

**DEGREE/PROGRAM CHANGE
FORM C
Form Number: C1685**

Fields marked with * are required

Name of Initiator: Robert Olds **Email:** rolds@unm.edu **Phone Number:** 505 272-9363 **Date:** 10-01-2015

Associated Forms exist? Yes
Initiator's Title **Visiting Professor: Family Community Medicine FCM**
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Branch Admin Phone **505 272 1887**

Proposed effective term

Semester Year

Course Information

Select Appropriate Program
Name of New or Existing Program **(NEW) Bachelor Science Population Health**
Select Category Degree Type **BS**
Select Action

Exact Title and Requirements as they should appear in the catalog. If there is a change, upload current and proposed requirements.

See current catalog for format within the respective college (upload a doc/pdf file)

[Catalog Narrative Final.pdf](#)
[BS PH Four Year Degree Plan.pdf](#)

Does this change affect other departmental program/branch campuses? If yes, indicate below.

Reason(s) for Request (enter text below or upload a doc/pdf file)

NA

Upload a document that includes justification for the program, impact on long-range planning, detailed budget analysis and faculty workload implications.(upload a doc/pdf file)

[BSPH Full Proposal FSUC Changes 11-16-15 Upload.pdf](#)

Are you proposing a new undergraduate degree or new undergraduate certificate? If yes, upload the following documents.

Upload a two-page Executive Summary authorized by Associate Provost. (upload a doc/pdf file)

[CPH 2 Page Executive Summary.pdf](#)
[Full CPH Executive Summary.pdf](#)

Upload memo from Associate Provost authorizing go-ahead to full proposal. (upload a doc/pdf file)

[Memo of Support for BS in Population Health 09-23-15.pdf](#)
[Dr. Morrison BSPH Preliminary Approval Letter.pdf](#)

Bachelor of Science in Population Health

1. Program Description

The Bachelor of Science in Population Health degree transcends the traditionally siloed fields of medicine/health professions and public health/community health/health education by creating a new field entitled population health - which is the liaison between the study of health care systems, finance, health policy and health law, with prevention and wellness in communities. Borrowing from the language of the Interdisciplinary Association for Population Health Science, "It is dedicated to advancing an integrative understanding of multiple determinants of health - biological, behavioral and societal - and the ways in which they interact to produce and maintain health." Population Health Science is the essence of trans-disciplinary science - not solely the combination of multiple disciplines but rather a new science focused on answering complex questions about the sources of health and the causes of illness and disability.

It focuses on the level and distribution of health within populations as well as practical approaches for improvement. It will produce integrated knowledge and action about the societal, behavioral, biological, and organizational system causes of health and disease, the mechanisms through which health is produced, health risks are created and the evidence base for effective policies, health system responses, and public health practices. It requires innovations in upstream and downstream approaches to reduce disparities and improve population health. It requires technological solutions to grass roots problems. It needs practitioners and scientists from different disciplinary backgrounds to come together and *transcend* the limits of their knowledge and expertise to create an entirely new discipline. Graduates will develop skills to promote the health of populations in a variety of domains that comprise the continuum from wellness to health care, from health systems to community systems, from health policy to community policies, and from economic theory to economic practices. Graduates will find homes in business, informatics, engineering, architecture and planning, law, medicine, community advocacy, political organizations, to name a few.

Admission to the Bachelor of Science in Population Health in the College of Population Health

All students seeking acceptance to the College of Population Health must meet requirements for admission to the University. See the [Admissions](#) section of this Catalog for information on University admission requirements.

Applications are only accepted through an online application process. Check the College of Population Health website for application processes. This application is in addition to the application for admission to the University as an undergraduate. Admission to the College of Population Health is rolling which means that applications are reviewed at any time students wish to submit.

All students interested in applying to the College of Population Health and the Bachelor of Science in Population Health are required to complete PH 101 Introduction to Population Health and PH 102 Global Health Challenges and Responses with a cumulative average grade of B between the two courses. Further, students must submit no more than a one page description of why they want to study population health. This document is uploaded as a Word or pdf file through the College website under the Admissions Tab.

Requirements for Graduation

The Bachelor of Science in Population Health is granted to students upon fulfillment of the following:

1. Completion of 120 credit hours of course work of the prescribed curriculum.
2. Completion of the University of New Mexico Core Curriculum.
3. Completion of at least 42 credit hours of upper-division course work. Such courses are numbered 300 or above.
4. Compliance with the minimum residence requirements, as stated in the General Academic Regulations section of this Catalog.
5. A population health track is offered and optional for students who desire a focused area of study. Track hours may vary from 12-15 hours depending on the selected topic and include, but are not limited to: Architecture – The Built Environment; Community Health Education; Health Care Systems; Health Care Finance or Nutrition.
6. Maintenance of an overall grade point average of 2.00 minimum.

Bachelor of Science in Population Health Degree Plan

Year 1

First Semester	Hours
English 110: Accelerated Composition	3
STAT 145: Intro to Statistics	3
PH 101: Intro to Population Health	3
Humanities	3
Social and Behavioral Sciences	3
Total Hours:	15

Second Semester	Hours
English 120: Composition 3	3
BIO 123/BIO 124 Lab: Bio for Health-Related Sciences	4
PH 102: Global Health Challenges and Responses	3
Foreign Language	3
Fine Arts	3
Total Hours:	16

Year 2

First Semester	Hours
Writing and Speaking	3
Physical and Natural Sciences	3
PH 221: Population Health, Community, and Organizational Theory	3
PH 230: Intro to Environmental and Occupational Health	3
PH 241: Fundamentals of Health Care Finance	3
Total Hours:	15

Second Semester	Hours
Social and Behavioral Sciences	3
Humanities	3
PH 201: Population Health Biology	3
PH 210: Essentials of Epidemiology	3
PH 240: Health Systems, Services and Policies	3
Total Hours:	15

Year 3

First Semester	Hours
PH 310: Population Health Research Methods	3
Area of Focus Course	3
Area of Focus Course	3
Free Elective	3
Free Elective	3
Total Hours:	15

Second Semester	Hours
PH 350: Introduction to Health Data Systems	3
PH 360: Population Health Management	3
Area of Focus Course	3
Free Elective	3
Free Elective	3
Total Hours:	15

Year 4

First Semester	Hours
PH 420: Population Health Evidence-Based Practices	3
PH 421: Health Systems Planning I	3
Area of Focus Course	3
Area of Focus Course	3
Free Elective	3
Total Hours:	15

Second Semester	Hours
PH 422: Health Systems Planning II	3
PH 475: Capstone	6
Free Elective	3
Free Elective	3
Total Hours:	15

UNM Core: 37 SCHs

PH Core: 48 SCHs

PH Area of Focus: 15 SCHs

Free Electives: 21 SCHs



Office of the Chancellor
MSC09 5300
1 University of New Mexico
Albuquerque, NM 87131-5001
505.272.5849

1. Program Description

UNM has an opportunity to lead the nation by establishing the only Bachelor of Science in Population Health in the country - all eyes are on us – and the expectation is that we will innovate and evolve with the emerging science of population health.

The proposed Bachelor of Science in Population Health degree transcends the traditionally siloed fields of medicine/health professions and public health/community health/health education by creating a new field entitled population health - which is the liaison between the study of health care systems, finance, health policy and health law, with prevention and wellness in communities. Borrowing from the language of the Interdisciplinary Association for Population Health Science, "It is dedicated to advancing an integrative understanding of multiple determinants of health - biological, behavioral and societal - and the ways in which they interact to produce and maintain health." Population Health Science is the essence of trans disciplinary science - not solely the combination of multiple disciplines but rather a new science focused on answering complex questions about the sources of health and the causes of illness and disability. It focuses on the level and distribution of health within populations as well as practical approaches for improvement. It will produce integrated knowledge and action about the societal, behavioral, biological, and organizational system causes of health and disease and the mechanisms through which health is produced, health risks are created and the evidence base for effective policies, health system responses, and public health practices are developed. It requires innovations in upstream and downstream approaches to reduce disparities and improve population health. It requires technological solutions to grass roots problems. The goal of this new discipline is to stimulate practitioners and scientists from different disciplinary backgrounds to come together and *transcend* their distinct expertise to create an entirely new discipline. Graduates will develop skills to promote the health of populations in a variety of domains that comprise the continuum from wellness to health care, from health systems to community systems, from health policy to community policies, and from economic theory to economic practices. Graduates will find homes in business, informatics, engineering, architecture and planning, law, medicine, community advocacy, political organizations, to name a few.

New Mexico has great health needs and related social determinants. The leading causes of death among New Mexico residents in 2013 were: 1) Malignant Neoplasm (Cancer), 2) Heart Disease, 3) Accidents (Unintentional Injuries), 4) Chronic Lower Respiratory Diseases, 5) Cerebrovascular Diseases (Stroke), 6) Diabetes Mellitus, 7) Chronic Liver Disease and Cirrhosis, 8) Intentional Self-harm (Suicide), 9) Alzheimer's Disease, and 10) Influenza and Pneumonia. Cancer and heart disease account for 41% of deaths in New Mexico; this is largely determined by health-related behavior such as tobacco use, diet-related behaviors, sedentary behavior, and social determinants such as poverty, low

education attainment and under-employment. Though many health-related behaviors may be responsive to prevention initiatives, the need for subsequent treatment services will be required. Population health graduates will be needed at every stage of this prevention – treatment continuum. In addition, there are new and increased workforce demands for graduates with skills such as informatics, health systems management, health policy, and economics - that are not met in their entirety by any of our currently existing educational programs. A workforce comprised of undergraduates with population health degrees can help address the health problems of New Mexico communities, by filling gaps and strengthening the existing health workforce.

The goal of this new undergraduate program is to address workforce development needs by preparing entry-level population health professionals in New Mexico; promote health and reduce disease and disability in New Mexico through community-based prevention efforts in collaboration with the health care system and community partners. We are exposing and educating UNM undergraduate students about population health science through our already approved introductory courses (PH 101 Introduction to Population Health and PH 102 Global Health Challenges and Responses); these two courses will be prerequisites for admission into the Bachelor of Science in Population Health.

The University of New Mexico (UNM) is the state's flagship university with a Health Sciences Center (HSC) dedicated to expanding professional training opportunities to include prevention and population emphases. The proposed program fits well within the future plans of the UNM Health Sciences Center. The HSC is committed to population health and recognizes an expanded approach to the current health care system through prevention, wellness and community-focused teaching, research, and service increases the odds of improving the state's health. Further, the Patient Protection and Affordable Care Act introduces emphases on keeping populations healthy and offers incentives to do so. The proposed Bachelor of Science in Population Health degree is responsive to these dynamics.

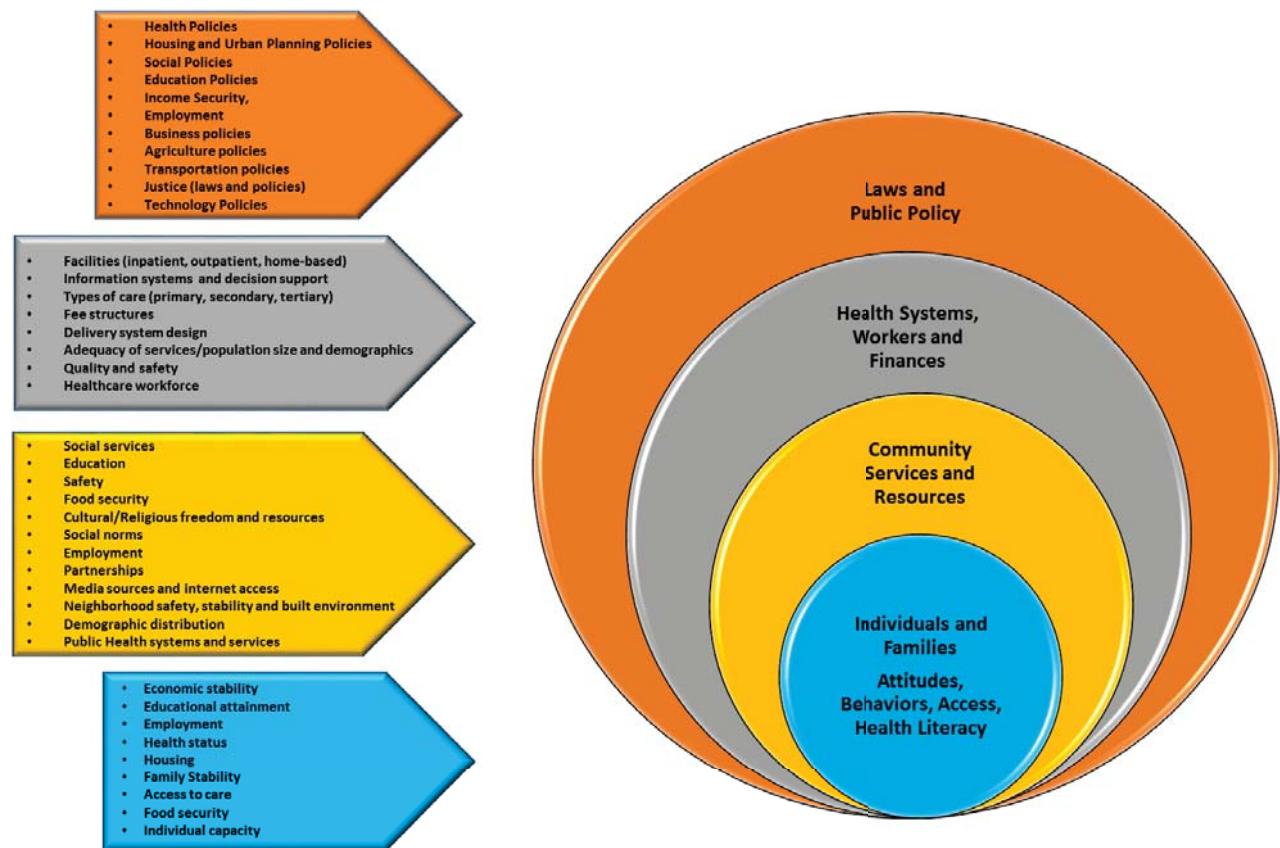
Vision 2020 of the HSC creates the first academic health center strategic plan that focuses on improving New Mexico's population health and health equity as a measure of the institution's success. To fulfill this vision, all colleges, schools, departments and programs at UNM HSC have incorporated into their annual performance plans how their education, service and research enterprises will measurably improve the health of New Mexico. The proposed Bachelor of Science in Population Health program is an excellent fit with the HSC mission. Specifically, among other pledges, "delivering health care of the highest quality to all who depend on us to keep them healthy or restore them to wellness" is a commitment that the proposed Bachelor of Science in Population Health embraces, enables and expands. Further, the HSC has identified that becoming a 'national model for Public Health & Care of Diverse Populations is central to the University 2020 vision'.

The proposed program complements the other UNM HSC professional training programs and could also serve as a feeder to the School of Medicine (SOM), College of Pharmacy (COP) and College of Nursing (CON) programs. Similarly, the Bachelor of Science in Population Health could offer some of the core courses required for entry into these professional degree programs. The proposed Bachelor of Science in Population Health degree will serve as an excellent academic home for students interested in population health and/or health care careers in government and non-government organizations. The proposed degree will be administratively housed in the College of Population Health (CPH).

Program development started June 2014 and will continue, contingent on approval of the full degree proposal, through October 5, 2015. We expect to launch the degree in August 2016 with recruitment starting immediately upon degree approval.

The United States falls far short of other countries in population health indicators, including infant mortality and life expectancy at birth, and its health care spending exceeds that of other industrialized nations by almost three times. Healthcare and public health have increasingly joined forces to create new approaches based in population health to address these national issues and improve community health in new ways. This requires innovations in the way we approach health and engage partners in reducing social determinants, improving wellness and prevention, and in managing chronic disease and complex care. New perspectives such as quality and safety of health care, regulations imposed by the Affordable Care Act for health systems, state governments and insurers make the pursuit of population health more complex. A population health approach requires us to improve upon policies in multiple sectors, improve our information systems and accelerate our ability to use data to predict and measure health outcomes, and consider the influences on economic stability of the businesses that support health and wellness, such as insurance, health care delivery institutions, and employers. A conceptual framework for population health to improve health outcomes depicts nested interwoven and systemic engagement at four levels: 1) individual/family system; 2) community services and resources; 3) health systems, workers and finances; and 4) laws and public policy (See Figure 1).

Figure 1. Conceptual Framework for Population Health



2. Evidence of Need

Employer surveys and interviews across New Mexico have demonstrated enthusiasm and encouraged development of the Bachelor of Science in Population Health (See Appendix A). Approximately 25-30% of NM population health employees are projected to retire in the next five years that will require filling a variety of positions (See Appendices B and C).

“Health care systems in the U.S. are experiencing major changes and these shifts are creating new opportunities and employment prospects for students with population health knowledge and skills,” says Dr. Sue Curry, UI College of Public Health dean. “We also know that many in the health workforce are nearing retirement age, so we need to train the next generation of professionals.”

The emphasis on prevention and wellness in the Patient Protection and Affordable Care Act matches seamlessly with this proposal. Moreover, in 2004 the Institute of Medicine (IOM) recommended “...all undergraduates should have access to education in public [population] health.” An understanding of population health is a critical component of good citizenship and a prerequisite for taking responsibility for building healthy societies. At its best, the study of population health builds on 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, leadership, 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 [population] health, in other words, models a capacious vision of liberal education.”

We believe there is strong evidence of demand for Bachelor of Science in Population Health program graduates. We have conducted extensive interviews with prospective non-government and government employers across the state (See Appendix A). They have overwhelmingly supported our Bachelor of Science in Population Health proposal. Prospective employers of our graduates include: Local health departments; State health agencies; National health agencies; Global health agencies; Hospital systems; Health insurance companies; technology industry executives (locally and nationally) and Non-government agencies. As two examples, the Centers for Disease Control and Prevention is considering UNM CPH as a pilot site for novel curriculum in population health science; the Center for Medicaid and Medicare Innovation has provided New Mexico with a State Innovation grant that calls for workforce development in an entirely new field.

Student recruitment will launch a multi-pronged approach that includes:

- Collaborating with New Student Orientation on Main Campus;
- Developing promotional materials and distributing them at high traffic areas on Main Campus;
- Developing a web site;
- Capitalizing on the relationship we have established with University Advising on Main Campus to promote the degree;
- Working closely with University College that houses some 6,000 undeclared students;

- Making presentations at high school guidance counselors' meetings;
- Partnering with Admissions to be part of their programming to offer visibility and interest for the Bachelor of Science in Population Health degree;
- Collaborating with the HSC Office of Diversity to include population health as a career offering in their Dream Makers programs; and
- Offering PH 101 and PH 102 [Potential UNM core-eligible classes] as a recruiting tool and college revenue stream.

3. Program Content and Quality

There have been exceptional contributions to the thinking and planning of this degree program from faculty and staff in many of the individual disciplines that fill a niche in population health. The Bachelor of Science in Population Health Committee members acknowledge that courses in other programs may appear to meet the needs of this program but each of those courses is designed to provide a perspective that is consistent with their own discipline. None of these courses have the underlying foundation and perspective of the new *trans disciplinary* science called population health. The goal of this program is not to be a patchwork quilt but rather a completely new fabric; with the threads of different disciplines woven together in a way unlike one we have ever known. We are pleased that different departments and units have proposed to develop and offer “areas of focus” for the Bachelor of Science in Population Health - ensuring that we can meet our commitment to collaborate with existing programs.

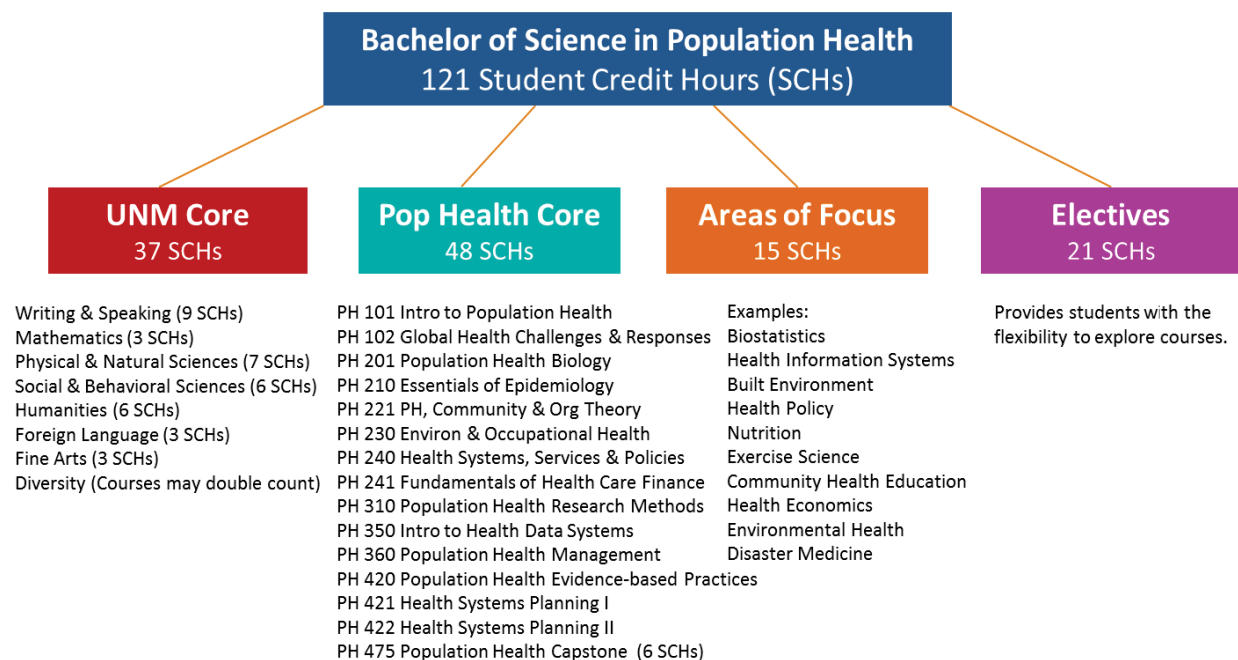
As required, we solicited duplication reviews from colleges, schools and departments across campus. The feedback from units with duplication concerns demonstrated that the unique skills, knowledge and foundations of population health science were not evident in our proposed syllabi. Thus, we have made substantial syllabus modifications to PH 221, PH 240, PH 420, PH 421 and PH 422 that address these duplication concerns. Of course, there are areas of competency that overlap throughout the university such as statistics, and in some of those areas we have chosen to rely on existing courses e.g., STATS 145. Other competencies such as research methods are found throughout the university, leading us to conclude that the minimal overlap is not unusual. Furthermore, our approach to encourage collaboration through the development of “areas of focus” creates opportunities to enhance existing programs, such as Architecture and Planning, with population health principles. This opportunity has been recognized and welcomed by the units proposing to create “areas of focus” mentioned above.

The Bachelor of Science in Population Health program curriculum will emphasize critical thinking, decision-making, technical knowledge, cross-cultural practice, and information analysis and synthesis, to ensure students acquire practical skills to address population health issues and trends in New Mexico, the nation, and globally. Our mission is to improve population health through an innovative, multidisciplinary approach to learning, research and service that fosters collective engagement to address health disparities. We will work closely and collaborate with partners to empower our state to be a leader in advancing population health solutions.

We will develop sixteen (48 SCHs; of the 48, the Capstone is 6 SCHs) new courses with the PH prefix and identify “areas of focus” that will be developed and offered by other campus academic units. We have met with many of these departments to seek their support to develop these “areas of focus” for the Bachelor of Science in Population Health degree. “Areas of focus” include: biostatistics, healthcare analytics/information systems, the built environment, health policy, nutrition, exercise science, community health education, health economics, environmental health, and disaster medicine. Population health students may be interested in

the Health, Medicine and Human Values minor, for example. Pre-health students will use their elective credits to fulfill the prerequisites of the graduate programs. As with all new programs, the initial conception will develop into a program as we gain more experience with student demand and the evolution of the field. (Figure 2 shows the broad configuration of the proposed program.)

Figure 2. Proposed Bachelor of Science in Population Health Program Configuration



Our goal is to ensure that Bachelor of Science in Population Health students will complete their degrees in 4 years. To achieve this goal, the faculty and staff will work closely with each student to make sure that they make consistent progress toward graduation. The new tools developed by the Provost’s office will facilitate this advising responsibility.

In order to accomplish our goal, the Bachelor of Science in Population Health administration will coordinate the scheduling of the courses, including when they are held and how frequently they are offered. We will synchronize course offerings among the courses offered at each Tier (see Figure 3 below). This approach is aligned with all other majors in UNM, in which core courses are taught within the program. Additional courses, for example required minors, electives, and UNM Core are taught by other units.

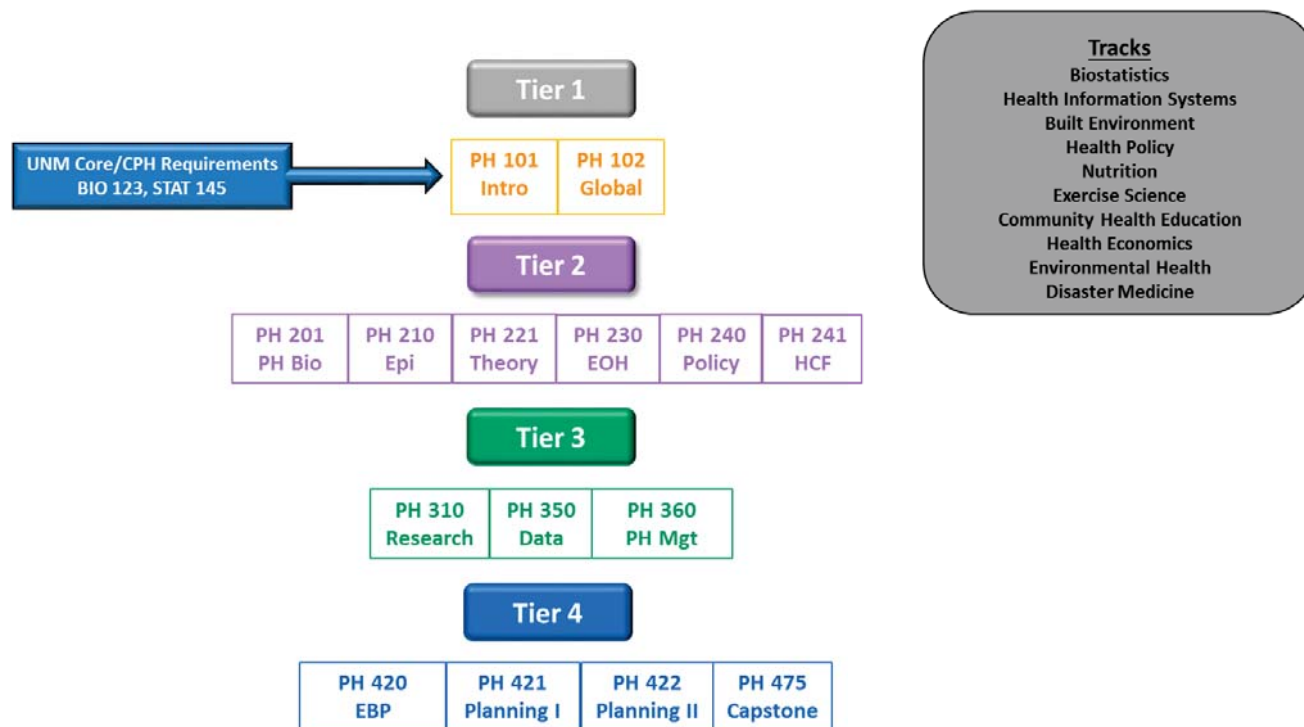
Table 1 shows comparable UNM degrees, credits in core programs, and the unit in which the required courses for the degree are offered.

Table 1

UNM Major	Credits in Major	UNM Department Offering Courses
Psychology	35 SCH +electives	All PSY courses
Economics	33 SCH +electives	All ECON courses
Political Science	36 SCH +electives	All POL courses
Health Education	47 SCHs + electives	All HED courses
Community and Regional Planning	55 (33 SCHs +32 SCHs concentration)	All CRP courses

The design of the curriculum is tiered. Students must take the courses in sequence, as outlined below.

Figure 3. Proposed Bachelor of Science in Population Health Tiered Core Curriculum



The expected student learning outcomes for the program reflect what students will know and be able to do when they complete the Bachelor of Science in Population Health include the following:

1. Analytic Skills
 - Develop and apply critical thinking and analytical skills to population health issues
2. Financial Planning and Management Skills
 - Identify, describe and apply basic financial planning and management skills relevant to population health
3. Community Dimensions of Practice Skills
 - Describe the importance of engaging partners (community organizations, community leaders and members) as equals and apply collaborative principles that solicit and apply community input to improve population health
4. Cultural Humility Skills
 - Describe, demonstrate and analyze concepts of cultural competence, cultural humility and cultural relevance as they apply to population health
5. Policy Development Skills
 - Describe the role of policy and apply its introductory development, implementation and evaluation principles as they apply to population health
6. Program Planning and Management Skills
 - Describe and apply the assessment, planning, implementation/management and evaluation processes to determine priorities for population health interventions
7. Disease Biology Skills

- Describe the biological principles of disease
- 8. Biostatistics/Data/Epidemiology Skills
 - Describe and apply basic epidemiology and statistical principles relevant for introductory population health professionals
- 9. Health Behavior Skills
 - Describe the effect behaviors have on health status and apply interventions to promote healthy behaviors
- 10. Environmental Health Sciences Skills
 - Describe the effects of environmental and occupational exposures on population health and strategies for protection and prevention
- 11. Research Skills
 - Describe the cyclical value of research to inform population health practice and the value of population health practice to inform research
- 12. Population Health Management
 - Understand the health systems innovations required to manage population health
 - Describe ways in which to assess and address systems barriers to value-based care
- 13. Leadership and Systems Integration Skills
 - Describe and apply leadership and systems skills to population health interventions
- 14. Cross Cutting Skills (Those that are taught across the curriculum)
 - Describe and identify ethical principles that apply in all population health sciences
 - Define relevant population health terms
 - Describe the fundamental role that primary prevention serves to advance population health
 - Demonstrate effective communication and information retrieval skills through a variety of essential media to advance population health
 - Describe the principles of preparedness and response to population health emergencies and disasters

The program will be delivered using problem-based, skills-driven, and experiential learning modalities designed to engage students directly with health issues in New Mexico communities and health systems. The faculty will be trained to use state-of-the-art teaching approaches using the Office for Medical Educator Development (OMED) resources. Eventually, much of the course content and delivery could be offered online, should it be financially feasible to do so.

4. Evaluation and Assessment

The proposed governance structure of the program is that a Director of Educational Programs will sustain the Bachelor of Science in Population Health degree implementation and evaluation. The Director will report to the Dean of the College of Population Health.

Learning outcomes will be measured by mapping each course to competencies (student learner outcomes – see above); these will be assessed in each class and at timely intervals over the course of the curriculum. We propose to use “TK 20 at UNM” to conduct learner outcome assessment and will consider *DesignYourCourse.com* software to build syllabi from a degree competencies database. We will utilize regular Bachelor of Science in Population Health internal advisory committee meetings to monitor degree implementation along with internship and employer surveys to assess students’ competence.

5. Required Resources

During the first several years, no new resources will be required to implement the educational offerings. Full time faculty in the Public Health Program and experts in the community will deliver the core Bachelor of Science in Population Health courses. We will use existing campus resources until such time capacity is established in the College to warrant the purchase of our own technology and supplies. There is no need for additional or renovated space at this time. Further, current library resources are sufficient.

6. Projected Enrollment

Because this is a new discipline and a new degree, we have no way to project enrollments. However, based on the experience of other similar state institutions across the US who developed innovative new bachelor's degree programs in public health, we project that the Bachelor of Science in Population Health program is likely to see increases in enrollment within a short period of time. Similarly, UNM's new multi-disciplinary degree in the Arts and Sciences International Studies BA has seen nearly geometric growth (William Stanley, personal communication). The message is that students want programs that provide new perspectives on old problems and give them a solid foundation for employment upon graduation. We anticipate that many of the students in the Bachelor of Science in Population Health will be new students to UNM.

We conservatively project five-year (FY 17- FY 21) Bachelor of Science in Population Health majors as follows:

- Year 1 (FY17): 15 students
- Year 2 (FY18): 30 students
- Year 3 (FY19): 45 students
- Year 4 (FY20): 60 students
- Year 5 (FY21): 120 students

7. Costs and Revenue

a. Revenue

Revenue is calculated using a \$180 Student Credit Hour (SCH) return to CPH and estimated number of students (FYS#) in each class. Table 2 shows revenue projections for FY17-FY21.

Table 2

Course #	Course Name	SCH	Tuition Return	FY 17 Students	Fiscal Year								
					FY 17	FY 18 Students	FY 18	FY 19 Students	FY 19	FY 20 Students	FY 20	FY 21 Students	FY 21
PH 101	Intro to PH	3	\$180	15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400	120	\$64,800
PH 102	Global Health	3	\$180	15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400	120	\$64,800
PH 201	PH Biology	3	\$180	15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400	120	\$64,800
PH 210	Essentials of Epi	3	\$180	15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400	120	\$64,800
PH 221	PH, Community & Org Theory	3	\$180	15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400	120	\$64,800
PH 230	Environ and Occu Health	3	\$180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400
PH 240	Systems & Policies	3	\$180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400

PH 241	Health Care Finance	3	\$180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400		
PH 310	PH Research	3	\$180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400		
PH 350	Health Data Systems	3	\$180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400		
PH 360	PH Mgt	3	\$180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400		
PH 420	Evid-based Prac	3	\$180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400		
PH 421	Health Systems Planning I	3	\$180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400		
PH 422	Health Systems Planning II	3	180			15	\$8,100	30	\$16,200	45	\$24,300	60	\$32,400		
PH 475	Capstone	6	\$180			15	\$16,200	30	\$32,400	45	\$48,600	60	\$64,800		
Total Revenue							\$40,500		\$170,100		\$299,700		\$429,300		\$680,400

b. Costs

Costs are calculated using salary and workload assumptions of .05 FTE per SCH at an average salary of \$100,000 per 1.0 FTE (w/o fringe). Table 3 below shows instructional salary expenses for FY17 - FY21. Most of this salary expense is currently budgeted for existing faculty whose available educational effort is underutilized.

Table 3

Course #	Course Name	SCH	Fiscal Year				
			FY17	FY18	FY19	FY20	FY21
PH 101	Intro to Pop Health	3	\$15,000	\$15,000	\$30,000	\$30,000	\$60,000
PH 102	Global Health	3	\$15,000	\$15,000	\$30,000	\$30,000	\$60,000
PH 201	PH Biology	3	\$15,000	\$15,000	\$30,000	\$30,000	\$60,000
PH 210	Essentials of Epi	3	\$15,000	\$15,000	\$30,000	\$30,000	\$60,000
PH 221	PH, Community and Organizational Theory	3	\$15,000	\$15,000	\$30,000	\$30,000	\$60,000
PH 230	Environmental and Occupational Health	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 240	Health Systems, Services and Policies	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 241	Health Care Finance	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 310	Population Health Research	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 350	Health Data Systems	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 360	Population Health Management	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 420	Evidence-based Practice	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 421	Health Systems Planning I	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 422	Health Systems Planning II	3		\$15,000	\$15,000	\$30,000	\$30,000
PH 475	Capstone	6		\$30,000	\$30,000	\$60,000	\$60,000
Total Costs			\$75,000	\$240,000	\$315,000	\$480,000	\$630,000

Appendix A

List of employers interviewed regarding the Bachelor of Science in Population Health:

- HealthInsight New Mexico, Margy Weinbar, Executive Director
- New Mexico Department of Workforce Solutions, Celina Bussey, Secretary
- New Mexico Economic Development, Barbara Brazil, Deputy Secretary
- Molina Healthcare, Kim Hedrick, Vice President Network Management and Operations
- Presbyterian Healthcare Services, Jim Hinton, President and Chief Executive Officer
- Presbyterian Healthcare Services, Kathy Davis, SVP CNO
- UNM Hospitals, Steve McKernan, CEO
- Albuquerque Area Tribal Epidemiology Center, Kevin English, Director
- Christus St. Vincent Hospital, Kathy Armijo Etre, VP of Mission & Community Health
- Greater Albuquerque Chamber of Commerce, Terri Cole, CEO
- LANL, Michael Brandt, Associate Director, Environmental, Safety & Health Directorate
- New Mexico Health Connections, Martin Hickey, CEO
- New Mexico Hospital Association, Jeff Dye, CEO
- New Mexico Department of Health, various departments

Appendix B ASPPH Undergraduate Job Titles

Adolescent Health	Chief, Trauma Systems and Research
ACA Marketplace Navigator	Child and Family Services Specialist
Account Executive	Childbirth and Lactation Health Educator/ Counselor
Accreditation and Quality Improvement Coordinator	Chronic Disease Staff
Accreditation and Disease Surveillance Coordinator	Public Health Clerk
Accreditation Coordinator	Climate Justice Fellow
Administrative Assistant	Clinic Nutritionist
Administrative Branch Manager	Clinic or Hospital Staff
Administrative Program Director	Clinical Administrative Lead, Bone Marrow Transplant Program
Administrative Specialist	Clinical Associate
Administrator	Clinical Information Manager
Admissions Coordinator	Clinical Research Associate
Advertising and Labeling Project Specialist	Clinical Research Coordinator
Agency Director	Clinical Research Specialist
Air Quality Surveyor	Clinical Service Representative II
Analyst	Clinical Trials Financial Analyst
Assessment Specialist	Clinical Trials Intern
Assistant Administrative Analyst	Coalition Coordinator
Assistant Health Department Director	Coalition Specialist
Assistant Office Manager	Communicable Disease Staff
Assistant Preparedness Coordinator	Communications and Administrative Assistant
Assistant Program Coordinator	Communications Intern
Assistant Program Developer	Communications Manager
Assistant Program Evaluators	Community Health Consultant
Assistant Specialist II	Community Health Corps Member
Associate Director for Policy	Community Health Initiatives Specialist
Associate Director, Viral Hepatitis	Community Health Outreach Worker
Associate Health Policy Analyst	Community Health Planning
Associate Scientist	Community Health Promotion and Improvement
Associate Vice Dean	Community Health Supervisor
Assistant Biosafety Officer	Community Health Worker
Behavioral EAP Account Manager	Community Needs Assessment Assistant
Benefit Analyst	Community Outreach Worker
Bilingual Patient Navigator	Community Program Specialist
Bioterrorism Coordinator	Community Program Specialist Supervisor
BSN, Transitional Care	Community Promotions Specialist
Business Applications Support Technician	Community Service Aid
Business Development and Planning Intern	Constituent Outreach Coordinator
Cancer Program Specialist	Consultant
Care Coordination Supervisor	Content Manager
Care Coordinator (Levels 1-3)	Coordinator
Care Coordinator Chronic Disease	Corporate Affairs
Care Guide	Corporate Communication
Case Management Coordinator	Customer Service Representative
Chair, Arizona Collaborative for Adolescent Health	Data Analyst
Chief Sanitarian	Data Collection

Data Intern
Data Manager
Data Quality Systems Analyst
Demonstrator
Dental Administrator
Dental Care Coordinator
Dental Practice Administrator
Dental Program Coordinator
Department Specialist 3
Deputy Project Manager
Dietitian
Director
Director and State Registrar
Director of Administrative Services
Director of Admissions
Director of Division of Community Health
Promotion
Director of Employee Wellness
Director of Lactation Services
Director of Recruitment
Director of Student Health Services
Director, Projects and Reports
Disease Intervention Specialist
Disease Intervention Technician
Disease Prevention Consultant
Disease Prevention and Control Program
Coordinator
Division Manager
Editorial Intern
Education Development Supervisor
Emergency Planner
Emergency Preparedness Training Drill and
Exercise Coordinator
Emergency Response Coordinator
Emergency Room Technician
Empowerment Evaluator
Emergency Medical Technician Basic
English Teacher
Enumerator in Demographic and Health
Survey
Environmental Analyst
Environmental Consultant
Environmental Health
Environmental Health and Housing Specialist
Environmental Health and Safety Compliance
Specialist
Environmental Health Director and Sanitarian
Environmental Health Officer
Environmental Health Specialist
Environmental Health Supervisor
Environmental Health Technician
Environmental Inspector (Air Quality)

Environmental Protection Officer
Epidemiology Investigator 2
Evaluation and Support Program Director
Evaluation Consultant
Executive Administrative Assistant
Executive Director
Faculty Research Assistant
Field Specialist
Field Unit Manager
Fitness Attendant
Food Safety Instructor
Food Safety Research Intern
Founder/ CEO
Government Operations Consultant II
Government Program
Graduate Advocacy Fellow
Graduate Assistant
HazMat Team Lead
Head Instructor and Office Assistant
Health and Wellness Coach
Health and Wellness Specialist
Health Behavior/Behavioral Science
Health Benefit Assister
Health Care Administration
Health Care Systems Research Consultant
Health Coach
Health Commissioner
Health Communications
Health Department Director
Health Director
Health Disparities
Health Equity Communications Specialist
Health Exchange Navigator
Health Fellow
Health Inspector
Health Marketing
Health Officer
Health Outreach Fellow
Health Planner
Health Policy Analyst Assistant
Health Policy Communications Manager
Health Program Rep. - Disease Intervention
Specialist
Health Services Analyst
Health Services Consultant 3
Health Systems Specialist Intern
Health Workforce Coordinator
Healthcare Access Coordinator
Healthcare Environmental Hygiene and
Infection Prevention specialist
Healthcare Surge Coordinator
HIV & AIDS Consultant

HIV Grants Manager
HIV Prevention Regional Coordinator
HIV Surveillance Program Manager
HIV/STI Surveillance Manager
Homestead Food Production Intern
HR Administrator
HR Director
HR Manager
HR Officer
HR Specialist
Human Services Planner
Human Services Specialist
IEC Activities Manager
Immunization
Immunization Program Specialist
Immunization Registry Coordinator
Improvement Associate
Industrial Health & Wellness Specialist
Infection Prevention Practitioner
Infectious Disease Epidemiologist Intern
Information and Communications Specialist
Information Coordinator
Injury Prevention
Injury Prevention Intern
Intake Specialist
Intern
International/Global Health
IRB Project Coordinator
IT Director
IT Manager
Junior Scientist
Lab Assistant
Laboratory Program Advisor
Laboratory Quality Manager
Laboratory Scientist 3
Lactation Consultant & Regional Breastfeeding
Liaison
Lead Associate, Infectious Disease
Lead Community Health Worker
Lead Substance Abuse Prevention Counselor
Legal Intern
Library Operations Supervisor
Local Emergency Response Coordinator
Management Services Officer
Management/Communications Intern
Manager Environmental Health
Manager of Patient Support Services
Manager, Employee Care Operations
Manager, Epidemiology and Preparedness
Manager, Scientific and Regulatory Affairs
Marketing Sales Rep
Maternal and Child Health

Meal Analyst
Medicaid Project Manager
Medical Assistant
Medical Officer
Medical Reserve Corps Branch Chair
Medical Reserve Corps Coordinator
Medical Scientific Affairs Intern
Medical Scribe
Medical Technologist
MIS Consultant
Molecular Microbiologist-ORISE Fellow
Monitoring and Evaluation Officer
Neuromedical Intern
New Patient Coordinator/Practice Assistant
Nonprofit staff
Nutrition Staff
Nutritionist
Occupational Health and Safety Inspector
Occupational Medicine Program Specialist
Office Manager
Oncology Reimbursement Counselor
Onsite Health and Wellness Specialist
ORISE Fellow
Outreach and Training Coordinator
Outreach Worker
Patient Accounts
Patient Financial Services Representative
Patient Navigator
Patient Service Representative
Patient Service Supervisor
Patient Support Technician
Peace Corps Community Health Volunteer
Peer Educator
Pharmacy Consultant
Pharmacy Warehouse Assistant
Planning Specialist
Policy and Research Coordinator
Practice Management Consultant
Preparedness Specialist
Prevention Specialist
Professional Research Assistant
Program Analyst
Program Assistant
Program Associate
Program Consultant
Program Coordinator
Program Developer
Program Manager
Program Services Coordinator
Program Specialist
Programmer/Analyst
Project Assistant

Project Associate
Project Coordinator
Project Director
Project Lead, Maintenance of Certification
Project Manager
Public Health Administration
Public Health Advisor
Public Health Analyst
Public Health Associate
Public Health Consultant
Public Health Coordinator/Director
Public Health Dental Hygienist
Public Health Inspector
Public Health Intern
Public Health Manager
Public Health Manager
Public Health Microbiologist II
Public Health Office Manager
Public Health Practitioner
Public Health Preparedness
Public Health Program Consultant
Public Health Representative 3
Public Health Research Technician II
Public Health Risk Coordinator
Public Health Specialist
Public Health Technician
Public Health WIC Nutritionist
Publicity/Marketing Manager
Quality Assurance Supervisor
Quality Assurance Analyst
Quality Assurance Manager
Quality Assurance Officer
Quality Improvement and Evaluation
Coordinator
Quality Improvement Coordinator
Quality Improvement Specialist
Quality Management Advisor
Records Clerk
Recruitment Assistant
Refugee Case Manager
Registered Dietitian
Registered Sanitarian
Registration Coordinator
Registration Supervisor
Regulatory Coordinator
Reproductive Health
Research Assistant
Research Associate
Research Coordinator
Research Intern
Research Project Manager
Research Regulatory Specialist

Research Specialist
Research Technician
Researcher, Environmental Health Sciences
Researcher/Writer
Resident Assistant
Resident Medical Officer
Safety Director
Safety Officer
Sanitarian
Scientist
Self-Management Support Consultant
Senior Associate
Senior Center Project Recreation Specialist
Senior Clerk
Senior Communications Specialist
Senior Developer
Senior Director, Public Health Preparedness
Senior Disease Investigation and Intervention
Specialist
Senior EHS Specialist
Senior Environmental Health Officer
Senior Epidemiology Specialist
Senior HS&E Manager
Senior Instructor / Specialist, LEAN
Senior Manager of Policy and Programs
Senior Market Facilitator
Senior Program Analyst
Senior Program Coordinator
Senior Program Manager
Senior Public Health Nutritionist Supervisor
Senior Research Analyst
Senior Research Associate
Senior Research Worker
Senior Sanitarian
Shelter Case Worker
Shelter Worker
Special Needs Oral Health Coordinator
Speech and Language Therapist
Senior Mental Health Practitioner
Senior Administrative Policy
Senior Clinical Trial Associate
Senior Coordinator
Senior Medical Laboratory Technician
Senior Section Administrator
Senior Technician, Newborn Screening and
Genetics
Staffing Specialist
State Registrar, Vital Records
Statistical Analyst 2
Statistical Programmer Analyst
Supervisory Public Health Microbiologist
Support Specialist

Surveillance Coordinator
TB Elimination Division Manager
Teaching Assistant
Team Lead
Technical Officer Health Information
Technical Services
TRACE CORE Research Assistant
Training Consultant
Training Coordinator
Training Development Manager
Trauma Administrator
Trauma and Injury Prevention Coordinator
Travel Biometric Screener
Unit Clerk
Veterinary Technician 2
Viral Hepatitis Prevention Coordinator

Vision Services Coordinator
Vital Statistics Clerk
VP, Group Account Supervisor
Warehouse Specialist
West Nile Control
WIC Coordinator
WIC Director
WIC IT Project Coordinator
WIC Nutritionist
WIC Program Delivery Manager
WIC Vendor Management Coordinator
WIC Warehouse Clerk, Chief
Workforce Development Manager
Youth Suicide Prevention Specialist

Appendix C

The following is a list and short description of job positions at Los Alamos National Laboratory that a candidate with a B.S. in Population Health would be minimally qualified to fill. Jobs at higher levels (2-5) require more years of relevant work experience, in addition to the B.S. degree.

Please note that for many of the positions listed, a person with a Bachelor of Science in Population Health degree, who took courses and laboratory courses in Biology, Chemistry, and/or Physics, may be considered a stronger candidate than one who fulfilled the UNM core requirements for Scientific Methods in the Physical and Natural sciences (two courses, one of which must include a laboratory) with courses such as Anthropology, Geography or Natural Sciences.

LANL Job Family	LANL Job Title	Brief Position Description
Env. Safety Health	Emergency Mgmt./ Response Specialist level ≥ 2	Prepare and respond to events including but not limited to fires, floods, chemical spills or releases, radiation/contamination, severe weather, and illness/ injury. As level increases, there are increased responsibilities associated with data analysis, policy development, and resolution of complex issues.
Env. Safety Health	Emergency Operations Manager level ≥ 2	Plan and manage emergency response programs, including drills and training activities in conjunction with DOE/NNSA/ DHS and other external customers. As level increases, there are increased responsibilities associated with leading the Emergency Operations Center, policy development, and resolution of complex issues.
Env. Safety Health	Emergency Planning and Preparation Specialist level ≥ 2	Provide outreach assistance to federal, state, local and tribal organizations with emergency planning and preparedness activities. As level increases, there are increased responsibilities associated with providing consultant/ subject matter expert services, developing and delivering training, readiness assurance including conduct and continuity of operations.
Env. Safety Health	Environmental Data Steward level ≥ 2	Prepare environmental sample analysis plans. Collect, prepare and organize environmental data, reports, etc. Recommend and perform data conversion, migration/ manipulation, quality control, quality assurance, etc. As level increases, there are increased responsibilities associated with developing concepts, techniques, and standards based on professional principles and theories.
Env. Safety Health	Environmental Field Professional level ≥ 2	Serve as technical advisor for environmental remediation and hazardous waste projects. Conduct engineering studies to evaluate contaminated sites, analyze and recommend technical solutions. As level increases, there are increased responsibilities associated with planning and conducting environmental studies related to contaminated sites and monitoring performance of subcontractors performing remediation projects.
Env. Safety Health	Environmental Management	Perform waste management activities and support for Laboratory facility operations and/or processing,

	Professional level ≥ 2	loading, and shipping activities. Inspect waste storage containers and facilities, characterizing waste, and ensure compliant handling and documentation of solid, liquid, hazardous, radioactive, and/or mixed wastes. As level increases, there are increased responsibilities associated with work on complex issues.
Env. Safety Health	Environmental Manager level ≥ 1	Plan and direct work and personnel for work that may include environmental protection, compliance, pollution prevention, surveillance, remediation, D&D, or waste management functions. As level increases, there are increased responsibilities associated with policy development, negotiating with customers or management, and method/ technique/ evaluation development.
Env. Safety Health	Environmental Outreach & Public Involvement Professional level 2-3	Consult and provide advice, services, process improvements and assessments for environmental outreach and public involvement. Coordinate and perform work tasks associated with processes necessary for ensuring compliance with state and federal laws and legal agreements regarding environmental outreach and public involvement. Serve as occasional liaison between the Laboratory and the public, citizen organizations, and regulatory agencies on community outreach and involvement requirements in environmental compliance and operational areas. As level increases, there are increased responsibilities associated with providing senior- level advice and process improvements.
Env. Safety Health	Environmental Project Manager level 2	Plan, organize, coordinate and manage activities of environmental projects. As level increases, there are increased responsibilities associated with using professional concepts and Laboratory objectives to resolve complex issues.
Env. Safety Health	ESH Manager level ≥ 2	Provide support for individual and combined/directorate programs within environmental, health, and safety functions, to achieve compliance with the Laboratory's environmental, safety and health (ESH) standards and with federal and state regulatory requirements. As level increases, there are increased responsibilities associated with determining organizational objectives, interpretation of Laboratory policies, and development of Laboratory policies.
Env. Safety Health	ESH Professional level 2	Perform work in wide range of environmental, health and safety disciplines to achieve compliance with the Laboratory's ESH standards and with federal and state regulatory requirements. Use full understanding of specialized area plus working knowledge of other related fields. As level increases, there are increased responsibilities associated with developing advanced concepts, techniques, and standards based on professional principles and theories. Viewed as an expert in the field within the Laboratory.

Security	Forensic Drug and Alcohol Technician level 5	Perform qualitative and quantitative analyses of drug and alcohol specimens to determine compliance of donors with relevant Human Reliability Program (HRP), Department of Transportation (DOT), and testing designated position (TDP) federal mandates, and Laboratory substance abuse policies. Interpret, organize, and present data to relational databases for archival and reporting requirements and management of a blind sample and proficiency program to verify equipment and laboratory accuracy.
Env. Safety Health	Health Information Management Specialist level ≥ 2	Perform health information management duties in support of the Occupational Medicine division. Specific duties may include: medical chart preparation and filing, interacting with customers requesting records, providing records as needed to the medical staff, transcribing provider dictation, coding diagnosis and procedures in accordance with standardized coding protocols, managing the health information aspects of the special programs, tracking and managing health information as needed. As level increases, there are increased responsibilities associated with leading development of policies for the health information management team, compiling data for DOE, Bureau of Vital Statistics, and other requesting agencies.
Env. Safety Health	Industrial Hygiene and Safety Professional level 1-2	Develop, recommend, and implement programs, policies, and procedures associated with the recognition, measurement, evaluation, and control of potential health and safety hazards. As level increases, there are increased responsibilities associated with resolution of a diverse range of complex problems where analysis of data requires evaluation of identifiable factors.
Operations Support	Nuclear Materials Specialist ≥ 2	Perform nuclear materials inventory analysis, reporting, forecasting and distribution to meet Laboratory and Department of Energy- (DOE)-level customer needs and requirements. Collect nuclear material inventory data to assist managers in optimizing processing, shipping, storage and disposition of nuclear material. As level increases, there are increased responsibilities associated with the application of sound and expert knowledge of Laboratory special nuclear materials processing, storage, control, disposition and distribution.
Research	Research Technologist level 1-3	Perform work requiring advanced knowledge, customarily acquired by a prolonged course of specialized intellectual instruction in science or engineering, to creatively and independently address research needs. Perform work requiring consistent exercise of discretion and judgment, as distinguished from performance of routine mental, manual, mechanical or physical work. As level increases, there are increased responsibilities associated with communicating results through internal reports, progress

		reports to sponsors, or technical publications in peer-reviewed journals.
Science & Engineering	Scientist 1-2	Apply scientific principles under the scientific method to address technical problems; or to develop novel techniques or principles; or to analyze data or outcomes from experiments (in the real world or in the computational domain) or from observational procedures in the context of the underlying scientific principles or models. Solid experience in a relevant technical discipline is required.
Operations Support	TRU waste sciences manager level 1-2	Support DOE National TRU Program including waste operations, processing, characterization, DOE weapons complex waste inventory and shipping activities. Apply repository relevant policies and procedures to resolve a variety of issues. Use and applies scientific principles, theories, concepts and techniques. As level increases, there are increased responsibilities associated with resolution of problems of diverse scope where analysis of situations or data requires a review of a variety of factors.
Information Services	Writer/ Editor level 1- 4	Plan, write, and edit technical and administrative communication products targeted to both technical and non-technical audiences; may entail original writing based on interviews and background research. As level increases, there are increased responsibilities associated with interpreting more complex information so that it can be understood by non-technical and by non-expert as well as technical audiences.

APPENDIX D
Bachelor of Science in Population Health Degree Plan

Year 1

First Semester	Hours
English 110: Accelerated Composition	3
STAT 145: Intro to Statistics	3
PH 101: Intro to Population Health	3
Humanities	3
Social and Behavioral Sciences	3
Total Hours:	15

Second Semester	Hours
English 120: Composition 3	3
BIO 123/BIO 124 Lab: Bio for Health-Related Sciences	4
PH 102: Global Health Challenges and Responses	3
Foreign Language	3
Fine Arts	3
Total Hours:	16

Year 2

First Semester	Hours
Writing and Speaking	3
Physical and Natural Sciences	3
PH 221: Population Health, Community, and Organizational Theory	3
PH 230: Intro to Environmental and Occupational Health	3
PH 241: Fundamentals of Health Care Finance	3
Total Hours:	15

Second Semester	Hours
Social and Behavioral Sciences	3
Humanities	3
PH 201: Population Health Biology	3
PH 210: Essentials of Epidemiology	3
PH 240: Health Systems, Services and Policies	3
Total Hours:	15

Year 3

First Semester	Hours
PH 310: Population Health Research Methods	3
Area of Focus Course	3
Area of Focus Course	3
Free Elective	3
Free Elective	3
Total Hours:	15

Second Semester	Hours
PH 350: Introduction to Health Data Systems	3
PH 360: Population Health Management	3
Area of Focus Course	3
Free Elective	3
Free Elective	3
Total Hours:	15

Year 4

First Semester	Hours
PH 420: Population Health Evidence-Based Practices	3
PH 421: Health Systems Planning I	3
Area of Focus Course	3
Area of Focus Course	3
Free Elective	3
Total Hours:	15

Second Semester	Hours
PH 422: Health Systems Planning II	3
PH 475: Capstone	6
Area of Focus	3
Free Elective	3
Total Hours:	15

PH Area of Focus:
15 SCHs

Free Electives:
21 SCHs

UNM Core: 37 SCHs

PH Core: 48 SCHs

College of Population Health (CPH)

Health reform requires us to adopt a transformational approach to health. The College of Population Health will train a new workforce to help us achieve this purpose.

What is Population Health?

Population health is a systematic approach to **health** that focuses on disease prevention and wellness. It emphasizes:

- Understanding how social, economic and cultural factors (social determinants) contribute to the health of a population (positively and negatively);
- Applying analytic tools in new ways to describe disease patterns, and identify predictors of health outcomes;
- Using large datasets to assess the effectiveness of social and community interventions and evidence-based models of health care delivery;
- Improving health outcomes by creating effective partnerships between health care delivery systems, public health agencies, community organizations and other entities; and
- Advocating for policies that improve the health of the population.

When applied to health care delivery, a population health approach differs from the conventional health care by emphasizing *value* rather than *volume* of services rendered. Population health differs from public health – what society does collectively to assure the conditions in which people can be healthy – by emphasizing the measurement of health outcomes. Population health is a *connector* that joins public health, wellness, chronic disease management, and complex care into a cohesive system of health.

Value Propositions for the HSC, UNM and New Mexico

If neglected, the growing health disparities in New Mexico will continue to cost the state millions of dollars. The Institute of Medicine estimates that cutting the prevalence of adult obesity by 50 percent—roughly the same reduction that was achieved with smoking in the late 20th century—could cut annual U.S. medical care expenditures by \$58 billion. Additionally, population health is good for families, good for communities, good for health and good for the economy. In 2012, New Mexico’s economy would have been \$24.08 billion larger if there had been no racial gaps in income.

- **For NM** – the CPH will enhance quality of life for New Mexicans by making wellness and prevention the primary focus, helping to address social determinants, and improving patient-centered care
- **For UNM** – the CPH will attract new students to prepare them for highly marketable careers
- **For the HSC** – the CPH will address the transformation required by health reform by achieving value-based purchasing models through population health management, utilizing the health system to closely monitor groups of our patients to maximize quality outcomes and reduce costs through appropriate use of medical resources and innovations in care delivery, and training the workforce needed to implement these new approaches

The CPH Mission, Vision and Values

Our **vision** is to improve health outcomes and address social determinants through innovations in education, health care, research, and service. Our **mission** is to provide the opportunity for New Mexicans to receive a highly inter-disciplinary education to enrich the workforce for the benefit of the health of our communities. We **value** collaborative and diverse partnerships, a culture of shared expectations of excellence, and the trust of our communities to be a source of emerging knowledge and practice

Our goals:

- Synergize with the entire University and our community partners, catalyzing research, education and service initiatives that address population health issues.

- Cultivate relationships with local, state and federal agencies; employers; and community agencies around the state to address social determinants of health.
- Offer undergraduate, graduate and health professional training programs that are experiential in approach, leading to the development of novel new disciplines for the purpose of improving health and wellness. Offer continuing education and training for practicing health providers and community members to assist their transition into the practice of population health.
- Implement and disseminate the best ideas for improving the quality and safety of care, reducing costs and improving the health of populations.
- Translate population health research results into policy and practice.
- Assure that all New Mexicans live healthy lives.

Workforce Needs

Training in population health requires different skill sets and approaches to addressing health outcomes. Health care leaders recognize that having access to a trained workforce will be critical to their success. To determine the current need for population health professionals in New Mexico, we met with business and government stakeholders who view the CPH as a resource to address the *skills gap* in our workforce while providing *education and job opportunities for a New Mexico workforce* to address evolving needs.

- UNM Health System has positions for which population health-trained individuals are eligible.
- Presbyterian Healthcare Services identified a need for trained population health data analytics and technology experts to support their health system.
- HealthInsight New Mexico currently partners with institutions outside NM who provide them with the trained graduates for positions as health care project managers, project coordinators and health data analysts because students with this skillset are not being trained in NM.
- Christus St. Vincent is challenged with finding professionals who understand the complexities of health care delivery and how it relates to population health.
- Los Alamos National Labs needs CPH graduates to replace their retiring population health and environmental health workforce and ongoing training for their current workforce.
- Molina Healthcare stated that population health education in NM is long overdue.
- The New Mexico Department of Health has experienced difficulty in finding qualified candidates at a bachelor's level and spends additional time and resources to train their hires for positions for which a population health graduate would have the skillset walking in the door.

In addition to the employers mentioned above; Bernalillo County Community Health Council, Albuquerque Area Tribal Epidemiology Center, NM Health Connections, NM Hospital Association, NM Public Health Association, Greater Albuquerque Chamber of Commerce, NM Tech Council, Albuquerque NM State Personnel Office, NM Economic Development, NM Department of Workforce Solutions, NM Community Health Councils, NM Department of Health and NM Higher Education Department have all shown overwhelming support for the CPH.

Education

1. Bachelor of Science in Population Health – currently be reviewed by the Faculty Senate Undergraduate Committee. 37 SCHs of UNM Core, 48 SCHs in PH Core, 15 SCHs in an area of focus, and 21 SCHs in electives.
2. Master of Public Health – reaccredited by the Council on Education in Public Health (CEPH) in 2009, 42 SCHs with three concentrations: Community Health, Epidemiology, and Health Systems, Services and Policy.
3. Doctorate in Public Health Sciences – under development. Proposal will be submitted in FY16-17.
4. Population Health Certificate for Health Professionals – will be developed and offer an interprofessional (nursing, medicine, pharmacy, and allied health providers) approach to learning population health competencies.

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- Improving health outcomes by creating effective partnerships between health care delivery systems, public health agencies, community organizations and other entities; and
- Advocating for policies that improve the health of the population.

When applied to health care delivery, a population health approach differs from the conventional health care by emphasizing *value* rather than *volume* of services rendered. Population health differs from public health – what society does collectively to assure the conditions in which people can be healthy – by emphasizing the measurement of health outcomes. Population health is a *connector* that joins public health, wellness, chronic disease management, and complex care into a cohesive system of health.

Why is Population Health Important for the HSC?

HSC's Vision 2020 and beyond states that a measure of the institution's success will be to improve New Mexico's population health and health equity. To fulfill this vision, all colleges, schools, departments and programs at UNM HSC incorporate into their annual performance plans how their education, service and research enterprises will measurably contribute to this goal.

Population health management achieves the goals of health reform and value-based purchasing models. The health system will closely monitor groups of our patients to maximize quality outcomes and reduce costs through appropriate use of medical resources and innovations in care delivery. The CPH will train a workforce needed to implement these new approaches.

Value Propositions for the HSC, UNM and New Mexico

If neglected, the growing health disparities in New Mexico will continue to cost the state millions of dollars. The Institute of Medicine estimates that cutting the prevalence of adult obesity by 50 percent—roughly the same reduction that was achieved with smoking in the late 20th century—could cut annual U.S. medical care expenditures by \$58 billion.

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- A culture of shared expectations of excellence
- The trust of our communities to be a source of emerging knowledge and practice

Our goals:

- Synergize with the entire University and our community partners, catalyzing research, education and service initiatives that address population health issues.
- Cultivate relationships with local, state and federal agencies; employers; and community agencies around the state to address social determinants of health.
- Prepare students to participate in a highly technological and entrepreneurial business environment that requires critical thinking, teamwork, leadership and communication.
- Offer undergraduate, graduate and health professional training programs that are experiential in approach, leading to the development of novel new disciplines for the purpose of improving health and wellness. Offer continuing education and training for practicing health providers and community members to assist their transition into the practice of population health.
- Implement and disseminate the best ideas for improving the quality and safety of care, reducing costs and improving the health of populations.
- Translate population health research results into policy and practice.

Assuring that all New Mexicans live healthy lives is the primary goal of the College of Population Health.

Workforce Needs

Training in population health requires different skill sets and approaches to addressing health outcomes. Health care leaders recognize that having access to a trained workforce will be critical to their success.

There are also entrepreneurial opportunities for graduates of the CPH. A highly visible example is Apple, which most recently entered the health field and would like to capture graduates with degrees in population health. We cannot predict the future, but we can predict that new opportunities in health-related business ventures will emerge.

To determine the current need for population health professionals in New Mexico, we met with business and government stakeholders who view the CPH as a resource to address the *skills gap* in our workforce while providing *education and job opportunities for a New Mexico workforce* to address evolving needs.

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- Molina Healthcare stated that population health education in NM is long overdue.
- The New Mexico Department of Health has experienced difficulty in finding qualified candidates at a bachelor's level and spends additional time and resources to train their hires for positions for which a population health graduate would have the skillset walking in the door.

In addition to the employers mentioned above, organizations and state agencies throughout New Mexico have shown overwhelming support for the CPH. They include: Bernalillo County Community Health Council, Albuquerque Area Tribal Epidemiology Center, NM Health Connections, NM Hospital Association, NM Public Health Association, Greater Albuquerque Chamber of Commerce, NM Tech Council, Albuquerque NM State Personnel Office, NM Economic Development and NM Department of Workforce Solutions, NM Community Health Councils, NM Department of Health and NM Higher Education Department.

Education

At the outset, the CPH plans to house three degree programs and one professional certificate.

1. Bachelor of Science in Population Health – degree program is under study by the Faculty Senate Undergraduate Committee. The degree program includes the 37 SCHs of UNM Core, 48 SCHs in Population Health Core, 15 SCHs in an area of focus, and 21 SCHs in electives.
2. Master of Public Health – reaccredited by the Council on Education in Public Health (CEPH) in 2009, this 42-credit degree has three concentrations: Community Health, Epidemiology, and Health Systems, Services and Policy. There have been 239 graduates since the program began in 1994; on average 15 students matriculate each year.
3. Doctorate in Public Health Sciences – this degree program is under development. We plan to submit a proposal to the Faculty Senate during FY16-17.
4. Population Health Certificate (PHC) for Health Professionals. During FY16, a new certificate program will be developed that offers an interprofessional (nursing, medicine, pharmacy, and allied health providers) approach to learning population health competencies.

We are working closely with the branch campuses and CNM to *articulate* which courses will meet our degree program requirements and make sure that their students who receive associates degrees can *transfer* their credits to UNM. This process will bring new students into UNM and provide workforce training for a broader set of students.

Training

To prepare the current workforce for future demands, the CPH will provide training in population management principles to agencies and organizations involved health care delivery. For example, UNM is a partner in the South Central Public Health Training Center, which develops training for public health professionals throughout NM.

Population Health and Health Services Research

The CPH will optimize relationships with UNM centers, institutes, departments and community partners to create research-based learning experiences that focus on improvements in population health. Examples of collaborative opportunities at the HSC include:

- **The UNM Clinical and Translational Science Center (CTSC)** improves health by streamlining science, transforming training environments, and improving the conduct, quality, and dissemination of research from laboratories to clinical practice, and out into communities.
- **The UNM Cancer Center (CC)** Cancer Control Research Program serves as the hub for cancer control and population science research to reduce cancer incidence, morbidity, and mortality, particularly in the unique multiethnic and underserved populations of New Mexico.
- **The UNM Prevention Research Center (PRC)** addresses the health promotion and disease prevention needs of New Mexican communities through participatory, science-based, health promotion and disease prevention research.
- **Center for Injury Prevention Research and Education (CIPRE)** conducts research and advocacy programs that result in fewer injuries and deaths from accidental and intentional causes.

There are similar collaborative opportunities on main campus, including, but not limited to:

- **Center on Alcoholism, Substance Abuse, and Addictions (CASAA)** reduces suffering caused by substance use and other addictive behaviors by generating high quality prevention and treatment research with attention to human diversity and collaboration across disciplines.
- **Southwest Hispanic Research Institute (SHRI)** promotes multidisciplinary research on the Latino/Hispanic populations of New Mexico and the United States.
- **Nepal Study Center** focuses on the socio-economic development and sustainability, health, technology transfer, and environmental issues of the Himalayan region and South Asia.
- **Institute for American Indian Research** serves as a forum for the discussion of issues critical to the continuance of Native peoples by individuals both in and outside of the university community, thus providing a significant link to our area's Native Nations and communities.
- **Center for Water and the Environment** conducts cutting-edge research into technological and engineering-based solutions to problems with water and the environment, in a framework that considers the social, economic, policy, regulatory, and legal implications.



DATE: September 23, 2015

TO: Deborah Helitzer, Associate Vice Chancellor for Research Education


FROM: Gregory L. Heileman, Associate Provost for Curriculum *GH*

RE: Memo of Support for the Proposed BS in Population Health

CC: Chaouki Abdallah, Provost and EVP for Academic Affairs
Nancy Middlebrook, University Accreditation Director

Thank you for the opportunity to review the preliminary proposal for a Bachelor of Science in Population Health. The proposal is very well developed. The proposed degree would provide an opportunity meet both educational and workforce needs in the Health Sciences and would provide a credential to those who study and work in the fields of disease prevention and treatment. You have the full support of the UNM Provost's Office for moving forward with the proposed degree program.

Office of the Vice Chancellor for Health Sciences Academic Affairs

TO: Dr. Deborah Helitzer, Associate Vice Chancellor for Research Education
FR: Dr. Leslie Morrison, Vice Chancellor for Academic Affairs 
DATE: September 14, 2015
RE: Bachelor of Science in Population Health Preliminary Outline

Thank you for submitting the proposed Bachelor of Science in Population Health (BSPH) preliminary outline. After a thorough review and careful consideration of the information you have provided, I see value in the proposed BSPH and its role in the Health Sciences Center's Vision 2020 and beyond to improve New Mexico's population health and health equity.

By meeting with internal partners, employers, community stakeholders, and state agencies in New Mexico you have shown that there is a workforce demand for these graduates. I feel the BSPH will attract new students and prepare them for highly marketable careers while empowering our students with the knowledge to positively impact the population health needs of New Mexico, its communities, and its citizens.

With the BSPH taking an interdisciplinary approach to its curriculum, it will engage partners who can ensure students acquire the practical skills needed to address population health issues and trends happening in New Mexico, nationally, and globally. In particular, how the BSPH advances the ACA can be further clarified, as can how the BSPH will interact with the Health Professions, MD, COP and CON programs. As we discussed, the new program will need to consider budgetary concerns for HSC student services including advisement along with other expenses, in conjunction with University budgetary leaders, and financial services.

I approve the BSPH to move forward with a full proposal in the Curriculum Workflow process and to create the Form C.

Please keep me apprised of the BSPH as it moves through the approval process and if I can be of further assistance.