

HEALTH SCIENCE

College of Health and Human Services

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Director, Radiation Therapy: Stephanie Eatmon

Clinical Coordinator, Radiation Therapy: Cheryl Brady

Coordinator, Single Subject Credential: Victoria Bisorca

Administrative Support Coordinators: Mark Vela, Karen Miyahara

Career Possibilities

Health Science: Health Educator • Government Inspector • California Middle/High School Health Teacher • Researcher/Evaluator • Health Education Specialist • Public Health Educator • Patient Educator

Radiation Therapy: Staff Therapists • Simulator Therapists • Dosimetrists • Educators • Senior Therapists • Department Managers • Temporary Staffing Therapists • Consultants • Equipment Sales and Marketing (For more information, see www.careers.csulb.edu.)

Introduction

The Department offers undergraduate and graduate study in Health Education, and an undergraduate option in Radiation Therapy. For program information, students should review the information found on our website <http://www.csulb.edu/colleges/chhs/departments/healthscience/> and contact the department office for referral to one of the faculty advisors: Director of Undergraduate Studies, Director of Radiation Therapy, Director of Graduate Studies and/or Single Subject Credential Advisor.

Undergraduate Programs

Bachelor of Science in Health Science

The basic University requirements for graduation with a B.S. Degree in Health Science consist of:

1. completion of general education requirements,
2. completion of all courses identified on the Program Planner for the Option selected, with no grade lower than a "C" for each listed course or approved substitute,
3. completion of a minimum of 120 units, at least 40 units of which must be upper division. Upper division courses are numbered 300 to 499.

Major Core Requirements

All Health Science majors must complete the required core. The core of the Health Science program contains five areas of competence: Statistics, Program Development, Professionalism, Health Services Organization and Health

Promotion. All majors must complete at least one course from each competency area. Courses must be selected in consultation with an advisor.

Option in Community Health Education (120 units)

The Community Health Education option is designed for persons whose occupational objective is to serve as a community health educator with an official, voluntary, or corporate health agency.

Lower Division:

Take all of the following courses:

H SC 210 Contemporary Health Problems (3)
Prerequisites: GE Foundation requirements.

BIOL 205 Human Biology (4)
Prerequisites: GE Foundation requirements.

MICR 101 Introduction to Human Disease (3)
Prerequisites/Corequisites: Course that fulfills the A1 GE requirement.

NUTR 132 Introduction to Nutrition (3)
Prerequisites/Corequisites: One Foundation course.

Take one of the following courses:

PSY 210 Introductory Statistics (4)
Prerequisites: PSY 100, GE A1 requirement, and eligible to take a General Education Mathematics course.

SOC 250 Elementary Statistics (4)
Prerequisite: Knowledge of mathematical procedures usually covered in elementary high school algebra as demonstrated on a screening examination.

Take a 3-unit foreign language course.

Upper Division:

Take all of the following courses:

H SC 301 Orientation to Health Science (3)
Prerequisite: Open to Health Science majors and minors only.

H SC 400 Principles of Epidemiology (3)
Prerequisites: Open to Health Care Administration and Health Science majors and minors only. Health Care Administration majors: SOC 250. Health Science majors: H SC 403.

H SC 401 Community Health Education (3)
Prerequisites: HSC 301.

H SC 402 Applied Concepts of Community Health Education (3)
Prerequisites: H SC 301, 401.

H SC 403 Community Health Statistics (3)
Prerequisites: GE Math and SOC 250 or PSY 210 or equivalent.

H SC 405 Health Education Program Evaluation and Measurement (3)
Prerequisites: HSC 403 or equivalent.

H SC 421 Health Behavior (3)
Prerequisites: None.

H SC 430 School Health Program (3)
Prerequisites: HSC 301.

H SC 435 Health Promotion Risk Reduction (3)
Prerequisites: HSC 421 or consent of instructor.

H SC 440 Applied Concepts of Health Science (3)
Prerequisites: HSC 430.

H SC 485 Internship in Community Health Education (3)
Prerequisites: Open to Health Science majors only. H SC 401 and consent of instructor.

Take three courses selected from the following:

H SC 407, 420I, 422, 423, 425I, 427

Take one course selected from the following:

PSY 351 or SOC 335I

Take one course selected from the following:

SOC 320, 462, 464

Take one course selected from the following:

COMM 334, 335

Option in School Health Education (120 units)

The School Health Option is designed for persons who wish to become health science teachers in California middle and high schools. The program is approved by the California Commission on Teacher Credentialing and meets subject matter competence requirements for the Single Subject Teaching Credential in Health Science. Prospective students should consult the department's Health Science Single Subject Advisor early to plan their program.

Requirements

Lower Division:

Take all of the following courses:

BIOL 205 Human Biology (4)

Prerequisites: GE Foundation requirements.

MICR 101 Introduction to Human Disease (3)

Prerequisites/Corequisites: Course that fulfills the A1 GE requirement.

NUTR 132 Introduction to Nutrition (3)

Prerequisites/Corequisites: One Foundation course.

PSY 100 General Psychology (3)

Prerequisites/Corequisites: GE A1 requirement.

Take one of the following courses:

PSY 210 Introductory Statistics (4)

Prerequisites: PSY 100, GE A1 requirement, and eligible to take a General Education Mathematics course.

SOC 250 Elementary Statistics (4)

Prerequisite: Knowledge of mathematical procedures usually covered in elementary high school algebra as demonstrated on a screening examination.

Take a 3-unit foreign language course.

Upper Division:

Take one of the following:

COMM 335 Persuasive Speaking (3)

Prerequisites: GE Foundation requirements.

Approved upper-division COMM course

Take one of the following courses:

EDP 301 Child Development and Learning (3)

Prerequisites: None.

EDP 302 Early and Late Adolescent Development (3)

Prerequisites: None.

EDP 305 Educational Psychology (3)

Prerequisites: None.

Take one of the following courses:

ANTH 329; CDFS 319I; HSC 420I; PSY 378;

SOC 320, 423

Subject Matter Courses

Take all of the following courses:

EETC 444 Computer Technology in Education, Level I (3)

Prerequisites: Course design assumes familiarity with topics introduced in ETEC 110.

H SC 210 Contemporary Health Problems (3)

Prerequisites: GE Foundation requirements.

H SC 301 Orientation to Health Science (3)

Prerequisite: Open to Health Science majors and minors only.

H SC 401 Community Health Education (3)

Prerequisites: HSC 301.

H SC 403 Community Health Statistics (3)

Prerequisites: GE Math and SOC 250 or PSY 210 or equivalent.

H SC 421 Health Behavior (3)

Prerequisites: None.

H SC 422 Environmental Health (3)

Prerequisites: None.

H SC 423 Consumer Health (3)

Prerequisites: None.

H SC 425I Human Sexuality and Sex Education (3)

Prerequisites: GE Foundation, one or more Exploration courses, and upper-division standing. Recommended: PSY 100.

H SC 427 Drugs and Health (3)

Prerequisites: Upper-division standing.

H SC 430 School Health Program (3)

Prerequisites: HSC 301.

H SC 435 Health Promotion/Risk Reduction (3)

Prerequisites: HSC 421 or consent of instructor.

H SC 440 Applied Concepts of Health Science (3)

Prerequisites: HSC 430.

Single Subject Teaching Credential in Health Science

In addition to meeting the subject matter competence requirement for the Single Subject Teaching Credential in Health Science, prospective health teachers are also required to complete an additional 45 units of professional preparation in the Single Subject Credential Program, including student teaching. Students may begin the professional preparation courses as early as the junior year. With careful planning, it is possible to complete all of the credential program courses, except for student teaching as an undergraduate. Courses may also be completed as a post-baccalaureate student. Refer to the Single Subject Teacher Education section of this catalog or the Single Subject Credential Program website (www.ced.csulb.edu/single-subject) for a description of the professional preparation requirements, courses, and application procedures.

The Health Science Subject Matter Program is being revised to meet new state standards. When the revised program has been approved by the Commission on Teacher Credentialing, the new course requirements will be in effect and supersede current requirements.

Option in Health Care (120 units)

The Option in Health Care is designed for those individuals who have received certification and/or license from an approved allied health/health care program and desire a Bachelor of Science degree. The focus of this option is the development of professional skills for people whose goal is: (a) providing service, or (b) instructing in the health care setting.

Admission Requirements

Once admitted to the University, students are required to complete the following prior to acceptance into the Health Care Option.

1. Obtain certification and/or license from an allied health/health care program from an institution that has been

accredited by either a Committee on Post-secondary Accreditation (COPA) approved accreditation agency or the Committee on Allied Health Education and Accreditation (CAHEA). Those individuals who do not have appropriate certification will be counseled by the Department of Health Science regarding where to obtain an appropriate accredited program, and, when possible, concurrent enrollment may be utilized;

2. Earn a minimum GPA of 2.0.

Lower Division:

Completion of general education requirements to include:

ENGL 100 Composition (3)

Prerequisites: A recorded total score of 151 or above on the English Placement test, credit in ENGL 1 (or its equivalent), or consent of the instructor.

Take one course from the following:

ANTH 120, SOC 100, PSY 100

Take a minimum of 12 units in Natural Sciences, approved by department advisor equivalent to:

BIOL 200, 207, 208; MICR 101

Take one course from the following:

CHEM 100, 111A

Upper Division

Core: Three units from each area with advisor consultation:

A. Statistics: H SC 403, ED P 419

B. Program Development: H SC 430 and HCA 320 or H SC 455 and H SC 316

C. Professionalism: H SC 451, HCA 340

D. Health Organization: H SC 401, 420I

E. Health Promotion: H SC 435, HCA 300

Requirements

Take the following course:

H SC 400 Principles of Epidemiology (3)

Prerequisites: Open to Health Care Administration and Health Science majors and minors only. Health Care Administration majors: SOC 250. Health Science majors: H SC 403.

Take one of the following courses:

HDEV 320 Research Methods in Human Development (4)

Prerequisites: ANTH 120 or PSY 100 or SOC 100 or HDEV 180 and HDEV 250.

H SC 405 Health Education Program Evaluation and Measurement (3)

Prerequisites: HSC 403 or equivalent.

Take one of the following courses:

ANTH 353 Health and Healing (3)

Prerequisites: GE Foundation requirements.

SOC 462 Medical Sociology (3)

Prerequisites: GE Foundation requirements.

Take one of the following courses:

POSC 329 Cases in Public Policy Making (3)

Prerequisites: GE Foundation requirement, POSC 100, and POSC 328.

ECON 300 Fundamentals of Economics (3)

Prerequisites: GE Foundation requirements.

Take one of the following emphases:

A. Providing Service (12 units)

Take the following courses:

HCA 410 Health Management and Organization (3)

Prerequisites: Open to Health Care Administration majors only. Prerequisite/Corequisite: HCA 300.

HCA 465 Analysis and Evaluation of Health Care Services (3)

Prerequisite/Corequisite: HCA 300.

Prerequisites: Open to Health Care Administration majors only and a grade of "C" or better in PSY 210 or SOC 250 or equivalent.

Take one of the following courses:

H SC 421 Health Behavior (3)

Prerequisites: None.

H SC 492A,B Internship in Health Care (1-3)

Prerequisites: Consent of instructor.

Take one of the following courses:

ANTH 319 Human Growth and Development (3)

Prerequisites: None.

GERN 400I Perspectives on Gerontology (2)

Prerequisites: GE Foundation, one or more Exploration courses, and upper-division standing.

GERN 482 Health Assessment of the Aging Client (3)

Prerequisites: GERN 400I, HDEV 357I or PSY 365, ANTH 454, and BIOL 401, or consent of instructor.

NRSRG 482 Physical Assessment and Aging (3)

Prerequisites: GERN 400I or equivalent and upper standing or consent of instructor.

B. Instructing in the Health Care Setting (12 units)

Take the following courses:

HCA 410 Health Management and Organization (3)

Prerequisites: Open to Health Care Administration majors only. Prerequisite/Corequisite: HCA 300.

HCA 465 Analysis and Evaluation of Health Care Services (3)

Prerequisites/Corequisites: HCA 402. Prerequisites: A grade of "C" or better in PSY 210 or SOC 250 or equivalent.

Take one of the following courses:

H SC 492A,B Internship in Health Care (3)

Prerequisites: Consent of instructor.

ED P 432 Social and Cultural Diversity in Educational Settings (3)

Prerequisites: None.

Take one of the following courses:

ED P 305 Educational Psychology (3)

Prerequisites: None.

H SC 421 Health Behavior (3)

Prerequisites: None.

Minor in Health Science

Twenty-four units required.

Take all the following courses:

H SC 301 Orientation to Health Science (3)

Prerequisite: Open to Health Science majors and minors only.

H SC 401 Community Health Education (3)

Prerequisites: HSC 301.

H SC 430 School Health Program (3)

Prerequisites: HSC 301.

H SC 435 Health Promotion Risk Reduction (3)

Prerequisites: HSC 421 or consent of instructor.

H SC 440 Applied Concepts of Health Science (3)

Prerequisites: HSC 430.

Take three courses from the following courses:

H SC 400, 420I, 421, 422, 423, 425I, 427.

Graduate Programs

Graduate Program in Health Education

Accredited by the Council on Education for Public Health (Council on Education for Public Health, 1015 Fifteenth Street, NW, Washington, DC 20005, phone: 202-789-1050).

In order to be admitted to the graduate program for study toward a degree, a prospective candidate must apply both to this department and the University. Contact the Director of Graduate Studies for current requirements.

The graduate student will be prepared for a leadership role in a school or community setting and for admission to doctoral programs. Admitted graduate students must contact the Director of Graduate Studies for advisement early in their first semester of enrollment in order to develop an approved program of study.

Master of Science in Health Science

The Master of Science program is designed to provide students with:

1. an intensive study of health education concepts, theories, and processes;
2. an introduction to public health concepts and issues; and
3. research methodology and skills appropriate to an in-depth examination of a public health topic.

Admission Requirements

Applicants must apply both to the Department and the University. Applications are available from the Department office or on-line at www.csulb.edu/health-science.

1. Each applicant must request that a copy of official transcript(s) of all work to be sent to the university's Office of Enrollment Services.
2. A bachelor's degree with a major in health education, which articulates with the course requirements for the same degree at California State University, Long Beach; or a bachelor's degree in a related discipline with a minimum of 21 units of upper division course work comparable to that required of the Health Science major at the University; or a bachelor's degree in a related discipline and willingness to make up any deficiencies in prerequisite Health Science courses. Prerequisites for all courses carrying graduate credit must have been completed within seven years of acceptance to the program. If any prerequisite is outdated, it may be repeated or credit may be obtained by (1) written examination on the subject matter or (2) providing documented evidence of currency in the subject area.
3. An overall undergraduate GPA of at least 3.0. Students with less than a 3.0 GPA on the last 60 units of undergraduate units attempted, but who show promise in all other aspects, may be given special consideration after petitioning for conditional admission into the program through the Director of Graduate Studies.
4. Acceptance by the University as a student with graduate standing.
5. A maximum of 9 units of approved graduate work at the post-baccalaureate level may be credited to a student's program requirements upon departmental acceptance to the graduate program.

6. Submission of the analytic, quantitative and verbal scores from the Graduate Record Examination (GRE).
7. Copy of the CSU graduate application to the department.
8. Three letters of recommendation from persons with whom the candidate has worked and/or who have direct knowledge of the applicant's professional or academic potential as a community health educator.
9. A separate personal statement of reasons for pursuing this field of study and comments about interests and experience that are germane to career objectives. Submit a personal resume reflecting the applicant's education and relevant work experience.

Advancement to Candidacy

1. Satisfy the general University requirements for advancement to candidacy:
 - A. fulfill the Graduation Writing Assessment Requirement (GWAR);
 - B. maintain at least a 3.0 average for all course work attempted as a graduate student; and
 - C. complete H SC 500, 503, and 570;
2. Approval by the Director of Graduate Studies and the Associate Dean of Academic Programs of the College of Health and Human Services.

Requirements

1. A minimum of 43 units of approved upper division and graduate courses including:
 - A. 21 units of H SC courses, which include the following:
 - HCA 502 The Health Care System (3)
Prerequisites: None.
 - H SC 440 Applied Concepts of Health Science (3)
Prerequisites: HSC 430.
 - H SC 500 Principles of Epidemiology (3)
Prerequisites: HSC 301 and HSC 403.
 - H SC 503 Advanced Community Health Statistics (3)
Prerequisites: HSC 403 or equivalent.
 - H SC 570 Theoretical Concepts and Issues in Health Science (3)
Prerequisites: None.
 - H SC 581 Curriculum Development in Health Education (3)
Prerequisites: HSC 430, 440.
 - H SC 696 Research Methods (3)
Prerequisites: Undergraduate major in Health Science or related field; undergraduate course in statistics.
 - B. 18 units of electives in a specialty field;
 - C. 4 units of the following:
 - H SC 698 Thesis (1-3)
Prerequisites: HSC 696, advancement to candidacy.
2. A thesis with an oral exam.

Master of Public Health

Option in Community Health Education

The Master of Public Health in Community Health provides an opportunity for students: to specialize in community health education and health promotion within the general context of Public Health; to increase competence in designing, implementing, and evaluating social behavior changes programs in preparation for serving in various health agencies; prepare for teaching at college and

university levels; and for administrative positions in public and private health agencies.

Admission Requirements

Applicants must apply both to the Department and the University. Applications are available online at www.csulb.edu/health-science.

1. Each applicant must request that a copy of official transcript(s) of all work be sent to the university's Office of Enrollment Services.
2. A bachelor's degree with a major in health education, which articulates with the course requirements for the same degree at California State University, Long Beach; or a bachelor's degree in a related discipline with a minimum of 21 units of upper division course work comparable to those required of the Health Science major at the University; or a bachelor's degree in a related discipline and willingness to make up any deficiencies in prerequisite Health Science courses. Prerequisites for all courses carrying graduate credit must have been completed within seven years of acceptance to the graduate program. If any prerequisite is outdated, it must be repeated. Credit may be obtained by (1) written examination on the subject matter or (2) providing documented evidence of currency in the subject area.
3. An overall undergraduate GPA of at least 3.0. Students with less than a 3.0 GPA on the last 60 units of undergraduate units attempted, but who show promise in all other aspects, may be given special consideration after petitioning for conditional admission into the program through the Director of Graduate Studies.
4. Acceptance by the University as a student with graduate standing.
5. A maximum of 9 units of graduate work at the post-baccalaureate level may be credited to a student's program requirements upon departmental acceptance to the graduate program.
6. Submission of analytic, quantitative and verbal scores from the Graduate Record Examination (GRE) to the Department.
7. Submission of a copy of the CSU graduate application.
8. Three letters of recommendation from persons with whom the applicant has worked and/or who have direct knowledge of the applicant's professional and academic potential as a health educator.
9. A separate personal statement of reasons for pursuing this field of study and comments about interests and experience that are germane to career objectives. Submit a personal resume reflecting the applicant's education and relevant experience.
10. At least one year's full-time (or equivalent) paid or volunteer experience in Health Education or a closely related health field. Preference will be given to those with greater experience and ability.

Advancement to Candidacy

1. Satisfy the general university requirements for advancement to candidacy:
 - A. Fulfill the Graduation Writing Assessment Requirement (GWAR);

- B. Maintain at least a 3.0 average for all course work attempted as a graduate student;
 - C. Complete the following: H SC 500, 503, 570
2. Approval by the Director of Graduate Studies and Associate Dean for Academic Programs of the College of Health and Human Services.

Requirements

1. A minimum of 42 units of approved upper-division and graduate-level courses including:
 - A. 30-31 units of core classes including:
 - HCA 502 The Health Care System (3)
Prerequisites: HSC 301 and HSC 403.
 - HSC 508 Administrative Relationships in Health Education Programs (3)
Prerequisites: Undergraduate major in Health Science or related field.
 - HSC 528 Advanced Environmental Health (3)
Prerequisites: HSC 422 or consent of instructor.
 - H SC 570 Theoretical Concepts and Issues in Health Science (3)
Prerequisites: None.
 - H SC 581 Curriculum Dev in Health Education (3)
Prerequisites: HSC 430, 440.
 - HSC 624 Seminar in Community Analysis and Program Planning (3)
Prerequisites: HSC 625 or consent of instructor.
 - HSC 625 Advanced Community Health Education (3)
Prerequisites: HSC 401 and 485; consent of instructor.
 - HSC 626 Integrative Seminar in Public Health (3)
Prerequisites: HSC 570, advancement to candidacy.
- Take one of the following courses:
- H SC 500 Principles of Epidemiology (3)
Prerequisites: HSC 301 and HSC 403.
 - MICR 429 Epidemiology of Infectious Diseases (3)
Prerequisites: BIOL 260; MICR 320, 322; all of a grade of "C" or better.
- Take one of the following courses:
- H SC 503 Advanced Community Health Statistics (3)
Prerequisites: HSC 403 or equivalent.
 - BIOL 565 Experimental Design and Regression Analysis (4)
Prerequisites: BIOL 260; MATH 119B or 123; 6 units of upper division biological science all with a grade of "C" or better.
- B. 3 units of electives at the 500/600 level;
 - C. 6 units of supervised internship:
 - H SC 585 Health Education Internship (1-6)
Prerequisites: Consent of instructor.
2. A comprehensive written examination (see department for guidelines).

Master of Science in Nursing/Master of Public Health

For requirements, see description in the Nursing section of this catalog.

Single Subject Teaching Credential in Health Science

For information, refer to the undergraduate section in this department.

Courses (H SC)

LOWER DIVISION

150. Medical Terminology (1)

Development of medical vocabulary emphasizing the building of terms utilizing prefixes, combining forms and suffixes. Includes medical terms for application in the interpretation of medical records.

(Lecture-discussion 1 hour.) Letter grade only (A-F).

200. Orientation to Radiation Therapy (3)

Introduction to the profession of Radiation therapy and an overview of the Option requirements. The role of Radiation therapy in cancer treatment and the role Radiation Therapist in patient care, treatment, simulation, dosimetry and follow-up.

40 hours of clinical fieldwork required. Letter grade only (A-F).

210. Contemporary Health Problems (3)

Prerequisite: GE Foundation requirements.

Development of modern health knowledge, attitudes and behavior: includes family life-sex education, drug use and abuse, mental health, medical quackery and health frauds, common diseases such as sexually transmitted diseases, heart disease and cancer.

UPPER DIVISION

301. Orientation to Health Science (3)

Prerequisite: Open to Health Science majors and minors only.

Overview of philosophy of Health Science Department Orientation to degree requirements, career opportunities, and theoretical and practical issues of health education as a profession.

305. Basic Research Methods and Data Analyses in Health and Human Services (3)

Introduction to research methods and data analyses concerning health and human services. An understanding and application of public data sources, research designs, primary and secondary data analyses, and report writing. Critical assessment of information presented in media and journals.

Letter grade only (A-F).

310. Radiation Therapy Patient Care I (2)

Prerequisite: Admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Topics covered include the role of the radiation therapist, communication, self-care, basic patient care, patient assessment, infection control, medical emergencies, basic pharmacology and medication administration.

Letter grade only (A-F).

311. Radiation Therapy Patient Care II (2)

Prerequisites: Admission to the Radiation Therapy Option Professional Preparation of consent of instructor, HSC 310.

Topics covered include psychosocial aspects of cancer diagnosis, death and dying, patient education and intervention for treatment related sequelae. Additionally local, state and national cancer resources are covered.

Letter grade only (A-F).

315. Seminar in Radiation Therapy I (2)

Prerequisites: Concurrent enrollment in HSC 492A, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Introduction to the clinical arena requiring application of previous didactic material. Focus is on the patient, consult, simulation, treatment, dosimetry and case study review.

Letter grade only (A-F). (Lecture-Discussion, 2 hrs)

316. Seminar in Radiation Therapy II (2)

Prerequisites: Concurrent enrollment in HSC 492B, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Application of previous didactic material. Comprehensive analysis of case studies in the clinical setting with emphasis on treatment rationale and options.

Letter grade only (A-F). (Lecture-discussion 2 hours)

320. Radiologic Techniques and Imaging Modalities (3)

Prerequisites: Admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Concepts and processes involved in producing a radiograph will be covered. Additionally, other diagnostic imaging modalities such as CT, MRI, Ultrasound will be covered.

(Lecture-discussion 2 hr) Letter grade only (A-F).

330. Topographic Anatomy (2)

Prerequisites: BIOL 207, 208 admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Examination of external anatomic landmarks to internal anatomy. Additionally, cross sectional anatomy is covered with interpretation of port films and other diagnostic films.

(Lecture-discussion 2 hr) Letter grade only (A-F).

333. Latino Nutrition, Health and Chronic Disease Prevention (3)

Prerequisites: GE Foundation requirements, one or more Exploration courses and upper division standing.

Explores nutrition-related and contextual factors associated with the high rates of chronic disease among diverse Latino-specific subpopulations and provide culturally-relevant strategies for prevention.

Letter grade only (A-F). Same course as NUTR 333. Not open for credit to students with credit in NUTR 333.

340. Clinical Radiation Therapy (3)

Prerequisites: HSC 200, 320, admission to the Radiation Therapy Option Professional Preparation or consent of instructor.

Rationale of radiation therapy treatments; construction of immobilization devices, contours, beam modifiers and positioning aids. Examination of simulation procedures, contrast media, treatment positioning and monitoring.

(Lec-discussion 2 hrs, Lab 2 hrs) Letter grade only (A-F).

341. Clinical Radiation Therapy II (1)

Prerequisites: HSC 340, admission to the Radiation Therapy Option Professional Preparation or consent of instructor.
Corequisite: HSC 445A.

Examination of site specific techniques to treat cancers of the skin, head and neck, lung, esophagus, breast, gastrointestinal, kidney and bladder.

Letter grade only (A-F). (Lecture-discussion, 1 hour)

342. Clinical Radiation Therapy III (1)

Prerequisites: HSC 341, concurrent enrollment in HSC 445B, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Examination of site specific techniques to treat cancers of the reproductive systems, CNS, eye, endocrine, bone, soft tissues, blood and lymphatics. Pediatric cancer treatments will be included.

Letter grade only (A-F). (Lecture discussion 1 hour)

400. Principles of Epidemiology (3)

Prerequisites: Open to Health Care Administration and Health Science majors and minors only. Health Care Administration majors: SOC 250. Health Science majors: H SC 403.

Application of epidemiologic procedures to the understanding of the occurrence and control of infectious and chronic diseases,

mental illness, environmental health hazards, accidents, and geriatric problems.

(Lecture 3 hours)

401. Community Health Education (3)

Prerequisite: H SC 301.

Concepts of community health education with emphasis on community organization; application of these concepts to health education activities of official, voluntary and professional health agencies.

402. Applied Concepts of Community Health Education (3)

Prerequisites: H SC 301, 401.

Identification and application of concepts unique to community health education; includes examination of theoretical foundations, marketing and promotion techniques, and application of health education strategies.

403. Community Health Statistics (3)

Prerequisites: G.E. math and SOC 250 or PSY 210 or equivalent.

Representative topics are descriptive statistics, sample designs, central tendency, and variability. Statistical tools for inferential analyses include hypothesis testing and parameter estimation.

(Lecture 2 hours, Activity 2 hours)

405. Health Education Program Evaluation and Measurement (3)

Prerequisite: HSC 403 or equivalent.

Research designs, standardized measurements, data collection, analysis, and reporting are used to develop evaluation skills to assess program outcomes. Program activities promoting behavior change in communities, organizations, groups and individuals are evaluated.

(Discussion 3 hours)

407. Health Equity and Health Disparities Research in the US (3)

Prerequisites: GE Foundation, one or more Exploration courses and upper-division standing.

Explores socioeconomic, biologic, environmental, and institutional factors associated with health issues and disease. Students will learn about research and interventions to affect positive health outcomes and access for underserved, underrepresented diverse populations.

Letter grade only (A-F).

411A. Health Science for Elementary Teachers (3)

Prerequisite: Upper-division standing. Corequisite: Current CPR Certification required.

Contemporary teaching of health education in elementary schools; emphasizes coordinated school health, drugs, sexuality, nutrition, child abuse, violence, community and human ecology. Based upon California Health Framework, meets state credential requirements.

Not open for credit to health Science majors or minors.

411B. Health Science for Secondary Teachers (3)

Prerequisite: Upper-division standing. Corequisite: Current CPR Certification required.

Contemporary teaching of health education in secondary schools; emphasizes coordinated school health, integrating health content and instruction into other subjects, drugs, sexuality, nutrition, child abuse, violence, community and human ecology. Based upon California Health Framework, meets state credential requirements.

Not open for credit to health Science majors or minors

415. Radiation Biology (2)

Prerequisites: BIOL 207, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Biological effects of radiation at the cellular, organ and whole body levels. Radiobiological effectiveness, linear energy transfer,

oxygen enhancement ratio, sensitizers and protectors will be covered.

(Lecture-discussion 2 hours). Letter grade only (A-F).

420I. International Health (3)

Prerequisites: GE Foundation, one or more Exploration courses, and upper-division standing.

Analysis of current health problems in the world; examination of contributing social, psychological, physical, legal and cultural factors; international programs for the improvement of world health; structure and functions of world health agencies and organizations.

Course fee may be required.

421. Health Behavior (3)

Survey of contemporary research on the health effects of human behavior. Special emphasis is given to current issues of health behavior; decision-making in contemporary society, values clarification and contemporary theories of behavior change (e.g., health belief model).

422. Environmental Health (3)

Examination of reciprocal relationship existing between man and his environment, with the emphasis directed toward the health related consequences of man's actions in the environment.

423. Consumer Health (3)

Effective selection of health information, products and services; medical quackery and fraudulent health practices; laws and agencies protecting the consumer; health care delivery systems; and influences of corporate control on the consumer movement in contemporary society.

425I. Human Sexuality and Sex Education (3)

Prerequisites: G.E. Foundation, one or more Exploration courses, and upper-division standing. Recommended: PSY 100.

Biomedical, sociological, and psychological aspects of human sexuality, the communication of sexual information, the implementation, content and evaluation of family life and sex education in the schools.

427. Drugs and Health (3)

Prerequisite: Upper division standing.

Study of psychoactive drugs with primary attention to alcohol, nicotine, caffeine, cannabis, hallucinogens, narcotics and other drugs; examination of trends, philosophical issues and behavioral practices associated with drug use and dependence. Includes physiological psycho-social, legal, historical, philosophical and political aspects; treatment-rehabilitation activities and programs; and drug abuse prevention education.

Not open for credit to students with credit in H SC 327.

430. School Health Program (3)

Prerequisite: H SC 301.

Intensive analysis of the philosophy, organization and legal aspects of the school health program. Includes school and community coordination for a team approach to health education for the school age individual.

435./535. Health Promotion and Risk Reduction (3)

Prerequisites: H SC 421 or consent of instructor.

Health promotion/risk reduction program content, development and implementation for use in corporate, hospital and public settings. Intended primarily for Health Science majors.

(Discussion 3 hours)

440. Applied Concepts of Health Science (3)

Prerequisite: H SC 430.

Identification and application of the concepts and modes of inquiry unique to the discipline of health science; development of appropriate curriculum based upon an analysis of individual, school and community needs and interests.

445A. Oncologic Pathology I (3)

Prerequisites: BIOL 207, 208; HSC 150, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Examination of Oncologic pathology with emphasis on malignant neoplasia; specific attention given to cancers of the skin, head and neck, lung, esophagus, breast, gastrointestinal tract, kidney and bladder.

(Lecture-discussion 3 hours) Letter grade only (A-F).

445B. Oncologic Pathology II (3)

Prerequisites: HSC 445A, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Continuing study of Oncologic pathology with specific attention given to cancers of the reproductive system, central nervous system, eye, endocrine, major digestive glands, bone, soft tissue, blood, lymphatic system and pediatric solid tumors.

(Lecture-discussion 3 hours) Letter grade only (A-F).

451. Ethics Professionalism in Health Care (3)

Examination of professionalism and bioethics, and the process of making moral decisions; ethical issues; professional oaths and codes of ethics; health care ethics and the law.

455. Quality Management in Radiation Therapy (1)

Prerequisites: HSC 470B, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Study of the principles of quality management with an emphasis on specific quality assurance tests in radiation therapy. Students will be given the opportunity to either perform or observe a demonstration of each quality assurance test.

(Letter grade only (A-F).

465. Radiation Therapy in the Health Care Industry (3)

Prerequisites: Admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Examination of radiation therapy in the current health care market. Focus in on various operational and budgetary issues, hospital and governmental accreditation, types of insurance and reimbursements.

Letter grade only (A-F). Lecture-discussion 3 hours)

470A. Clinical Radiation Physics I (3)

Prerequisites: PHYS 100A, B, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Nature and description of the structure of matter and energy; interactions of photons and gamma radiation; instrumentation and measurement of ionizing radiation; beam quality and dose; percentage depth dose, tissue air ratios, treatment dose calculations.

(Lecture-discussion 2 hours, Laboratory 2 hours). Letter grade only (A-F).

470B. Clinical Radiation Physics II (3)

Prerequisites: HSC 470A, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

A continuation of the study of radiation physics with emphasis on electron beams, brachytherapy, intensity modulated radiotherapy, conformal radiotherapy and other emerging technologies. Radiation safety and protection also included.

(Lecture-discussion 2 hours, Laboratory 2 hours). Letter grade only (A-F).

475. Treatment Planning – Dosimetry (2)

Prerequisites: HSC 470A, B, concurrent enrollment in HSC 475L, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Examines the effects of treatment distance, field weighting, beam modifiers, irregular fields, tissue inhomogeneities and tissue compensation on dose. Dose calculations for external photon and electron beams.

(Lecture-discussion 2 hours). Letter grade only (A-F).

475L. Treatment Planning – Dosimetry Laboratory (1)

Prerequisites: Concurrent enrollment in HSC 475, admission to the Radiation Therapy Option Professional Preparation of consent of instructor.

Practical experience with calculation of treatment dose given a variety of clinical situations. Calculations to determine dose to critical structures or methods used to lower or avoid dose. Use of a treatment planning computer for complex field arrangements.

(Laboratory 3 hours) Letter grade only (A-F).

480. Advanced Radiation Therapy (2)

Prerequisites: Must be in final semester of Radiation Therapy Option Professional Preparation.

Synthesis of previous didactic and clinical information; examination of current and future professional issues, technological advances, ethics, professional organizations and continuing education.

(Lecture-discussion 2 hours) Letter grade only (A-F).

485. Internship in Community Health Education (3)

Prerequisites: Open to Health Science majors only. H SC 401 and consent of instructor.

Preparation for and introduction to work experience in a community health organization. A minimum of 80 hours work experience in a community health organization under direct supervision of a preceptor.

Letter grade only (A-F). (6 hours activity)

486. Internship and Careers in Community Health Education

Prerequisites: Open to Health Science majors only. H SC 485 and consent of instructor.

Culminating experience in a community health setting. Assess needs, plan and implement health education programs and strategies. Evaluation of work experience in a community health organization where a minimum of 120 hours work experience required under the direct supervision of a preceptor.

Letter grade only (A-F). (6 hours activity)

490. Independent Studies in Health Science (1-3)

Prerequisite: Consent of instructor.

Students conduct independent library or laboratory research under the supervision of a faculty member and write a report of the

investigation. May be repeated to a maximum of 6 units.

492A. Internship in Health Care (1-7)

Prerequisite: Consent of instructor.

Supervised observation and field experience in community health and medical facilities. Student responsible for successful completion of clinical objectives applicable to area of observation.

Letter grade only (A-F).

492B. Internship in Health Care (1-9)

Prerequisites: Consent of instructor.

Supervised observation and field experience in community health and medical facilities. Student responsible for successful completion of clinical objectives applicable to area of observation.

Letter grade only (A-F).

497. Selected Topics in Health Science

Group investigation of selected topics. Topics are announced in the Schedule of Classes.

Letter grade only (A-F). May be repeated for a maximum of 6 units with different topics in different semesters.

GRADUATE LEVEL

500. Principles of Epidemiology (3)

Prerequisites: H SC 301 and H SC 403.

Application of epidemiologic procedures to the understanding of the occurrence and control of infectious and chronic diseases, mental

illness, environmental health hazards, accidents, and geriatric problems.

Letter grade only (A-F). (Lecture 3 hours.)

503. Advanced Community Health Statistics (3)

Prerequisite: HSC 403 or equivalent.

Analysis of quantitative health related data. Topics include mean and percentage comparisons, multiple regression, logistic regression and survival analysis. Use of computers is required.

Letter grade only (A-F). (Discussion, 3 hours)

507. Health Equity and Health Disparities Research in the US (3)

Prerequisites: Undergraduate major in Health Science or related field.

Explores socioeconomic, biologic, environmental, and institutional factors associated with health issues and disease. Students will learn about research and interventions to affect positive health outcomes and access for underserved, underrepresented diverse populations.

Letter grade only(A-F).

508. Administrative Relationships in Health Education Programs (3)

Prerequisite: Undergraduate major in Health Science or related field.

Introduction to administrative theory; investigation of administrative responsibilities and functions implicit in school health or other health education programs.

Letter grade only (A-F).

528. Advanced Environmental Health (3)

Prerequisite: H SC 422 or consent of instructor.

Organization and methods for promoting human health by controlling environmental factors.

Letter grade only (A-F).

534. Advanced Latino Nutrition, Health and Chronic Disease Prevention (3)

Prerequisite: Open to students enrolled in graduate programs in Family and Consumer Sciences, Health Science, or related fields.

Explores nutrition-related and contextual factors associated with the high rates of chronic disease among diverse Latino-specific subpopulations and provides culturally relevant strategies for prevention.

Letter grade only (A-F). Same course as FCS 534. Not open for credit to students with credit in FCS 534.

535./435. Health Promotion and Risk Reduction (3)

Prerequisites: H SC 421 or consent of instructor.

Health promotion/risk reduction program content, development and implementation for use in corporate, hospital and public settings. Intended primarily for Health Science majors.

Letter grade only (A-F). (Discussion 3 hours)

537. Culturally Responsive Nutrition Promotion for Latinos (3)

Prerequisites: Open to students enrolled in graduate programs in Family and Consumer Sciences, Health Science, or related fields.

Explores the need and methods to develop culturally and linguistically relevant nutrition education with a focus on the Latino population. Students will analyze, evaluate, and create culturally competent nutrition interventions for the Latino community.

Letter grade only (A-F). Same course as FCS 537. Not open for credit to students with credit in FCS 537.

570. Theoretical Concepts and Issues in Health Science (3)

Identification and analysis of current trends, philosophies and issues in health science.

Letter grade only (A-F).

581. Curriculum Development in Health Education (3)

Prerequisites: H SC 430, 440.

Principles of curriculum development; selection and evaluation of resource materials; theory and practice in measurement in health education.

Letter grade only (A-F).

585. Health Education Internship (1-6)

Prerequisite: Consent of the instructor.

Extended applied experience under guidance of faculty and preceptors in an approved health education practice setting.

Letter grade only (A-F). (480 hours of field placement or the equivalent experience.)

590. Independent Study (1-3)

Independent research conducted under the supervision of a full-time faculty member resulting in a written report of the investigation.

Letter grade only (A-F). May be repeated to a maximum of 6 units with different topics.

597. Selected Topics in Health Science (3)

Group investigation of selected topics. Topics are announced in the Schedule of Classes.

Letter grade only (A-F). May be repeated for a maximum of 6 units with different topics in different semesters.

624. Seminar in Community Analysis and Program Planning (3)

Prerequisites: H SC 625 or consent of instructor.

Process and techniques of community analysis and program planning.

Letter grade only (A-F).

625. Advanced Community Health Education (3)

Prerequisites: H SC 401 and 485; or consent of instructor.

Advanced study of educational and related theory applicable to the conduct of health education programs in community and other settings. Methods of promoting change; role as program and staff director and evaluation techniques.

Letter grade only (A-F).

626. Integrative Seminar in Public Health (3)

Prerequisites: H SC 570, advancement to candidacy.

Summative critical analysis of current methodologies, research, and practices in public health and health education in particular. Synthesis of coursework, internship, and other relevant experiences in the graduate program.

Letter grade only (A-F).

696. Research Methods (3)

Prerequisites: Undergraduate major in Health Science or related field; undergraduate course in statistics.

Introduction to research methodology in the area of Health Science.

Letter grade only (A-F).

697. Directed Studies (1-3)

Prerequisite: Advancement to candidacy.

Independent investigation of research problems in health education.

Letter grade only (A-F).

698. Thesis (1-3)

Prerequisites: H SC 696, advancement to candidacy.

Planning, preparation and completion of an approved thesis.

May be repeated to a maximum of 6 units in different semesters.