sociology) have been meeting to explore the possibility of a public health minor at JCU, and were charged by Interim Dean Beth Martin in spring of 2010 to prepare a formal proposal to submit to the administration and Faculty Council. We are choosing to call this minor Population and Public Health due to the shift among some experts in the field, including those involved in *The Educated Citizen and Public Health*, to re-label public health as population health. The concept of population health is not yet well-known among students and the general public, so we believe it best to retain the term "public health" in the title while still indicating an awareness of trends in the field. In preparing this proposal, we have had discussions and met with faculty, chairs, and administrators at JCU. We have additionally consulted with JCU alumni, administrators of MPH programs in Ohio and Pennsylvania, Cuyahoga County Health Commissioner Terry Allen, and people at a variety of agencies at which students might be placed in internships.

### **Course of Study**

The Population and Public Health (PPH) Minor is open to students in any major. Although we anticipate most PPH students will major in Biology, Sociology, or Political Science, it will also be of interest to students in Communications, Education, Chemistry, Business, and the new major being proposed in Health Information Management. The PPH minor is designed to introduce students to the following core areas of public health ([www.whatispublichealth.org](http://www.whatispublichealth.org)):

- Epidemiology and Biostatistics
- Environmental Health
- Social and Behavioral Science
- Health Policy
- Global Health
- Public Health Practice

The curriculum consists of 10 credit hours of prerequisite courses that will simultaneously fulfill divisional JCU core requirements, plus 25-26 credit hours in the minor, as follows:

- Prerequisite courses (10 credit hours)
  - **Biology:** Choose BL112 + BL112L (Human Biology with lab) with a grade of B *or* better OR BL156 + BL158 (Principles of Biology 2 with lab)
  - **Statistics:** Choose MT122 (Elementary Statistics 1), MT228 (Statistics for the Biological Sciences), MT 229 (Probability and Statistical Inference), *OR* EC208 (Business & Economic Statistics) with grade of C or better
  - **Social and behavioral science:** Choose SC101 (Introductory Sociology) *OR* SC245 (Introduction to Anthropology)
  
- Requirements for the minor (25-26 credit hours)
  - SC273 **Public Health** in US Society (prerequisite is SC101 or SC245; 3 credit hours)
  - AR2xx **Current Issues** in Public Health (1 credit hour; must be taken at least once and repeatable for up to 3 credits, to be taught as an overload by PPH faculty. See below for course description.)
  - BL2xx **Epidemiology** (prerequisite is statistics with C or better grade; 3 credit hours. See below for course description.)
  - **Environmental studies:** Choose one from BL109/109L (Environmental Biology with lab for non-science majors; 4 credit hours), SC290 (Environmental Sociology; 3 credit hours), SC380 (Environmental Justice Movements; 3 credit hours), *OR* PO361 (Environmental Politics & Policy; 3 credit hours)
  - **Social & behavioral health:** Choose one 3-credit course not taken to fulfill other PPH requirements from BL260 (Poverty & Disease), SC275 (Family Violence), SC285 (Aging, Health & Society), SC315 (Sexuality & Society), SC 343 (Drugs & Crime), SC370 (Medicine & Culture), SC385 (Poverty & Social Welfare), *OR* PS226 (Drugs & Behavior)
  - **Policy studies:** Choose one 3-credit course not taken to fulfill other PPH requirements from PO204 (Introduction to Policy Studies) , PO309 (Budget & Social Welfare Policies), *OR* PO3xx (Crisis Mapping, offered as PO397 Spring 2011)
  - **Global health:** Choose one 3-credit course not taken to fulfill other PPH requirements from BL260 (Poverty & Disease) *OR* SC370 (Medicine & Culture)
  - **Public health practice:** AR4xx (capstone course) Internships in Public Health (prerequisite is senior standing and completion or co-registration with all PPH required courses; 3 credit hours. See below for course description.)
  - **Elective course:** Choose one 3-credit course not taken for other PPH requirements from BL260 (Poverty & Disease), BL310 (Microbiology), BL410 (Infection & Immunity), PE200 (Current Health Issues), PO309 (Budget & Social Welfare Policies), PO3xx (Crisis Mapping), PS226 (Drugs & Behavior), SC275 (Family Violence), SC285 (Aging, Health &

Society), SC315 (Sexuality & Society), SC330 (Social Stratification), SC 343 (Drugs & Crime), SC370 (Medicine & Culture), SC385 (Poverty & Social Welfare), (PL or RL) Bioethics, *OR* others as approved by Advisory Committee in the future; see Appendix C)

- Courses to be developed
  - BL2xx Epidemiology This course was approved by the Biology Department in Fall 2010 and is being sent to the Dean for approval. It will be taught for the first time in Fall 2011. This course will be part of Dr. Erin Johnson's regular rotation of classes. (See draft syllabus, Appendix D.)
  - AR2xx Current Issues in Public Health This 1-credit course will be offered as an overload by PPH faculty members. It will direct attention to current issues in public health current events and research. The course will require weekly readings, one or more short papers, and responsibility for presentation of approved material for one week of the semester. Course may be repeated for up to 3 credits but will not substitute for additional PPH requirements. Plan to submit course proposal to the Dean of the College of Arts & Sciences by the end of December 2011.
  - AR4xx Internships in Public Health This course will be rotated among faculty involved in the PPH minor. Preliminary work on developing this course, including identifying agencies for placing students in supervised, educational internships (see Appendix E), began in Fall 2010. It will follow the successful model of SC475 developed by Dr. Penny Harris which includes a weekly seminar, writing assignments, and faculty site visits. Until there is a critical mass of students, internships will be taught as independent studies or through SC475.
  - Additional courses may be added to the minor with the approval of the PPH Advisory Committee upon review of the faculty member's justification for inclusion and the syllabus for public health content. A number of potentially relevant new courses are currently under development, as indicated in Appendix C.
  - We also anticipate the development of a field-based course in global health, possibly in conjunction with the John Carroll Center for Service and Social Action (CSSA)'s Honduras immersion program and/or study abroad programs (see Appendix F).

## **Organization and Administration of the Program**

### **Job Description for Director**

The director of the PPH minor will be a person with interest and basic knowledge of public health and pre-health professions advising.

The position will require:

- Advising PH minors, certifying completion of minor, and maintaining student records in Banner
- Coordinating the availability of required courses with and among departments
- Providing current information about careers in public health that is available to students
- Providing advice and assistance to students applying to graduate programs in public health or related fields, including information on various programs, their requirements, financial aid opportunities, and the application process for admissions and financial aid
- Maintaining records of internships and community contact information and providing staff assistance in making arrangements for placements and site visits
- Maintaining a PPH minor website
- Collection and management of data used in assessment and evaluation
- Reporting to Dean of the College of Arts and Sciences

We propose that these responsibilities fall under position of the Pre-Health Professions Director (PHPD) beginning January 1, 2012. Plans have not been finalized for replacing the current PHPD when she retires in May, and we are concerned that a person new to the position will have a great deal to do when s/he starts (most likely in Summer 2011). In the interest of getting the PPH minor operating as quickly as possible, we suggest that for Fall 2011 only, a faculty member who teaches in the minor be given a course load reduction to set up the program. The responsibilities of that person would include:

- All of the responsibilities listed above of the director's position
- Work with the JCU webmaster to develop a webpage for the program
- Develop print materials for use by Admissions and student advising
- Work with Admissions on recruitment of students
- Working with Registrar to establish minor and PPH designation in Banner
- Develop a file of materials on MPH programs
- Develop a file of material on public health jobs and careers
- Work on developing syllabus and placements for capstone course
- Develop framework for current issues course
- Create framework for assessment and evaluation; develop self-assessment survey and reflective essay questions (See Assessment below.)

Both the director and interim director will be assisted by support staff and possibly work-study students to accomplish these responsibilities.

## **Recommended Line of Reporting**

Reporting will be to the Dean of the College of Arts & Sciences.

## **Advisory Board**

An advisory board will be appointed by the Dean of the College of Arts & Sciences for staggered three-year terms. The board will consist of seven members as follows:

- Pre-Health Professions Director, chair
- 4 faculty members who teach in the program from at least 2 departments
- 2 outside members who are directly engaged in public health research or practice

## **Three-Year Plan**

### **Assessment Plan**

#### ***Student Learning Outcomes***

After completing the Population & Public Health Minor, students will be able to:

1. Define population and public health and identify the significance of the core areas of public health to its goals
2. Explain how the American public health system operates at federal, state, and local levels
3. Discuss issues in public health policy
4. Demonstrate familiarity with the concepts and uses of epidemiology to understand the prevalence and distribution of disease
5. Discuss the impact of differences in social class, sex/gender, and culture on individual and population health
6. Identify key environmental issues related to health
7. Provide detailed examples of the way lifestyle choices impact health
8. Analyze and discuss ethical issues in public health
9. Identify issues in the health of populations outside the United States and their relation to the global distribution of wealth, environment, travel and immigration, and other factors
10. Explain how and when public health professionals have responsibilities to intervene in health-related emergencies, including disease outbreaks and the health impacts of natural disasters
11. Demonstrate interdisciplinarity in the application of course concepts to real-world public health work in a supervised internship

**Methods of assessment:**

- Successful completion of all course and internship requirements. Appendix G provides a curriculum map showing the expected relationship between PPH courses and the above learning outcomes.
- Successful performance in internship as jointly evaluated by on-site supervisor and JCU instructor
- A portfolio consisting of the following two items. These will be developed by the program director and advisory committee in Fall 2011.
  - A short self-assessment instrument of items drawn from the above learning outcomes administered at the beginning and end of the introductory course (SC273) and at the end of the capstone course
  - A reflective essay administered at the beginning of SC273 and at the end of the capstone course

Note: There are no standardized tests for undergraduate public health study.

**Program evaluation and review:**

- Course evaluations from the introductory, epidemiology, and capstone courses
- Student enrollment in introductory, epidemiology, and capstone courses
- Number of students completing the minor
- Proportion of students completing the minor who within 5 years of graduation enter MPH or other professional programs, who obtain jobs in the field, or who engage in service work (See Appendix H for summary of graduate school requirements for MPH programs.)
- Student assessment instruments (self-assessment surveys and reflective essays)

### **Budget Expenses**

**Faculty:** no new faculty, added part-time costs = 1 course/year for capstone @\$3750  
For first year only, one course load reduction for interim director @\$3750

**Administrative & Staff support:** PHPD secretary, work-study @ approx. 2 hours/week  
(Banner access and input to student records @ 0.5 hours/week; collect and collate assessment data, travel reimbursements, program website updating, etc. @ 1.5 hours/week)

**Capital equipment:** none

**Library support:** needed books and major journals in the field are already available in Grasselli or Ohiolink

### **Annual operating expenses:**

- Travel—conference travel @\$2000/year (1 conference/year rotated among interested faculty regularly (or begin to regularly) teach PPH courses
- Supplies—none
- Programming—none planned
- Internship costs—mileage and parking for internship supervision @\$100/year
- Combined membership for Pre-Health Professions Director in the American Public Health Association (APHA) and the Ohio Public Health Association (OPHA) @\$250

### **Budget Revenue**

***Projected Enrollments:*** The planning committee estimates that once the program is known and marketed, we will have approximately 10-15 students minoring in public health. Brian Williams, VP for Enrollment, reports that according to college board data, among high school seniors nationwide who took the SATs this year, 7286 indicate an interest in public health and/or health care. By state, the greatest volume of interest is (in order) in: Florida, California, Illinois, Texas, Michigan, and Ohio. Since JCU historically draws from three of these six pools, this program appears to be a good match for growing awareness of and interest in public health. We anticipate that having the minor will encourage interest in JCU and that perhaps several students per year will take a closer look at JCU when they are making enrollment decisions.

***Documentation of similar programs at overlap schools:*** Please see Appendix B.

***Likely demand for graduates by employers:*** Public health is an expanding field and with increasing emphasis in health care on prevention, environmental health, emergency preparedness, and health education, this expansion is likely to continue. Many people employed as public health professionals have MPH degrees. In addition, discussions with Terry Allen, Health Commissioner for Cuyahoga County, and others working in the field indicate that there is a need for people with a wide range of skills at all levels, including social media marketing, analysis of epidemiological data, management and

human resources, grant-writing, and community organizing. A public health minor combined with knowledge and skills developed in a major will help prepare students for employment in this sector.

### **Marketing and Communication Plan**

This is a totally new program that brings together courses, students, and faculty from a number of departments to address population and public health through an interdisciplinary approach. The director of the PPH minor, with assistance from staff, will develop and regularly update a website and print materials describing the purpose and the requirements of the PPH minor, along with contact information. This information will be available to students, prospective students, and the general public through the JCU website, JCU social media, the JCU Bulletin, and as handouts for students and prospective students.

The director and other members of the advisory committee will work with Admissions to assist in student recruitment to JCU. In addition, during the first year, the director will meet with as many departments (or their chairs) as possible to introduce the new minor and discuss ways it can interface with departmental majors for the benefit of students.

## **Letters of Support**

### **Letters from Chairs of Key Departments**

Dr. James Lissemore, Biology

Dr. Penny Harris, Sociology

Dr. Doug Norris, Mathematics & Computer Science

Dr. Dean Birch, Political Science

### **Letter from Academic Dean**

Dr. Jeanne Colleran

### **Letter from AAVP for Planning and Assessment**

Dr. Nick Santilli

### **AAVP for Academic Programs**

Dr. Lauren Bowen

## **Appendices**

- A “Overview” from *The Educated Citizen and Public Health***
- B Undergraduate programs at other schools**
- C Possible future courses under consideration**
- D Proposed Epidemiology syllabus (new course)**
- E Description of capstone course with list of internship sites**
- F Study abroad options for PPH Global Health Requirement**
- G Curriculum map**
- H Graduate school requirements (MPH)**

## Appendix A

### The Educated Citizen and Public Health

#### OVERVIEW

An understanding of public health issues is a critical component of good citizenship and a prerequisite for taking responsibility for building healthy societies. At its best, the study of public health combines the social sciences, sciences, mathematics, humanities, and the arts. At the same time, it serves as a vehicle for the development of written and oral communication skills, critical and creative thinking, quantitative and information literacy, and teamwork and problem solving. It incorporates civic knowledge and engagement—both local and global, intercultural competence, and ethical reasoning and action, while forming the foundation for lifelong learning. The study of public health, in other words, is a model for the implementation of a capacious vision of liberal education.

The Educated Citizen and Public Health Initiative serves the broader higher education community, setting the stage for integration of public health perspectives within a comprehensive liberal education framework. The Initiative simultaneously aims to fulfill the Institute of Medicine's recommendation that "...all undergraduates should have access to education in public health." Developed in part by the Association for Prevention Teaching and Research (APTR), the Council of Colleges of Arts and Sciences (CCAS) and AAC&U, the project creates and organizes publications, presentations, and resources to assist faculty to develop public health curricula in all our nation's colleges and universities.

The initiative aims to connect and inform, to bring undergraduate study of integrative public health to all institutions of higher education, to foster interdisciplinary and inter-professional collaboration, and to link to other initiatives that address human health and environmental sustainability.

([http://www.aacu.org/public\\_health/index.cfm](http://www.aacu.org/public_health/index.cfm))

## **Appendix B**

### **Undergraduate programs at other schools**

#### **Observations:**

I have looked at about 25 programs with a minor or concentration in public health or community health, as well as majors at a few schools that do not offer a minor. Here are some impressions:

- Most programs are 18-21 hours, though some seem to go much higher; low was 15
- There is a strong split between programs at universities that have schools of public health (SPH) and those that do not. The former seem to be offering intro MPH classes in core areas to advanced undergrads and do not include a lot of electives. Some are explicitly 5-year BS/MPH programs.
- The non-SPH programs are extremely varied and seem to depend on local specialties and resources. Many are presented as interdisciplinary programs, some of which are housed in a department (Biology, Anthropology, Health and Exercise Science, for example).
- Some but not all of the non-SPH programs have requirements set up as a set of core courses plus electives. The core courses generally include an intro to public health and epidemiology.
- I have sample programs from smaller schools, large schools (all of which have SPH except one), and Jesuit school programs. Smaller schools: College of St. Rose, Elon, Macalaster, Beloit, Alma, Muhlenberg, and Morehouse. Large schools: Boston U, Washington U, Florida, U South Florida, UCLA, George Mason.
- Unless I have missed something, there are four Ohio universities currently offering an MPH, two of which are new programs: Ohio State and the Consortium of Eastern Ohio are the older ones (OSU bills itself as the only accredited SPH in Ohio), Kent State, and Cincinnati. As far as I can tell, neither the Consortium nor Cincinnati offers undergraduate programs. OSU offers a major and minor. Bowling Green has a minor. Private Ohio schools offering public health are Ohio Northern (30 quarter hour minor) and Baldwin Wallace, which has an existing major (47 hours plus prerequisites) and minor (24 hours) in Health Promotion and Education and a proposed major in public health pending approval from the Ohio Board of Regents (46 hours plus prerequisites). The BW programs are offered in the Department of Health and Physical Education.
- Jesuit schools with public health programs are: Canisius (Environmental Literacy and Public Health); Creighton (Arts & Sciences, Department of Health Administration and Policy, 18 hour minor); Georgetown (BS in International Health in School of Nursing and Health Studies); St. Louis University (major and minor in community Health in the School of Public Health); and Santa Clara (Public Health Science major and minor in College of Arts & Sciences). See program requirements for Creighton and Santa Clara on attached page.

**Note: If you are reading this proposal as an electronic document, please see the separate “other schools” document. According to the JCU Help Desk, there is no way to incorporate this table, which needs a landscape orientation for legibility, into the full proposal document without losing the formatting.**

## Appendix C

### Potential Future PPH Courses

The following is a list of potential future courses being considered that could be included in the PPH minor. It is compiled from conversations with departmental chairs and individual faculty members, and with Ted Steiner of the Center for Service and Social Action.

<b>Department</b>	<b>Response from</b>	<b>Contact person</b>	<b>Course or comment</b>
CMLC	Martha Pereszlenyi-Pinter & Kathy Gatto	Martha & Kathy	Spanish for Health Professionals possible
EC	Walter Simmons	Walter	Health Economics (hoping to offer it soon)
EN	John McBratney	John	Science writing course in progress; may offer with part-time instructor as early as spring 2011
MML	Rick Granci	Marc Lynn may have related background	
MT	Doug Norris	Dan Palmer	HIS track now; working toward major; interested in collaborating
PE	Kathleen Manning	Ron Dolciato	Plans to change PE230 from Nutrition for Athletes to broader introduction to nutrition course
PO	Dean Birch	Dean	Health policy course
CSSA	Ted Steiner	Ted	Possible of developing Honduras immersion trip into academic course; or developing a global health on-site course in another location

## **Appendix D**

### **Proposed Epidemiology Syllabus (new course) By Erin Johnson, Department of Biology**

**Principles of/Introduction to Epidemiology BL 2XX**  
**Spring/Fall 20XX**  
MWF

**Instructor:** Erin Johnson, Ph.D.  
**Office:** Biology Dept. W245 (216-397-4253)  
**Contact:** [exjohnson@jcu.edu](mailto:exjohnson@jcu.edu)  
**Office Hours:** TBD

**Text:** TBD

**Prerequisites**

**Statistics:**

A grade of C or higher in one of the following courses:  
MT 122, MT 228, MT 299, or EC 308

**AND**

**Biology:**

BL 155-158 Principles of Biology 1 and 2 **OR** a grade of B or higher in BL 112/112L Human Biology

**Course Description**

Epidemiology, the study of the frequency distribution and determinants of disease in populations, is a fundamental science of public health. BL 2XX will cover the basic epidemiological principles, concepts, and methods used in the surveillance and investigation of global and domestic health-related events. Lectures will be complemented with discussion of historical and current examples from epidemiologic studies. Emphasis will be placed on populations living in resource-limiting settings.

**Course Content**

This course will be divided into three blocks that will span the 14 week semester. The progression through blocks 1 and 2 will provide the foundation required for applying epidemiological principles to specific health issues, *e.g.* infectious disease.

Block:

1. The Epidemiologic Approach to Disease and Intervention
  - a. Dynamics of Disease Transmission
  - b. Measures of occurrence: Morbidity and Mortality
  - c. Effect and association
  - d. Concepts of interaction
2. Using Epidemiology to Identify the Cause of Disease
  - a. Types of epidemiologic studies
  - b. Cohort studies
  - c. Case-control studies
  - d. Estimating risk
  - e. Association and Causation
3. Special topics
  - a. Surveillance
  - b. Infectious disease epidemiology
    - i. Outbreak investigation
  - c. Genetic and molecular epidemiology
  - d. Environmental epidemiology
  - e. Ethical issues in epidemiology

**Learning objectives:**

Develop comprehensive knowledge of the role of epidemiology as a basic science for public health.

- Describe key features and applications of descriptive and analytic epidemiology.

- Understand qualitative and quantitative characterization of an epidemiological event
  - Analyze data by time, place, and person
  - Quantify the association between exposures and outcomes
  - Test hypotheses about causal relationships
- Critically evaluate public health literature through knowledge gained of the basic principles and methods of epidemiology.
- Describe the processes, uses, and evaluation of public health surveillance.
- Develop a foundation for designing valid and efficient protocols (aimed at control and prevention) to address public health problems particularly those related to poverty.

**Assessment:**

	<u>Points</u>
Exam I	100
Exam II	100
Exam III	100
Final	150
Summaries (5)	100
APP	15
	565

<u>% of points</u>	<u>Grade</u>	<u>% of points</u>	<u>Grade</u>
93-100%	A	77-79.9%	C+
90-92.9%	A-	73-76.9%	C
87-89.9%	B+	70-72.9%	C-
83-86.9%	B	67-69.9%	D+
80-82.9%	B-	63-66.9%	D
		<63%	F

Your final grade will be based on 3 exams (100 pts each), 1 final (150 pts), 5 written assignments (20 pts each), and APP (15 pts).

**The final examination will be CUMULATIVE.**

The 5 written assignments will consist of 1-2 page summaries of primary epidemiological literature. A detailed rubric for each assignment will be handed out with each paper.

**Attitude, participation, and performance (APP):**

Your Attitude, Participation, and Performance grade will be assessed with these criteria (which are examples but not all-encompassing): Does the student participate in class discussions? Does the student participate in group problem solving? Is the student disruptive in class? Is the student prepared for class? Does the student arrive on time? Simply showing up for class will not get you the full amount of points.

## **Appendix E**

### **Capstone Course**

The capstone course for the public health minor is required during the senior year (we have not yet determined whether fall or spring semester would be better) as AR4xx. Faculty responsibility for the course would be rotated among interested faculty and would include arranging for and supervision of the internships as well as a regular weekly seminar. Students will be required to complete a weekly journal about their internship experiences, will present a project related to the experience but grounded in public health literature to the class, and write a final reflective essay. Class and internship attendance, attitude, and the assessment of the on-site supervisor will constitute a portion of the course grade.

The following list of agencies is provided to show the potential for a large number and wide variety of internships in Northeast Ohio which can be tailored to students' interests. All of the following agencies have agreed to take senior JCU students minoring in public health, and/or have previously taken JCU students through such programs as the Poverty and Solidarity program.

## **Partial list of agencies for JCU public health student internships**

AIDS Task Force of Greater Cleveland

Phone interview with Tracy Jones, Interim Director

Care Alliance

Have met with Lisa Navracruz, MD

Center for Health Disparities, Case Western Reserve University

Recommendation of JCU Center for Community Service & Social Action (CSSA)

Cleveland Health Department

To be contacted

Cuyahoga County Board of Health

Have me with Mr. Terry Allan, Health Commissioner

Phone discussion with Karen Seidman, RN, MPH, Special Needs Planner

Department of Community Outreach, St. Vincent Charity Hospital

Have met with Lena Grafton, Director

Environmental Health Watch

Have met with Stuart Greenberg, Director

Free Clinic

Phone interview with Melissa Ghoston, Volunteer Coordinator

Huron Road Hospital (various programs)

Recommendation of JCU Center for Community Service & Social Action (CSSA)

MedWish International

Phone interview with Andres Perez-Charnaco, Volunteer Coordinator

School of Public Health, Case Western Reserve University

Have met with Dr. Scott Frank, Director of CWRU MPH program

Have met with Dr. Cathy Stein, Dept. of Epidemiology & JCU alumna

Shaker Heights Health Department

Have met with Dr. Scott Frank, Director

Westtown Physician Center of Fairview Hospital

Have had contact with Laurel Yee, RN, Clinical Manager through CSSA

JCU student will be doing an internship there in Spring 2011

## Appendix F

### Study Abroad Options for PPH Global Health Requirement

More research needs to be done in this area. The following is a preliminary set of options based on internet research, discussion with Ted Steiner, and assistance from Frank Congin in the Center for Global Education.

1. John Carroll University is a member of ISEP, an independent, not-for-profit network of over 300 universities in 45 countries that cooperate in international education and exchange. ISEP programs that have courses in public health include:

- LaTrobe University-Bendigo Australia
- University of western Sydney Australia
- University of Botswana Bostwana
- Brock University Canada
- Aalborg University Denmark
- University of Eastern Finland-Kuopio Finland
- University of Jyvaskyla Finland
- University of Central Lancashire United Kingdom
- University of Plymouth United Kingdom
- University of Sunderland United Kingdom
- University of Ulster United Kingdom

2. Local university programs that may be of interest. We will need to investigate whether and how our student might participate.

- Kent State University School of Public Health has a study abroad program in Geneva, Switzerland
- CWRU in 2010 offered the following short-term study abroad courses in international bioethics that may be of interest:
  - Health and Health Care in Comparative Perspective: Costa Rica and the US
  - International Women's Health Issues: Focus on the Netherlands
  - Public Health Ethics, Amsterdam, The Netherlands
  - Ethical Issues in Public Health and Genetics, Buenos Aires, Argentina

3. Other international programs with public health coursework and field opportunities

- DIS (Danish Institute for Study Abroad), Copenhagen has a one-semester or one-year public health program that focuses on public health in northern Europe

- SIT (School for International Training) in Vermont has several semester-long or summer programs focused on public health in a variety of countries, including Chile, Brazil, India, South Africa, and China.

4. Potential for development at JCU of our own short-term study abroad programs with a public health focus. Ted Steiner of the Center for Service and Social Action currently coordinates a Honduras “immersion experience” with a health care delivery focus. Currently this is not offered for credit, but he has a broad network of contacts in Honduras and other countries in Latin America and would be happy to work with faculty who might want to develop a for-credit course on global public health.

## **Appendix G Curriculum Map Population and Public Health Minor**

Please see following tentative curriculum map. Student learning outcomes identified in the proposal are given in the column on the left. Required courses in the curriculum are across the top of the table. We anticipate the classes indicated will achieve the student learning outcomes at varying levels which should increase as the students advance in the program. The table indicates that by the following numbers:

- 1= at undergraduate introductory level
- 2= at undergraduate intermediate level
- 3= at undergraduate advanced level

**Note: If you are reading this proposal as an electronic document, please see the separate “curriculum map” document. According to the JCU Help Desk, there is no way to incorporate this table, which needs a landscape orientation for legibility, into the full proposal document without losing the formatting.**

## **Appendix H**

### **Graduate School Requirements (MPH)**

The following report was researched and written by Honors Program student Mary Benson who intended to pursue graduate work in public health after graduation. It is included here with her permission.

#### **Summary**

Research on 5 regional schools and 5 additional top-ranked schools (KSU new program does not appear to have any information posted regarding requirements for admission.) Results are:

- a) College graduation; some require undergrad major to be in field related to PH
- b) Most do not show GPA requirement; those that do are a minimum 2.75 at Consortium of Eastern Ohio and minimum of 3.0 at UC-Berkeley; average 3.4 at some of the other top schools.
- c) Most require GRE and show average scores in 50-60<sup>th</sup> percentile or show specific average scores in 500s for verbal and 600s for quantitative, 4-5 on analytical.
- d) Some schools (JHU) and some specific programs have post-graduation work experience requirements.

## MPH Schools and Admission Requirements of Sample Schools

### Nearby programs:

<p>1. University of Michigan 109 S. Observatory St. Ann Arbor, MI 48109 Phone: (734) 764- 5425 Email: <a href="mailto:sph.inquiries@umich.edu">sph.inquiries@umich.edu</a> Web: <a href="http://www.sph.umich.edu">www.sph.umich.edu</a> Deadlines for Application: For Fall 2011, January 15<sup>th</sup>, For Health Management and Policy- December 15<sup>th</sup></p>	<p>-Ranked 5<sup>th</sup> by US News and World Report. -To Apply: Fill our SOPHAS Application, should receive and official admissions decision about 6-8 weeks after sending in the application, admissions are rolling. -Required Materials: Transcript, 3 letters of recommendation, statement of purpose (reason for pursuing graduate degree in public health), test scores. -Average GRE score is in the 60<sup>th</sup> percentile for each of the 3 sections -Degrees offered: Master of Public Health, Master of Health Service Administration, Master of Science*, PhD, Dual- Degree Programs</p>
<p>2. University of Pittsburgh 130 DeSoto Street Pittsburgh, PA 15261 Phone: (412) 624- 3002 Email: <a href="mailto:stuaff@pitt.edu">stuaff@pitt.edu</a> Web: <a href="http://www.publichealth.pitt.edu">www.publichealth.pitt.edu</a> Deadlines for Application: Fall- January 3 Spring- Degree Dependent</p>	<p>-Ranked 11<sup>th</sup> by US News and World Report A graduate degree from an acceptable institution relevant to public health; or a U.S. Bachelors degree from an accredited institution and substantial knowledge in a discipline relevant to public health, through study or experience. -Recommended GRE Score: 500 in Verbal and Quantitative, 4 out of 6 in Analytical. -Degrees offered: Master of Public Health, Doctor of Public Health, PhD, Master of Health Administration, Master of Science, Peace Corps Master's International Track</p>
<p>3. The Ohio State University M-006 Starling-Loving Hall Columbus, OH 43210 Phone: (614) 293-3907 Email: N/A Web: <a href="http://www.cph.osu.edu">www.cph.osu.edu</a> Deadlines for Application: Nov. 30<sup>th</sup>- Intl. Applicants Feb. 1-Domestic, Jan 1 for fellowships</p>	<p>-Ranked 21<sup>st</sup> by US News and World Report -First and Only Accredited College of Public Health in Ohio -Application and 3 letters of recommendation, official transcripts, resume, to SOPHAS (Schools of Public Health Application Service) at <a href="http://www.sophas.org">www.sophas.org</a> -Degrees offered: Master of Public Health, Master of Health Administration, PhD, Master of Science, as well as Dual Degree Programs -Average GRE scores: 1100 between Quantitative and Verbal or better for most specializations, 4.0 on analytical/writing</p>
<p>4. University of Illinois- Chicago 1603 W. Taylor Street Chicago, IL 60612 Phone: (312) 996-6620 Email: <a href="mailto:uicsph@uic.edu">uicsph@uic.edu</a> Web: <a href="http://www.uic.edu/sph/">www.uic.edu/sph/</a> Deadlines for Application: Spring 2011- Oct. 1, Oct 15<sup>th</sup> for supporting materials Summer 2011- Feb. 1, Mar. 1<sup>st</sup> for supporting materials Fall 2011- Feb. 1, Mar. 1<sup>st</sup> for supporting materials</p>	<p>-Ranked 15<sup>th</sup> by US News and World Report -Requirements: A baccalaureate degree from accredited school is the minimum, a masters or doctor degree related to public health is preferred. Additional requirements depending on concentration. -SOPHAS application, personal statement, Resume or CV, 3 recommendations, transcripts, GRE scores. -Recommend GRE score of at least 1000 between verbal and quantitative sections. Higher scores for biostatistics and epidemiology (Usually around 1200) -Degrees offered: Master of Public Health, Master of Science, Master of Science in Clinical and Translational Science, Master of Health Administration, Doctor of Public Health, PhD, as well as joint-degree programs</p>
<p>5. Consortium of Eastern Ohio- Master of Public Health 4209 St. Rt. 44 P.O. Box 95 Rootstown, OH 44272 Phone: (330) 325- 6197 Email: <a href="mailto:pubhlth@neoucom.edu">pubhlth@neoucom.edu</a> Web: <a href="http://www.neoucom.edu/MPH">www.neoucom.edu/MPH</a> Deadlines for Application: January 15<sup>th</sup></p>	<p>-A consortium of five institutions- University of Akron, Cleveland State University, Ohio University, Northeastern Ohio Universities Colleges of Medicine and Pharmacy, Youngstown State. -Requirements: transcripts, 3 letters of recommendations, test scores, \$45 Application fee, 2 years of work in a related field is recommended but not required. -Min. Undergraduate GPA- 2.75, Graduate 3.0 -6 required courses (Public Health Concepts, Biostatistics, Epidemiology, Social and Behavioral Sciences, Health Services Administration, Environmental Health Sciences</p>

**Top Ranked Programs in United States:**

<p>1. Johns Hopkins University          615 N. Wolfe Street          Baltimore, MD 21205          Phone: (410) 955- 3543          Email: <a href="mailto:admiss@jhsph.edu">admiss@jhsph.edu</a>          Web: <a href="http://www.jhsph.edu">www.jhsph.edu</a>          Deadlines for Application:          Full-time program- December 15          Part-time (June Start)- Feb 1          Part-time (Jan Start)- Dec 1</p>	<p>-Ranked 1<sup>st</sup> by US News and World Report          -To Apply: Choose the program, apply online, John Hopkins currently DOES NOT use the SOPHAS application.          -Requirements: for MPH must have a minimum of 2 years, full-time, post-baccalaureate health related work experience, resume, transcripts, 3 letters of recommendation, personal statement.          -Average GRE Scores: No average scores, because the application is considered on the whole.          -Degrees Offered: Masters of Health Administration, Master of Health Science, Master of Public Health, Master of Science, Doctor of Public Health, PhD, Various Degree Programs</p>
<p>2. Harvard University          677 Huntington Ave          Boston, MA 02115          Phone: (617) 432-1031          Email: <a href="mailto:admisofc@hsph.harvard.edu">admisofc@hsph.harvard.edu</a>          Web: <a href="http://www.hsph.harvard.edu">www.hsph.harvard.edu</a>          Deadlines for Application:          December 15 for Fall 2011</p>	<p>-Ranked 2<sup>nd</sup> by US News and World Report          -To Apply: Research programs, request transcripts, fill out SOPHAS application, recommended that the application is submitted 4 weeks before deadline, Apply for financial aid          -Requirements: Some sort of professional training related to public health, or hold a previous graduate degree, resume/CV, personal statement, 3 letters of recommendation, curriculum vitae, test scores          -Average GRE Scores: no minimum scores, around the 60<sup>th</sup> percentile for Quantitative.          -Degrees offered: Master of Public Health, Master of Science, Doctor of Science, Doctor of Public Health, PhD.</p>
<p>3. Columbia University – Mailman School of Public Health          722 W. 168<sup>th</sup> Street          New York, NY 10032          Phone: (212) 342-5172          Email: <a href="mailto:ph-admit@columbia.edu">ph-admit@columbia.edu</a>          Web:<a href="http://www.mailman.columbia.edu">www.mailman.columbia.edu</a>          Deadlines for Application:          For Fall MPH/MS- January 5          For Fall DrPH- December 15</p>	<p>-Ranked 6<sup>th</sup> by US News and World Report          -To Apply: Start the process early, the Mailman school DOES NOT accept the SOPHAS application.          -Requirements: Each department has specific requirements related to work experience, 3 letters of recommendation, test scores, transcripts, personal statement, application fee of \$60, at least a Bachelors degree.          -Average GRE Scores: 581-Verbal, 671- Quantitative, 4.8- Analytical/Writing.          -64% Acceptance Rate, Average GPA- 3.4 (for 2007-2008)          -Degrees Offered: Master of Public Health, Master of Science, Doctor of Public Health, PhD, 10 joint degree programs</p>

<p>4. Emory University- Rollins School of Public Health  1518 Clifton Rd.  Atlanta, GA 30322  Phone: (404) 727-3956  Email: <a href="mailto:admit@sph.emory.edu">admit@sph.emory.edu</a>  Web: <a href="http://www.sph.emory.edu">www.sph.emory.edu</a>  Deadlines for Application:  MPH/MSPH- January 10 (must be received by that date)</p>	<p>-Ranked 7<sup>th</sup> by US News and World Report  -To Apply: Define your interest, (6 Academic Departments, you may select 3 departments on the application), complete an online SOPHAS application.  -Requirements: transcripts, 3 letters of recommendation, test scores, personal essay, research/work/volunteer/honors experience  -Average GRE Scores: 537-Verbal, 653-Quantitative, 685 Analytic (4-Analytic Writing)  - Average GPA-3.4  -Degrees Offered: Master of Public Health, Master of Science in Public Health, Dual Degree Programs (in fields of Law, Nursing, Medicine, Business), PhD.</p>
<p>5. University of California—Berkeley  140 Warren Hall  Berkeley, CA 94720  Phone: (510) 642- 6531  Email: <a href="mailto:sphclass@berkeley.edu">sphclass@berkeley.edu</a>  Web: <a href="http://www.sph.berkeley.edu">www.sph.berkeley.edu</a>  Deadlines for Application:  Electronically postmarked by 11:59 December 1, mailed supporting materials postmarked by Nov. 24<sup>th</sup></p>	<p>-Ranked 8<sup>th</sup> by US News and World Report  -To Apply: Two Applications are required, A UC Berkeley application, and a SOPHAS application, find which department/ joint degree programs which would be of interest.  -Requirements: Bachelors degree from accredited institution, some work experience required for certain areas of concentration, 3 letters of recommendation, transcripts, test scores, statement of purpose  -Average GRE Scores: In the 50<sup>th</sup> percentile, at least a 3.0 GPA  -Degrees Offered: 2 year Master of Public Health, 11 month Master of Public Health, Master of Art in Biostatistics, Master of Science, Doctor of Public Health, PhD, 5 dual degree programs</p>

### General Information

#### Programs

- Most MPH Programs require 45 Credit Hours
- There are a variety of undergraduate backgrounds represented ranging from social sciences, biology and natural sciences, psychology, anthropology, economics and gender studies.
- Due the range of topics pertaining to public health, each background brings a different and important view to the concentrations within a public health graduate program (Johnson 2003).

#### Terms

- SOPHAS (Schools of Public Health Application Service)- This is the common application for a majority of the 44 CEPH certified schools of public health.
- CEPH- Council for Education on Public Health
- ASPH- Association of Schools of Public Health

#### Careers

- 23% went into a hospital setting, or other healthcare setting
  - 15% work for federal, state, or local government
  - 15% went to work in a university setting, as faculty or staff
  - 13% continuing with academic training
  - 9% are with industrial or commercial firms
  - 9% are unemployed and looking for employment
  - 7% are with NGOs, non-profits, or foundations
- (Statistics from 2007-2008, Association of Schools of Public Health, 2010)

#### Average Tuition

- Schools in state: 12,264/year
  - Schools out of state: 18,665/year
- (Statistics from 2004-2005, Association of Schools of Public Health, n.d)

### **Sources Consulted for Appendix H**

Association of Schools of Public Health. (2010). *Frequently Asked Questions*.

Retrieved from <http://www.asph.org/document.cfm?page=727>

Association of Schools of Public Health. (n.d.). *What is Public health?*

Retrieved from <http://www.whatispublichealth.org/index.html>

Johnson, Jeffrey Thomas. (2003, June). *Understanding the admissions process of schools of public health*.

Retrieved from [http://www.asph.org/userfiles/Advisor\\_Admissions.pdf](http://www.asph.org/userfiles/Advisor_Admissions.pdf)

US News and World Report. (2007). *Top public health graduate schools*.

Retrieved from <http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-public-health-schools/rankings>

Websites of Respective Universities