

DEPARTMENT OF PUBLIC HEALTH AND CLINICAL SCIENCES

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Faculty

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The Department of Public Health and Clinical Sciences offers the following Bachelor of Science degrees:

- Environmental Health Science and Sustainability
- Health Services Administration
- Medical Laboratory Science
- Public Health

For more information, see individual program.

Bachelor's

- Environmental Health Science and Sustainability, Bachelor of Science (B.S.) (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/environmental-health-science-sustainability-bs/>)
- Health Services Administration, Bachelor of Science with a Concentration in Health Care Management (B.S.) (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/health-services-administration-concentration-care-management-bs/>)
- Health Services Administration, Bachelor of Science with a Concentration in Health Informatics and Information Management (B.S.) (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/health-services-administration-concentration-informatics-information-management-bs/>)
- Medical Laboratory Science, Bachelor of Science (B.S.) (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/medical-laboratory-science-bs/>)
- Public Health, Bachelor of Science with a Concentration in Health Promotion (B.S.) (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/public-health-concentration-promotion-b/>)
- Public Health, Bachelor of Science with a Concentration in Pre#Professional (B.S.) (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/public-health-concentration-preprofessional-bs/>)

Accelerated

- Public Health, Bachelor of Science (B.S.) & Master of Public Health (M.P.H.) Accelerated 3 + 2 Dual Degree Program with a Concentration in Health Promotion (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/public-health-bs-mph-accelerated-dual-degree-program-concentration-promotion/>)
- Public Health, Bachelor of Science (B.S.) & Master of Public Health (M.P.H.) Accelerated 3 + 2 Dual Degree Program with a Concentration in Pre#Professional (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/public-health-bs-mph-accelerated-dual-degree-program-concentration-preprofessional/>)

Certificates

- Environmental Public Health Studies, Departmental Certificate (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/ephs-certificate/>)
- Public Health, Departmental Certificate (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/public-health-certificate/>)

Minors

- Environmental Health Science and Sustainability, Minor (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/environmental-health-science-sustainability-minor/>)
- Health Services Administration, Minor (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/health-services-administration-minor/>)
- Public Health, Minor (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/public-health-minor/>)
- Substance Use Prevention, Minor (<http://catalogs.eku.edu/undergraduate/health-sciences/public-health-and-clinical-sciences/substance-use-prevention-minor/>)

Courses

EHS 225. African/African-Amer Hlth Iss. (3 Credits)

I. Cross listed as AFA 225. Provides the student with an understanding of the medical and public health issues relevant to the maintenance of health conditions both in the United States and Africa. Credit will not be awarded to students who have credit for AFA 225.

EHS 230. Recreational Health. (3 Credits)

II. Provides the student with an understanding of the biological, chemical and physical threats to health and life from the recreational, amusement, travel and tourist environments.

EHS 280. One Health: Global Environmental Public Health. (3 Credits)

A. Elements of global environmental health from a One Health Perspective, including water and waste treatment, air pollution, food sanitation, vector control, solid waste disposal, and general sanitation problems.

EHS 290. Seminar in Environ Health. (2 Credits)

A. Prerequisite: departmental approval. Discussion and analysis of literature related to selected current environmental health problems.

EHS 300. Water and Health. (4 Credits)

I, II. Prerequisite: ENG 102 or 102R, 105(B), or HON 102, EHS 280, BIO 320 or MLS 209 and MLS 211. Drinking water safety in both individual private systems and larger public systems. Maintenance of raw water quality, water purification, delivery systems, and surveillance. Techniques for collection, treatment, and disposal of sewerage also discussed. Credit will not be awarded for students who have credit for EHS 300W.

EHS 300W. Water and Health. (4 Credits)

I, II. Prerequisite: ENG 102 or 102R, 105(B), or HON 102, EHS 280, BIO 320 or MLS 209 and MLS 211. Drinking water safety in both individual private systems and larger public systems. Maintenance of raw water quality, water purification, delivery systems, and surveillance. Techniques for collection, treatment, and disposal of sewerage also discussed. Credit will not be awarded for students who have credit for EHS 300.

EHS 335. Hazardous and Solid Waste Management. (3 Credits)

II. Prerequisites: CHE 111, 111L and EHS 280; or departmental approval. Nature of toxic and hazardous wastes and methods for their disposal to protect health and the environment and to prevent contamination of groundwater. The environmental health and safety aspects of solid waste collection, treatment and disposal, and regulations governing waste management are also discussed.

EHS 340. Total Worker Health Principles. (3 Credits)

I, II. Prerequisites: BIO 111, CHE 111, 111L and EHS 280; or departmental approval. The impact of the workplace on safety and health, and methods for avoiding work-related illnesses. Emphasis will be on the evaluation and the control of the work environment to protect worker health.

EHS 345. Applied Total Worker Health. (4 Credits)

II. Prerequisite: EHS 340 or departmental approval. In-depth discussion of the chemical and physical hazards of the workplace and their evaluation and to provide hands-on experience in industrial hygiene sampling and analysis.

EHS 349. Applied Learning in Environmental Health Science. (0.5-8 Credits)

A. Prerequisite: departmental approval. Work in placements related to academic studies. One to six hours credit per semester or summer. A minimum of 80 hours work required for academic credit.

EHS 349A. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

A. Prerequisite: departmental approval. Work in placements related to academic studies. One to six hours credit per semester or summer. A minimum of 80 hours work required for academic credit.

EHS 349B. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

Work in placements related to academic studies.

EHS 349C. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

Work in placements related to academic studies.

EHS 349D. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

Work in placements related to academic studies.

EHS 349E. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

Work in placements related to academic studies.

EHS 349F. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

Work in placements related to academic studies.

EHS 349G. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

Work in placements related to academic studies.

EHS 349H. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

Work in placements related to academic studies.

EHS 349I. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

Work in placements related to academic studies.

EHS 349J. Cooperative Study: Environmental Health Science. (0.5-8 Credits)**EHS 349K. Cooperative Study: Environmental Health Science. (1-8 Credits)****EHS 349L. Cooperative Study: Environmental Health Science. (1-8 Credits)**

A. Prerequisite: departmental approval. Work in placements related to academic studies. One to six hours credit per semester or summer. A minimum of 80 hours work required for academic credit.

EHS 349M. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

A. Prerequisite: departmental approval. Work in placements related to academic studies. One to six hours credit per semester or summer. A minimum of 80 hours work required for academic credit.

EHS 349N. Cooperative Study: Environmental Health Science. (0.5-8 Credits)

A. Prerequisite: departmental approval. Work in placements related to academic studies. One to six hours credit per semester or summer. A minimum of 80 hours work required for academic credit.

EHS 355. CBR Terrorism & Environmental Health. (3 Credits)

II. This course will provide students with environmental health principles required to protect individuals and communities in times of war, general emergencies and disaster, both natural and human, due to chemical, biological and radioactive threats.

EHS 360. Air Quality & Climate Change. (4 Credits)

A. Prerequisites: CHE 112, 112L and EHS 280; or departmental approval. Health effects of air pollution, including a discussion of the primary sources of airborne pollutants, their transport and transformation, the control of air pollution, state and national standards.

EHS 370. Environmental Disease Detectives: Epidemiology. (3 Credits)

I, II. Prerequisites: EHS 280 and STA 215; or departmental approval. The use of data to define the health effects of exposed individuals or populations to hazardous materials and situations.

EHS 380. Food Security and Sanitation. (3 Credits)

I, II. Prerequisites: EHS 280 or departmental approval. A study of the health effects of food-borne disease, including an in-depth discussion of the physical, chemical, and biological contaminants that cause an estimated 76 million cases of food-borne illnesses annually in the U.S. An examination of the food processing and food service industry's failings and efforts to prevent food-borne illness will be the primary focus.

EHS 390. EHS Special Problems in Environmental Health. (1-4 Credits)

A. Prerequisite: departmental approval. For independent work, or special workshops, or special topics as they relate to environmental health issues and problems. May be retaken for maximum of eight hours.

EHS 395. Environmental Problem Analysis. (3 Credits)

II. Prerequisites: EHS 335, 340, and MAT 107 or 109; or departmental approval. Application of the student's knowledge gained from technical course work to analyze environmental problems. Emphasis is on logically solving environmental health issues that the student can expect when working in the field.

EHS 425. One Health: Planning to Practical Application. (3 Credits)

A. Prerequisites: EHS 280 and 335. Administration, planning, implementation, and evaluation of environmental health programs. Discussion of resources and promotional techniques, and the role of the environmental health specialist dealing with community, state, and regional agencies.

EHS 440. Environmental and Industrial Toxicology. (3 Credits)

II. Prerequisites: CHE 112, 112L and EHS 280; or departmental approval. Health effects and nature of toxic substances with discussion of dose-response relationships, latency, target organs, and potential exposures in the environment.

EHS 460. Healthy Housing and Sustainability. (3 Credits)

A. Prerequisite: EHS 280 or departmental approval. Corequisite: EHS 485. Discusses the requirements for healthful housing means of attaining and maintaining these requirements. Reviews environmental health concerns relating to day-care centers, schools, hospitals, nursing homes, and prisons. Describes surveillance, evaluative, and corrective methods.

EHS 463. Field Experience in Environmental Health. (3 Credits)

A. Prerequisites: EHS 300, 335, 380, and departmental approval. Supervised and directed field experience in local, state, regional environmental health agencies, or with appropriate industries. Eight to ten weeks full-time required depending on work place.

EHS 485. Life After College: The Professional. (1 Credit)

A. Prerequisite: 90 hours. Corequisite: EHS 460. Provides the graduating student a certification and licensure review for their required state and national exams. The student will also be taught how to develop professional success strategies and long range career plans.

EHS 498. Independent Study in Environmental Health. (1-3 Credits)

A. Prerequisite: student must have the independent study proposal form approved by faculty supervisor and department coordinator prior to enrollment. Opportunity for individual work on an environmental health research problem in a supervised situation.

EHS 510. Radiological Health and Safety. (3 Credits)

A. Provides the student with the principles of health effects from ionizing radiation, including radiation sources, detection, measurement, control, and safety devices. Student will be able to identify, evaluate and control radiation in the work environment; implement a radiation monitoring program; establish emergency plans for actions to be taken in event of radiological accident; develop risk assessment and communication program. Credit will not be awarded to students who have received credit for EHS 710.

EHS 530. Emerging and Re-emerging Infectious Diseases. (3 Credits)

I, II. Prerequisite: Senior Standing; BIO 111 and EHS 280. The student will acquire an understanding of the principles, biology, identification, evaluation, and control of vector borne diseases and other emerging/re-emerging diseases of public health concern.

EHS 710. Radiological Health & Safety. (3 Credits)

A. Provides the student with the principles of health effects from ionizing radiation, including radiation sources, detection, measurement, control, and safety devices. Student will be able to identify, evaluate and control radiation in the work environment; implement a radiation monitoring program; establish emergency plans for actions to be taken in event of radiological accident; develop risk assessment and communication program. Credit will not be awarded to students who have received credit for EHS 510.

EHS 730. Emerging and Re- Infect Diseases. (3 Credits)

I, II. The student will acquire an understanding of the principles, biology, identification, evaluation, and control of vector borne diseases and other emerging/re-emerging diseases of public health concern.

EHS 839. Appl Learning in Env Hlth Sci. (0.5-6 Credits)

A. Cross listed with EHS 863. Supervised and directed field experience at official agencies at any level of government (local, state or national) or with a private industry. The EHS field practice course administrator must approve all field-training sites before selection or assignment. Credit will not be awarded to students who have credit for EHS 863.

EHS 839A. Co-op in Environmental Health. (0.5-6 Credits)**EHS 839B. Co-op in Environmental Health. (0.5-6 Credits)**

A. Cross listed with EHS 863. Supervised and directed field experience at official agencies at any level of government (local, state or national) or with a private industry. The EHS field practice course administrator must approve all field-training sites before selection or assignment. Credit will not be awarded to students who have credit for EHS 863.

EHS 839C. Co-op in Environmental Health. (0.5-6 Credits)

A. Cross listed with EHS 863. Supervised and directed field experience at official agencies at any level of government (local, state or national) or with a private industry. The EHS field practice course administrator must approve all field-training sites before selection or assignment. Credit will not be awarded to students who have credit for EHS 863.

EHS 839D. Co-op in Environmental Health. (0.5-6 Credits)

A. Cross listed with EHS 863. Supervised and directed field experience at official agencies at any level of government (local, state or national) or with a private industry. The EHS field practice course administrator must approve all field-training sites before selection or assignment. Credit will not be awarded to students who have credit for EHS 863.

EHS 839E. Co-op in Environmental Health. (0.5-6 Credits)

A. Cross listed with EHS 863. Supervised and directed field experience at official agencies at any level of government (local, state or national) or with a private industry. The EHS field practice course administrator must approve all field-training sites before selection or assignment. Credit will not be awarded to students who have credit for EHS 863.

EHS 839F. Appl Learning in Env Hlth Sci. (0.5-6 Credits)

A. Cross listed with EHS 863. Supervised and directed field experience at official agencies at any level of government (local, state or national) or with a private industry. The EHS field practice course administrator must approve all field-training sites before selection or assignment. Credit will not be awarded to students who have credit for EHS 863.

EHS 840. Total Worker Health. (3 Credits)

A. A study of the impact of the work place on worker's health and the control of causative factors of disease.

EHS 841. Occ Health Exposure Assessment. (3 Credits)

A. Identify primary sources of potential chemical, physical and biological agents, identify techniques for assessing the risk of worker exposures and understand health impacts of occupational exposures to workers. (KYU and WEB course).

EHS 855. Global Envir Crisis Management. (3 Credits)

A. This course will provide students with environmental health principles required to protect the global environmental health of a community in times of emergency/disaster.

EHS 860. Air Quality Assessment. (3 Credits)

A. A study of health impacts of air pollution from both outdoor and indoor sources. The course will also provide information about methods of reduction, control, and elimination of air pollution.

EHS 863. Field Experience in Env. Hea. (1-6 Credits)

A. Cross listed with EHS 839. Supervised and directed field experience at official agencies at any level of government (state, local or national) or with private industry. The course administrator must approve all field-training sites before selection or assignment. Credit will not be awarded to students who have credit for EHS 839.

EHS 865. Environmental Toxicology. (3 Credits)

A. Toxicology, the principles, concepts and thinking that are its foundation. The mechanisms by which the substances enter the cells of the body, the physiological processes, the target organs, classes of toxic substances, and potential exposures.

EHS 875. Principles of Ventilation. (3 Credits)

A. Provides the student with the principles of ventilation including: design of fans, cleaners duct sizing: calculations, inspections, balancing the system, and overall maintenance. This course deals with use of ventilation to reduce or eliminate occupational exposures in the workplace.

EHS 880. Food/Waterborne Sanitation. (3 Credits)

A. The management of safety and disease hazards inherent in administering community programs of food hygiene, water supply, and wastewater treatment.

EHS 885. Crisis Mgmt, Risk Com/Asmt. (3 Credits)

A. Provides the student with the principles of Crisis Management and Risk Communication/Assessment by becoming familiar with laws that mandate risk communication, types, and approaches to risk communication, effective risk communication, importance of crisis management/communication, process of hazard risk assessment, and benefits of development and implementation of an emergency response program.

EHS 890. Grad Project in Envrnmntl Hlth. (1-3 Credits)

A. Research into a special topic in Environmental Health. Student must have approval of course faculty.

HEA 202. Community First Aid and CPR. (3 Credits)

I, II. Instruction and practice in first aid and safety procedures. Includes assessment and first aid procedures regarding life-threatening emergencies, injuries, medical emergencies, and rescues. Focus on prevention, as well as first aid. Includes American Red Cross certification in First Aid, Adult CPR with AED, child CPR, and Infant CPR. Credit will not be awarded for both HEA 202 and EMC 102.

HEA 216. Introduction to Public Health. (3 Credits)

I, II, A. Formerly HEA 316. An introduction to the public health discipline, the health of a population as influenced by social, cultural, behavioral, biological, environmental, and economic factors, and an overview of strategies to protect and promote the health in populations. Credit will not be awarded for both HEA 216 and HEA 316. Gen. Ed. E-5B [SB].

HEA 285. Health Across the Lifespan. (3 Credits)

I, II. Consideration of the various conditions and factors affecting individual and community health; special emphasis is on responsible decision-making, formulating philosophies, attitudes, and a behavioral understanding necessary to establish health living practices. Gen. Ed. VI. Fulfills University Wellness Requirement.

HEA 290. Foundations of Health Promotion. (3 Credits)

II. The history, foundational disciplines, and principles that led to the establishment of health promotion. The role of health promotion in the present health care system.

HEA 300. Infectious Dis. and Public Hea. (3 Credits)

I, II, A. Prerequisite: BIO 100 or higher. This course explores etiology, clinical signs and symptoms, prevention, and treatment of common infectious diseases. The course examines potential health outcomes. The course will incorporate health education, advocacy and communications to inform diverse populations. Credit will not be awarded for HEA 315 and HEA 300.

HEA 305. Chronic Disease & PublicHealth. (3 Credits)

I,II, A. Prerequisite: BIO 100 or higher. This course explores etiology, clinical signs and symptoms, prevention, and treatment of common chronic diseases. The course examines disease process and potential health outcomes. Students will identify effective health promotion strategies for chronic disease.

HEA 310. Introduction TO Global Health. (3 Credits)

(3) A. Prerequisite: ENG 102 or 105 or HON 102. Exploration of epidemiological, economic, political, sociological and cultural factors that impact global health with special emphasis on applying public health principles in developing as well as developed countries. Gen. Ed. Element 6.

HEA 315. Issues in Health and Disease. (3 Credits)

II. Etiology, effects, remediation, and prevention of disease. Nature of health and environmental issues and forces which shape them.

HEA 320. Introduction to Behavior Change. (3 Credits)

I, II. Examine theories and models of health behavior relevant to health education in individuals and communities. Students analyze influences on behavior, and evaluate strategies for health education.

HEA 345. Drugs, the Individual, and Society. (3 Credits)

I, II. Effect of drug use and abuse on the individual and society. Personal and community approaches for promoting intelligent decision making regarding drugs.

HEA 349. Applied Learning in Public Health. (0.5-8 Credits)

A. Prerequisite: departmental approval. Work under faculty and field supervisors in a cooperative placement related to a student's academic studies. Credit varies with hours of employment; one to eight hours per semester or summer. May be retaken to a maximum of 12 hours. Minimum 80 hours employment required for each semester hour credit.

HEA 349A. Cooperative Study: Public Health. (0.5-8 Credits)

A. Prerequisite: departmental approval. Work under faculty and field supervisors in a cooperative placement related to a student's academic studies. Credit varies with hours of employment; one to eight hours per semester or summer. May be retaken to a maximum of 12 hours. Minimum 80 hours employment required for each semester hour credit.

HEA 349B. Cooperative Study: Public Health. (0.5-8 Credits)

Work under faculty and field supervisors in a cooperative placement related to a student's academic studies.

HEA 349C. Cooperative Study: Public Health. (0.5-8 Credits)

Work under faculty and field supervisors in a cooperative placement related to a student's academic studies.

HEA 349D. Cooperative Study: Public Health. (0.5-8 Credits)

Work under faculty and field supervisors in a cooperative placement related to a student's academic studies.

HEA 349E. Cooperative Study: Public Health. (0.5-8 Credits)

Work under faculty and field supervisors in a cooperative placement related to a student's academic studies.

HEA 349F. Cooperative Study: Public Health. (0.5-8 Credits)

Work under faculty and field supervisors in a cooperative placement related to a student's academic studies.

HEA 349G. Cooperative Study: Public Health. (0.5-8 Credits)

A. Prerequisite: departmental approval. Work under faculty and field supervisors in a cooperative placement related to a student's academic studies. Credit varies with hours of employment; one to eight hours per semester or summer. May be retaken to a maximum of 12 hours. Minimum 80 hours employment required for each semester hour credit.

HEA 350. Interpretation of Health Data. (3 Credits)

I. Formerly HEA 450. Understanding graphical, statistical, and research techniques used in health. Developing competencies in analyzing and interpreting research results.

HEA 375. Family Life Education. (3 Credits)

I. Biophysical and psycho social aspects of sexuality and relationships, with emphasis on choices affecting health and well-being. Focuses on developing skills in teaching and facilitating positive behavior changes for people working in schools and communities.

HEA 380. Mental Health Promotion. (3 Credits)

I. Basic needs for mental and emotional wellness. Emphasis in the selection of appropriate activities for promoting mental health through community agencies.

HEA 410. Social Marketing in Public Health. (3 Credits)

Prerequisites: Senior standing or departmental approval. Introduction to current theory and knowledge in the fields of social marketing in public health and application of social marketing used for promoting health behavior change strategies.

HEA 455. Introduction to Epidemiology. (3 Credits)

I, A. Factors that affect the occurrence and courses of diseases; causative agents, susceptible hosts, favorable environments, and the effective use of statistical epidemiological methods.

HEA 480. Health Promotion Program Planning. (3 Credits)

I. Prerequisites: ENG 102 or ENG 105(B) or HON 102, restricted to majors or minors in Health Education or Public Health. A writing intensive course that is an introduction to principles, strategies, and skills which are necessary for the planning and implementation of health education and health promotion programs in a diversity of settings. Credit will not be awarded for both HEA 480W and HEA 480.

HEA 480W. Health Promotion Program Planning. (3 Credits)

I. Prerequisites: ENG 102 or ENG 105(B) or HON 102, restricted to majors or minors in Health Education or Public Health. A writing intensive course that is an introduction to principles, strategies, and skills which are necessary for the planning and implementation of health education and health promotion programs in a diversity of settings. Credit will not be awarded for both HEA 480W and HEA 480.

HEA 485. Community Org & Policy Dev. (3 Credits)

I, II, A. Prerequisite: Junior or senior standing or department approval. An analysis of community organizing and health policy development by examining community culture, the process of community organizing and coalition building, and the formation of a policy strategy to address policy issues affecting population health.

HEA 490. Evaluation of Health Promotion Programs. (3 Credits)

I, II. Prerequisite: HEA 480 or departmental approval. This course will provide an introduction to principles, strategies, and skills for the evaluation of health promotion programs in a variety of settings. Credit will not be awarded for both HEA 490 and HEA 580.

HEA 497. Senior Seminar: Public Health. (3 Credits)

I, II, A. Formerly HEA 420. Prerequisite or Corequisite: HEA 480W and junior or senior standing. Public Health major or departmental approval. Students will draw together skills and knowledge needed to enter the workforce, and will review core competencies required of the entry level public health professional. Credit will not be awarded for both HEA 420 and HEA 497.

HEA 498. Community Health Promotion Process. (3 Credits)

I, II, A. (Formerly HEA 460) Prerequisite or corequisite: HEA 316 or departmental approval. Planning, organizing, delivering, and evaluating the community health promotion program. Credit will not be awarded for HEA 460 and HEA 498.

HEA 499. Internship in Public Health. (1-6 Credits)

I, II, A. Formerly HEA 463. Prerequisites: HEA 420 or 497 or departmental approval. Supervised experiences for seniors in the directing of public health activities in various settings. May be retaken to a maximum of six hours. Credit will not be awarded for both HEA 463 and HEA 499.

HEA 590. Health Education:____. (1-3 Credits)

Study of pertinent problems in health education. Includes topics such as aging, consumer health, child abuse, teenage pregnancy, elementary school health curriculum, drug education, school health services, health deviations among students, sexually transmitted diseases, etc. May be retaken with advisor approval provided subtitle is different.

HEA 591. Women's Health. (3 Credits)

A. Cross listed as WGS 591. Analysis of the major health problems of contemporary women with a special emphasis on health promotion, disease prevention, and consumer health concerns. Credit will not be awarded to students who have credit for WGS 591.

HEA 592. Human Sexuality. (3 Credits)

A. Cross listed as WGS 592. Study of the biological, social, and psychological aspects of human sexuality. Directed primarily toward those individuals in situations which require them to assist others in understanding the broad impact of one's sexuality. Emphasis is placed upon student development of logical and reasoned justifications for their own value system. Credit will not be awarded to students who have credit for WGS 592.

HEA 593. Death and Grief. (3 Credits)

A. Cross listed as WGS 593. A study of attitudes, behaviors, and issues concerning death and grief. Topics include responses to death and grief throughout the life cycle; process of grief and bereavement; theology and death; legal aspects of dying; care of the dying; suicide; post-mortem care; death education. Credit will not be awarded to students who have credit for WGS 593.

HEA 594. Substance Use Prevention Skill. (3 Credits)

I,II, A. Prerequisite: Junior or senior standing. A substance use prevention approach using a strategic prevention framework to develop the knowledge and skills needed to plan, implement, and evaluate effective, data-driven programs and practices that reduce behavioral health disparities and improve wellness.

HEA 790. Health Education:_____ (1-3 Credits)

A. Study of pertinent problems in health and health education. Includes topics such as: health care delivery, child abuse, teenage pregnancy, community health organizations, elementary school health curriculum, drug education, school and health services, health deviations among students, sexually transmitted diseases, etc. May be retaken once with advisor approval provided subtitle is different.

HEA 791. Women's Health. (3 Credits)

A. Analysis of the major health problems of contemporary women with special emphasis on health promotion, disease prevention, and consumer health concerns.

HEA 792. Human Sexuality. (3 Credits)

A. Study of the biological, social, and psychological aspects of human sexuality. Directed primarily toward those individuals in situations, which require them to assist others in understanding the broad impact of one's sexuality. Emphasis is placed upon student development of logical and reasoned justifications for their own value system.

HEA 793. Death and Grief. (3 Credits)

A. A study of attitudes, behaviors, and issues concerning death and grief. Topics include responses to death and grief throughout the life cycle; process of grief and bereavement; theology and death; legal aspects of dying; care of the dying; suicide; post-mortem care; death education.

HEA 794. Substance Use Prevention Skill. (3 Credits)

I,II, A. Prerequisite: Junior or senior standing. A substance use prevention approach using a strategic prevention framework to develop the knowledge and skills needed to plan, implement, and evaluate effective, data-driven programs and practices that reduce behavioral health disparities and improve wellness.

HEA 800. Advanced Health Science. (3 Credits)

A. Provides students an opportunity to broaden their knowledge of the latest scientific facts and sources of information related to selected health concerns including disease, nutrition, fitness, drug use, family living, and emotional health.

HEA 804. Drug Abuse & Dependency. (3 Credits)

I, II. Study of the nature and progression of chemical abuse and dependency and effects on the individual, family, and society. Includes study of strategies for prevention, intervention, and treatment.

HEA 805. Public Health Communication. (3 Credits)

(3) A. Prerequisite: MPH 810 with a minimum grade of "C". This course prepares students to develop and evaluate health messages for advocacy, program planning, and health campaigns through the lens of cultural competency including interpersonal, organizational, and mass communication approaches.

HEA 807. Health:_____ (1-3 Credits)

A. Prerequisite: advisor/departmental approval. Independent work, special topics, or seminars. May be retaken under different subtitles. Topics include first aid and safety for teachers, lifestyle and mental health, and health education for elementary teachers.

HEA 820. Global Health. (3 Credits)

II. Overview of the relationship between epidemiological, economic, political, sociological and cultural factors that impact global health. Special emphasis is on methods of prevention/intervention utilized in coping with health problems on an international level.

HEA 825. Planning & Eval of Hlth Prgms. (3 Credits)

II. The focus of this course is on the process of assessing a community and on strategies for planning, implementing, and evaluating health promotion programs in a variety of settings.

HEA 826. Public Health Program Evaluati. (3 Credits)

(3) A. Prerequisite: MPH 825 or HEA 825 with a minimum grade of "C". The focus of this course is on methods and techniques to evaluate public health policies and programs.

HEA 856. Applied Epidemiology. (3 Credits)

A. Prerequisites: HEA 830 and HEA 855 or departmental approval. An applied epidemiology course with emphasis on field investigations, public health surveillance, surveys and sampling, use of computers in epidemiology descriptive epidemiology, designing studies, analysis, interpretation and communication of data, and intervention/control measures.

HEA 880. Scholarship in Cmmnty Health. (1-3 Credits)

A. Applied scholarship experience demonstrating synthesis and integration of advanced knowledge and skills in Community Health. Student must have approval of department prior to enrollment.

HEA 890. Practicum in Community Health. (3-6 Credits)

A. Student will be placed in a supervised work environment in community health.

HEA 895. Public Health Capstone Seminar. (3 Credits)

II. Integration and application of competencies acquired through the MPH program to problems likely to be encountered in public health practice. Current challenges, money, politics, and public health ethics, as they impact the profession, are addressed.

HEA 897. Thesis. (3-6 Credits)

A.

HEA 899. Practicum in Community Health. (3-6 Credits)

A. Student will be placed in a supervised work environment in community health.

HSA 100. Health Care Delivery Systems. (3 Credits)

I, II. Overview of U.S. health care: history, factors influencing health and health care, identification and organization of health facilities and professionals, health economics, health trends, and ethics.

HSA 200. Medical Terminology. (3 Credits)

I, II. Formerly Mas 200. Basic medical vocabulary consisting of prefixes, suffixes, roots, anatomical, symptomatic, and common disease terms of body systems.

HSA 302. Organization and Structure of Health Services. (3 Credits)

I, II. Prerequisite: HSA 100 (minimum grade of "C") and a minimum 2.75 ECU GPA. The analysis of the structure and function of healthcare organizations, and forces impacting healthcare services.

HSA 303. Fundamentals of Human Disease. (3 Credits)

I, II. Formerly HSA 203. Prerequisites: HSA 200, BIO 307 and BIO 308 each with a minimum grade of "C" and a minimum 2.75 ECU GPA. An introduction to the study of disease its causes, symptoms, and treatment.

HSA 306. Management of Clinical Classification Systems. (3 Credits)

I, II. Prerequisite: HSA 302 and 303 with a minimum grade of "C" or departmental approval. The management of clinical classifications, coding and reimbursement systems for health care services.

HSA 370. Health Information Management Systems I. (3 Credits)

I, II. Prerequisite: HSA 302 with a minimum grade of "C". Prerequisite or Co-requisite: INF 314 with a minimum grade of "C". Review of concepts related to health information systems and healthcare data management.

HSA 372. Health Care Reimbursement. (3 Credits)

I, II. Prerequisite: HSA 302 (minimum grade of "C"). An in-depth analysis of health care reimbursement systems; health insurance fraud and abuse; and procedures for managing the revenue cycle.

HSA 375. Health Services Administration. (3 Credits)

I, II. Prerequisites: MGT 301 or 300; HSA 302 (minimum grade of "C"). Prerequisite or co-requisite: MGT 320 or POL 376. Application of financial principles, strategic planning, compliance management, and leadership skills to selected health care organizations.

HSA 401. Legal and Ethical Issues in Health Care. (3 Credits)

I, II. Prerequisite: HSA 100 minimum grade of "C" and a minimum 2.75 ECU GPA. Overview of U.S. legal system, patient privacy, medical record liability, and ethical issues in health care.

HSA 405. Health Information Management Systems II. (3 Credits)

I, II. Prerequisites: HSA 370 (minimum grade of "C"). Review of concepts related to the management of health information and systems.

HSA 406. Health Care Quality Management. (3 Credits)

I, II. Prerequisites: HSA 302, STA 215, or 270 (each with a minimum grade of "C"). A study of quality and performance improvement in health care organizations.

HSA 407. Advanced Health Services Administration. (3 Credits)

I, II. Prerequisite: HSA 375 (minimum grade of $\geq C_2$). Advanced study in the application of management theories related to healthcare organizations and the development of leadership skills in health care administration.

HSA 409. Health Care Data Analytics and Research Methods. (3 Credits)

I, II. Prerequisites: HSA 302, STA 215, or 270 (each with a minimum grade of "C"). Introduction to research methods and data driven decision making in healthcare organizations.

HSA 409W. Health Services Research Methods. (3 Credits)

I, II. Prerequisites: ENG 102 or 102R, 105(B), or HON 102, HSA 302, STA 215 or 270 with a minimum grade of C. Introduction to health care research methods, related terminology and statistical techniques. Credit will not be awarded for both HSA 409 and HSA 409W.

HSA 411. Professional Practice Experience. (1 Credit)

I, II. Prerequisite: department approval. Internship assignment to a health care organization for observation and practice of supervisory functions.

HSA 412. Professional Practice Experience II. (1-6 Credits)

(1) I, II. Prerequisite: department approval. Internship assignment within the field of health information management for observation and practice of data management functions.

HSA 413. Professional Practice Experience III. (3 Credits)

I, II. Prerequisite: department approval. Internship assignment to health care organizations for observation and practice of management functions.

HSA 415. Professional Certification. (1 Credit)

(1) I,II. Corequisite: HSA 413. Preparation for the Registered Health Information Administrator (RHIA) certification exam. Course focuses on the content domains included on the exam and development of general test-taking skills.

HSA 450. Hlthcare Info Systems Dev. (2 Credits)

Prerequisite: Departmental Approval. The use of systems analysis and development procedures to select and implement appropriate health information management systems in healthcare organizations.

HSA 498. Independent Study. (1-6 Credits)

A. Prerequisite: student must have the independent study proposal approved by faculty supervisor and department chair prior to enrollment. Directed study or research on an issue or area of interest to the field of health services administration. May be retaken to a maximum of six hours.

MLS 201. Introduction to Medical Laboratory. (3 Credits)

II. Open to all students. Techniques common to clinical laboratories. Stresses basic physical and chemical principles of disease process. 3 Lec.

MLS 209. Microbiology for Health Sciences. (3 Credits)

(3) A. Prerequisite: BIO 171 or 307 or BIO 111. Study of the bacteria, fungi, viruses, and parasites as agents of human disease with emphasis on the pathogenesis, epidemiology, and diagnosis of infectious diseases. Credit will not be awarded to students who have credit for BIO 273 or BIO 320. 3 Lec.

MLS 211. Medical Microbiology Laboratory. (1 Credit)

I,II. Laboratory methods in the diagnosis and management of infectious diseases. 2 Lab.

MLS 290. Medical Biochemistry. (3 Credits)

I. Formerly CLS 290 Prerequisite: CHE 112, 112L, and BIO 121 or BIO 111. The study of biochemical systems of the body with emphasis on medical consequences when these systems are disrupted. Topics: proteins, carbohydrates, lipids, DNA/RNA and liver function. Credit will not be awarded for both CLS290 and MLS290.

MLS 300. Clinical Laboratory Administration. (2 Credits)

I. Formerly CLS 300 Prerequisite: enrollment in upper division MLS program or departmental approval. Lab calculations, instrumentation, and quality assurance. 2 Lec. Credit will not be awarded for both CLS300 and MLS300.

MLS 303. Clinical Laboratory Skills. (1 Credit)

I, II. Formerly CLS 303 Prerequisite: enrollment in upper division MLS program or departmental permission. Skills for clinical laboratory practitioners, including laboratory safety, phlebotomy, microscopy, pipetting, universal precautions, and principles of quality assurance. Credit will not be awarded for CLS303 and MLS303.

MLS 305. Analysis of Body Fluids. (3 Credits)

(3)I Prerequisite: enrollment in upper division MLS program or departmental approval. Principles, procedures, and significance of analysis of urine, spinal fluid, and other fluids commonly examined in the clinical laboratory. 3 Lec/Lab.

MLS 308. Serology and Molecular Techniques. (2 Credits)

I. Prerequisite: Enrollment in upper division MLS program or departmental approval. Principles, procedures, sources of error, clinical application of serological tests, molecular techniques and specimen collection; 4 Lec/Lab.

MLS 309. Clinical Immunology. (1 Credit)

I, II. Formerly CLS 309 Prerequisite: Enrollment in upper division MLS program or departmental approval. Principles and techniques of antigen-antibody reactions of the human immune system and their relationship to the clinical laboratory. Credit will not be awarded for both CLS309 and MLS309.

MLS 310. Hematology and Coagulation. (5 Credits)

I. Formerly CLS 310 Prerequisite: enrollment in upper division MLS program or departmental approval. Morphology of blood cells, determination of blood parameters and disorders/diseases associated with blood cells; biochemistry, procedures and disorders/diseases in coagulation. 3 Lec/4 Lab. Credit will not be awarded for both CLS310 and MLS310.

MLS 320. Immunohematology. (3 Credits)

II. Formerly CLS 320 Prerequisite: enrollment in upper division MLS program or departmental approval. Blood banking, blood grouping, phenotyping, cell panels, compatibility testing, and transfusion practices. 2 Lec/2 Lab. Credit will not be awarded for both CLS320 and MLS320.

MLS 346. Clinical Chemistry. (5 Credits)

II. Formerly CLS 346 Prerequisite: enrollment in upper division MLS program or departmental approval. Introduction to theory and lab procedures, measurement of constituents of body fluids, instrumentation, and clinical interpretation of results in relation to biochemistry of human systems. 3 Lec/3 Lab. Credit will not be awarded for both CLS346 and MLS346.

MLS 350. Bacteriology. (5 Credits)

I. Formerly CLS 350 Prerequisite: Enrollment in the upper division MLS program or departmental approval. Study of medically important bacteria with emphasis on the clinical laboratory methods of microscopy, cultivation, identification, antimicrobial susceptibility testing, and quality control. 3 Lec/4 Lab. Credit will not be awarded for both CLS350 and MLS350.

MLS 355. Mycology, Parasitology, and Virology. (4 Credits)

II. Formerly CLS 355 Prerequisites: Enrollment in the upper division MLS program or departmental approval. Study of fungi, parasites, and viruses as agents of human disease, with emphasis on the clinical laboratory methods of microscopy, in vitro cultivation, identification, and quality control. 3 Lec/1 Lab. Credit will not be awarded for both CLS355 and MLS355.

MLS 431. Clinical Correlations. (3 Credits)

I, A. Formerly CLS 431 Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Correlates the sub-disciplines of clinical laboratory science. Reviews all areas and stresses laboratory medicine in the health professions. 3 Lec. Credit will not be awarded for both CLS431 and MLS431.

MLS 432. Clinical Chemistry Practicum. (5 Credits)

II, A. Formerly CLS 432 Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Diagnostic chemical procedures in an affiliated laboratory. Credit will not be awarded for both CLS432 and MLS432.

MLS 434. Clinical Microbiology Practicum. (4 Credits)

I, II. Formerly CLS 434 Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Clinical bacteriology, parasitology, and mycology in an affiliated laboratory. Credit will not be awarded for both CLS434 and MLS434.

MLS 436. Lab Management and Education. (1 Credit)

I, II. Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Study of specific problems, topics, or issues in Medical Laboratory Science. Additional course topics include leadership, management and professionalism.

MLS 437. Clinical Laboratory Seminar. (3 Credits)

I, II. Formerly CLS 437 Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Case studies, advanced procedures, and problem solving in the clinical laboratory. Credit will not be awarded for both CLS437 and MLS437.

MLS 438. Hematology Practicum. (4 Credits)

I, A. Formerly CLS 438 Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Diagnostic blood parameters and morphology studies in an affiliated laboratory. Credit will not be awarded for both CLS438 and MLS438.

MLS 439. Urinalysis Practicum. (1 Credit)

I, A. Formerly CLS 439 Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Diagnostic urine and body fluid procedures in an affiliated laboratory. Credit will not be awarded for both CLS439 and MLS439.

MLS 440. Blood Bank Practicum. (2 Credits)

II, A. Formerly CLS 440 Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Practical blood banking in an affiliated laboratory. Credit will not be awarded for both CLS440 and MLS440.

MLS 441. Immunology Practicum. (1 Credit)

I, II, A. Formerly CLS 441 Prerequisites: enrollment in upper division MLS program and completion of all 300-level MLS courses. Practical immunology in an affiliated laboratory. Credit will not be awarded for both CLS441 and MLS441.