Healthy People 2020 and Education For Health
Successful Practices in Undergraduate Public Health Programs

Clemson University
Clemson, SC
Bachelor of Science in Health Science
Major with concentrations in: Pre-professional Health Studies, Health Promotion and Education, & Health Services Administration, also offers an Undergraduate Public Health Certificate for non-majors
http://www.clemson.edu/hehd/departments/public-health/
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INSTITUTIONAL CONTEXT

Clemson University is a four-year public, land-grant, research, university with an enrollment of 19,000. Ranked as one of the top 25 national public universities by U.S. News and World Report, Clemson is a vibrant student-centered community set in a small rural college town among the lakes and Blue Ridge foothills of South Carolina’s northwestern corner. Through an emphasis on student engagement and active learning, Clemson offers countless opportunities for students, faculty and community members to improve the quality of life for their surrounding communities and to pursue academic challenges. With nearly half the classes having fewer than 20 students, professors get to know their students and explore innovative ways of teaching. Clemson’s retention and graduation rates rank among the highest in the country among public universities.

PROGRAM DEVELOPMENT

The Department of Health Sciences was founded in 1991 and graduated its first students in 1994. In 1998 the name was changed to the Department of Public Health Sciences to reflect the research mission of the faculty and the emerging curricular core for all degree programs. The current structure, consisting of a common core of public health classes and specialized concentration areas, was proposed in 1999 to assure that core public health courses provided all majors with “the history and philosophical foundations of public health and medicine; the organization, financing and major policies of the healthcare delivery system; the social, cultural and behavioral determinants of health status; (and) the methods of inquiry in the health sciences including epidemiology, and the principles of healthcare management.” The curricular core also emphasized development of student competencies in “analytical thinking, communication skills, and measurement, analysis and evaluation skills in health care settings.”

The impetus for the 1999 curriculum change was the growing recognition that public health concepts, competencies, and tools, required for students entering careers as health educators or going on to graduate programs in public health, were also highly beneficial to those seeking careers in health administration and management, and to those entering a wide variety of professional schools to become clinicians.

Requests for changes of major into the department’s undergraduate concentrations have consistently exceeded the capacity of the faculty to provide additional positions. Consequently, we are in the final stages of implementing a three-course “Undergraduate Certificate in Public Health” that will introduce non-majors to the history and philosophical foundations of public health, the organization and financing of health and medical care, and the core concepts, principles and tools of epidemiology. This certificate
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Program, to be offered during summer sessions, is designed to provide interested students in other majors with at least the minimum content recommended by the 2006 Consensus Conference on Undergraduate Public Health Education.

PROGRAM ADMINISTRATION
The Department of Public Health Sciences is one of four academic units housed in Clemson’s College of Health, Education and Human Development (HEHD). The College Vision Statement states that it “will be the innovative force for creating collaborative models to enhance community well-being, thus providing a foundation for social and economic development.” Departmental goals are highly consistent with this vision, and with the college’s formal Mission Statement: “The College ... will be recognized for innovative and multidisciplinary instruction, research, and outreach/service that support and enhance human capabilities across all life stages and environments by preparing skilled professionals and creative leaders and by building healthy, well-educated communities.” Other units in the college include the School of Nursing, the Eugene T. Moore School of Education and the Department of Parks Recreation and Tourism Management.

Departmental status has existed since 1994 and no serious consideration has been given to departmental mergers because of the unique philosophical and disciplinary base of the curriculum, high demand for admission and a strong record of extramurally funded research in the department.

Since the current structure of the department was approved in 1999, faculty positions have more than doubled from 7.0 FTE positions to 15.0 (13.0 Tenure Track). Faculty have been added with specialized research and teaching interests in epidemiology, community-based participatory research, health economics, health administration, physical activity and nutrition/energy balance, substance abuse, and health behavior/health disparities. All faculty hired in the past decade have degrees and/or substantial training and experience in public health. Specialized training is provided by the university to all faculty in order to improve teaching skills, and any faculty members who plan to engage in online teaching are required to complete university-mandated training prior to that engagement.

The department collaborates with other units in a variety of ways. The faculty extramurally funded research portfolio ($421K for AY 2010-2011) reflects broad collaboration across units within the college, e.g. to look at health impacts of physical activity associated with outdoor recreation, as well as with units in other colleges, e.g. with sociologists and psychologists to conduct health disparities research and gerontology research. Specialized courses within each concentration are taught by departmental faculty, but concentrations also draw on classes taught in other colleges. For example, students in the Health Services Administration Concentration complete a required Business Administration minor. In addition, students in the Pre-professional Health Studies Concentration complete sequences of required courses in Biological Sciences, Chemistry, Physics and other areas outside the department and college.

CURRICULUM
The Mission of the baccalaureate program is to provide a strong core of knowledge in public health, personal health and health behavior within three concentrations: Pre-professional Health Studies, Health Services Administration and Health Promotion and Education. Each concentration strives to
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include the essential knowledge and skills for entry into occupational roles and/or graduate and professional programs consistent with the concentration area.

Stated goals of the curricula are: (1) Transmit A Strong Core of Public Health Knowledge - “Transmit to students a strong core of knowledge regarding the status and determinants of health at the population level including environmental, cultural and policy factors that affect health behavior and that influence population health.” (2) Build Awareness of Public Health as a Profession – “Inform students about the profession of public health, the role of public health professionals in the community, and the role of public health as a key perspective for individuals trained in other health professions. This includes creation of a solid foundation in health care ethics and professionalism”. (3) Provide High Quality Training in Related Fields – “Curricula will provide a strong core of courses and experiences for students in each of the concentration areas within and outside the department”.

The university, college, department, and undergraduate program each participate in an annual needs assessment planning and performance assessment process using Weave Online, a tool that assists in aligning the degree programs with the mission of the academic units, assessing outcomes, and building evidence-based plans for future changes.

The core courses taken by all students regardless of concentration include: (1) Introduction to Public Health, (2) Overview of Health Care Systems, (3) Determinants of Health Behavior, (4) Human Health and Disease, (5) Epidemiology, (6) Research and Evaluation Strategies for Public Health, (7) Health Sciences Internship Preparation Seminar, and (8) Health Science Internship. All students must also complete electives from outside the department, required courses from outside the department, additional “selective” classes from within the department, and university requirements for general education, including preparation of an acceptable electronic general education portfolio.

The Health Promotion and Education Concentration requires the following courses outside the department: Mathematics, Communication, Psychology, Sociology, Biological Sciences (2 semesters), Anatomy and Physiology (2 semesters), Chemistry (2 semesters), Principles of Human Nutrition, and Lifespan Development Psychology. Students also must take several specialized departmental courses: Health Appraisal Skill, Public Health Communication, Health Promotion Program Planning, Community Health Promotion, and two additional departmental (HLTH rubric) classes.

The Health Services Administration Concentration requires the following courses outside the department: Communication, Natural Science, Social Science, Principles of Microeconomics, Principles of Macroeconomics, Financial Accounting, Introduction to Health Care Economics, Principles of Management, Legal Environment of Business, Principles of Marketing, and Corporation Finance. Required specialized courses within the department include: Managing Health Services Organizations, Health Information Systems, Principles of Health Care Operations Management and Research, Health Policy, Ethics and Law, Financial Management and Budgeting for Health Service Organizations, and two additional departmental (HLTH rubric) classes.

The Pre-professional Health Studies Concentration requires the following courses outside the department: Biology (8 credits), Chemistry (8 credits) Physics (8 credits) Social Science (6 credits), Mathematics, Statistics, Human Anatomy and Physiology (8 credits), and also requires 4 additional departmental (HLTH rubric) Classes (12 credits). These classes are selected by the student and the student’s faculty advisor.
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Electives offered regularly by the department include: Health and Fitness, Women’s Health Issues, Social Epidemiology, Medical Terminology and Communication, Honors Research Seminar, Principles of Health and Fitness, Maternal and Child Health, Public Health Issues in Obesity and Eating Disorders, Health Promotion of the Aged, Public and Environmental Health, International Health, Honors Thesis Seminar, Creative Inquiry in Public Health, Improving Population Health, and Independent Study. Students may also take as electives many of the departmental non-core classes listed above as required for other concentrations - if these courses are not required for their own concentration (e.g. Health Policy, Ethics and Law can serve as an elective for students in two of the concentrations.)

Creative Inquiry is a university-wide mechanism for experiential learning that allows undergraduate students to team with faculty and graduate students for long-term research projects. Examples of recent Creative Inquiry projects in the department are: (1) helping to develop the epidemiologic basis for the university’s pandemic influenza plan, (2) developing, implementing and evaluating (including publication of results) an alcohol abuse prevention program for first-year college students, and (3) developing implementing and evaluating a physical activity program for adolescent girls. Experiential learning through Creative Inquiry can be used to fulfill the requirements for HLTH classes noted above, but is not mandatory.

Mandatory experiential learning within Clemson’s undergraduate program includes a 1 credit introduction to internship followed by the 5 credit (180 contact hour) internship which is part of the core curriculum. The goal of internship is to incorporate productive work experience through a partnership between the student, the internship site and Clemson University. Interning provides students a hands-on opportunity to learn more about their field and gain real world experience. The internship is designed as a capstone course for students who have completed the large majority of required courses. It is a structured educational experience that includes a contract in which the student agrees to make a meaningful contribution to the sponsoring organization, is evaluated by the site preceptor, and prepares and seeks departmental approval of a final professional/internship electronic portfolio project by departmental faculty. This requirement goes above and beyond the general education portfolio noted above. The electronic professional portfolio, introduced during the Introduction to Internship class, includes essay components used to assess global competencies related to public health determinants and trends. These essays are graded and used both to evaluate student learning and as a global evaluation of achievement of learning objectives.

An annual breakfast is held for internship preceptors. The educational/training component of that event introduces preceptors to departmental philosophies, expectations, evaluation tools, etc. For those who cannot attend, the Internship Coordinator delivers materials through annual site visits. Special attention is paid to individuals who are serving as preceptors for the first time.

Internship sites are varied and depend on the concentration areas of individual students and the professional school goals of pre-professional students. For Health Promotion and Education students, the internship sites typically include health departments, hospital patient education units, primary care centers, and employee health programs. Health Services Administration students are placed in administrative units of hospitals, third-party payers, state agencies, etc. Pre-professional Health Studies students may be placed in offices of individual practitioners of medicine, dentistry, physical therapy, pharmacy, etc. or in hospitals or research settings. In recent years a number of students have successfully completed internship requirements in international settings.
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STUDENTS
The department receives over 600 applications for admission as a first-year (freshman) student each year. Approximately 50 students are offered freshman admission and of these 35-40 matriculate each year. High school GPA and SAT/ACT scores show those who matriculate to be among the most academically qualified students on campus. At the end of the fall semester, the department accepts requests for changes of major. First-year students who meet minimum GPA standards are accepted based on date of application until the graduation cohort reaches 100 students. Each year the department denies many applications for change of major based on space available. Thus, the total student body size each spring semester is approximately 400 students. Student achievement is strong with little attrition. In recent years approximately half of graduates have received graduation honors despite the rigorous classes taken in and outside the department.

LESSONS LEARNED
Clemson’s experience has demonstrated several lessons: (1) Undergraduate public health programs can attract students with very strong academic credentials. (2) Graduates of rigorous undergraduate public health programs have a high rate of acceptance into professional schools and their background in public health is valued by those schools. (3) Demand for programs of this type is substantial and is growing as high school students respond to the current employment structure. (4) A public health core curriculum provides an excellent conceptual “home base” for students with a wide variety of health-related career goals including professional training in public health, health administration, pharmacy, medicine, dentistry, physical therapy, and a host of other patient-care fields. (5) Clemson’s rigorous and focused internship experience, including production of an electronic professional portfolio, is highly valued by students and frequently produces offers of employment for graduates. (6) Undergraduate programs in public health are not part of the tradition of academia and may be challenged by issues of perceived centrality to the university mission, national visibility, etc. when compared to more traditional undergraduate disciplines. (7) Faculty engaged in undergraduate public health education can compete successfully for research funding from NIH and other sources. (8) Engagement of undergraduate public health students in faculty research benefits both students and faculty. (9) National recommendations for exposure of all undergraduate students to the conceptual basis of public health and the analytical tools of epidemiology cannot be sufficiently met through an undergraduate major. This ambitious effort would require a large number of “service” classes for non-majors that may or may not be feasible based upon the budgetary system of individual universities.