

# Health Care

The **Bachelor of Science in Health Care** provides an academic foundation for students pursuing managerial, clinical or research careers in health care. The program includes a base of core courses that examines scientific, social, political, economic, ethical and organizational issues in health care and that also addresses implications for individual practice and public policy. This required core, drawn largely from the liberal arts, underscores the complex, interdisciplinary nature of health care today and the mandate for critical thinking, contextual understanding and ethical behavior across all related fields and careers. Grounded in these common questions and skill sets, students then pursue more specialized professional interests by selecting a concentration in either health care management or health sciences.

The program equips students with an academic foundation for graduate or professional school or for work in a variety of health care professions, including (but not limited to) hospital administration, community health, public health, biomedical research, medicine, nursing, dentistry, and physical and occupational therapy.

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## Degree Requirements

### Bachelor of Science in Health Care

All School of Continuing & Professional Studies undergraduate students must satisfy the same general-education requirements (<http://bulletin.wustl.edu/undergrad/caps/bachelors/#degreerequirements>). Requirements specific to this major include the following:

**Required core courses:** 12 units

Code	Title	Units
Phil 233	Biomedical Ethics	3
HCARE 309	Health and Society	3
Anthro 3283	Introduction to Public Health	3
Psych 358	Health Psychology	3
<b>Total Units</b>		<b>12</b>

### Health Care Management Concentration

**Required courses:** 24 units

Code	Title	Units
Econ 1011	Introduction to Microeconomics	3
Econ 352	Health Economics	3
Math 1011	Introduction to Statistics	3
or Math 205	Applied Statistics	
or Math 305	Probability and Statistics	
Bus 263	Financial and Managerial Accounting	3
Bus 339	Principles of Management	3
HCARE 103	Introduction to Health Professions	3
or Comm 234	Foundations of Communications	
or Comm 262	Integrated Strategic Communications	
or Comm 372	Crisis Communications	
HCARE 314	Health Care Finance	3
HCARE 355	Health Care Policy	3
<b>Total Units</b>		<b>24</b>

### Health Sciences Concentration

**Required courses:** 11 units

Code	Title	Units
Bio 101	General Biology I (with Lab)	4
Bio 102	General Biology II (with Lab)	4
Bio 342	Introduction to Human Disease and its Scientific Basis	3
<b>Total Units</b>		<b>11</b>

**Elective courses** (12 units chosen from the following list\*; at least 6 units at the 300-400 level):

Code	Title	Units
Chem 105	Introductory General Chemistry I PB	3
Chem 106	Introductory General Chemistry II PB	3
Chem 151	General Chemistry Laboratory I PB	2
Chem 152	General Chemistry Laboratory II PB	2
Chem 261	Organic Chemistry I with Lab PB	4
Chem 262	Organic Chemistry II w/ Lab PB	4
Phys 211	General Physics	4
Phys 212	General Physics II	4
Bio 322	Human Anatomy & Physiology I	5
Bio 323	Human Anatomy & Physiology II	5
Bio 406	Introduction to Biochemistry	3
Bio 431	Biology of Aging	3
Psych 322	Developmental Psychology	3
Psych 3200	Child Health Psychology	3
Psych 460	Behavioral Medicine	3
Anthro 387	Medical Anthropology	3

\* Other elective courses are allowed with approval.

## The Minor in Health Care

**Total units required: 15**

**Required courses (3 units):**

Code	Title	Units
HCARE 355	Health Care Policy	3

**Elective courses (12 units):**

- Course work in Health Care, including at least 9 units of advanced-level courses (300-400 level).

## Courses

Visit online course listings to view semester offerings for U86 HCARE (<https://courses.wustl.edu/CourseInfo.aspx?sch=U&dept=U86&crslvl=1:4>).

### U86 HCARE 1001 Concepts in Chemistry

This is a one-semester survey of the major topics covered in general chemistry, organic chemistry, and biochemistry. The course is intended for students pursuing a degree or certificate in clinical research management as well as for those seeking broad coverage of chemical concepts. This course does not replace general chemistry, organic chemistry, or biochemistry requirements for premedical students or others majoring in the sciences.

Same as U05 Chem 1001

Credit 3 units.

### U86 HCARE 101 General Biology I

First part of a two-semester rigorous introduction to basic biological principles and concepts. The first semester covers the molecular and cellular basis of life, bioenergetics, signal transduction, DNA and protein synthesis, and the function of whole organisms (physiology). Laboratory two evenings per week. Laboratories include traditional wet labs as well as inquiry-based, on-line labs. Restricted to University College students, post-baccalaureate premedical students, others with University College permission.

Same as U29 Bio 101

Credit 4 units. UColl: OLH, OLI

### U86 HCARE 1011 Concepts in Biology

Concepts in Biology is a one-semester survey of the major topics covered in general biology, cell biology, and genetics. The course covers four units: Cells, Genetics, Evolution, and Animal Structure and Function. The course is intended for students fulfilling pre-nursing requirements, or for others seeking broad coverage of biology concepts. Does not replace General Biology for premedical students or others majoring in the sciences.

Same as U29 Bio 1001

Credit 3 units. UColl: OLI

### U86 HCARE 102 General Biology II

Second semester of a two-semester sequence that provides a broad but rigorous introduction to basic biological principles and concepts. The second semester covers DNA technology and genomics, the genetic basis of development, the mechanisms of evolution, the evolutionary history of biological diversity, plant form and function, and ecology.

Laboratory two evenings per week. Laboratories include traditional wet labs as well as inquiry-based on-line labs. Restricted to University College students, post-baccalaureate premedical students, others with University College permission.

Same as U29 Bio 102

Credit 4 units. UColl: OLH, OLI

### U86 HCARE 103 Introduction to Health Professions

This course is an introduction to various healthcare professions. The course will explore a brief history and overview of the US healthcare system while giving students a survey of the various health professions available and pathways into those fields. Through career exploration, students will be provided with a framework to explore healthcare professions and focus their career goals. Students will learn through lecture, readings, videos, and visiting professionals.

Credit 3 units. UColl: OLH

### U86 HCARE 123 Beginning Spanish for Health Care Professionals I

This course is designed for practicing medical professionals who treat Spanish-speaking patients. Students practice the Spanish language through model conversations within varied medical settings, and learn anatomical and medical vocabulary and grammar to function in their current work environment. Vocabulary acquisition and speech are rehearsed and tested in simulated patient contacts. Prerequisite: Some previous knowledge of Spanish or study of other languages is recommended; please direct level questions to the Instructor. This class does not fulfill requirements for Spanish majors or minors.

Same as U27 Span 123

Credit 3 units. UColl: OLI

### U86 HCARE 124 Spanish for Health Care Professionals II

A continuation of Beginning Spanish for Health Care Professionals I, this class expands grammar and vocabulary knowledge while providing continuing practice in communication in medical settings. Designed for practicing or future medical professionals, including physicians, nurses, ER personnel, physical therapists, etc., who need to treat Spanish-speaking patients and wish to learn basic Spanish to do interviews, clinic history assessments, examinations, diagnosis, prescription, and basic health education. This course also covers the key cultural differences in treating an American Patient vs. a Latino Patient. Exams will emphasize vocabulary acquisition and oral ability in simulated physician-patient contacts. Prerequisite: Beginning Spanish for Health Care Professionals U27 123, Elementary Spanish 101 or equivalent. This course may not count toward the minor or major in Spanish offered through the Dept. of Romance Languages and Literatures in the day school.

Same as U27 Span 124

Credit 3 units. UColl: OLI

### U86 HCARE 134 Introduction to Magnetic Resonance Imaging

An introduction to magnetic resonance imaging (MRI) and its applications in medicine. We will focus on the very basic principles of MRI and the various MR contrast mechanisms, which are needed to correctly read MRI images acquired with specific acquisition schemes. Course will cover basic image acquisition techniques, parameters optimization to improve image quality, popular pulse sequence designs, and special applications such as MR angiography (MRA), cancer imaging, and functional MRI (fMRI, if time allows).

Same as U23 Phys 134

Credit 3 units.

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**U86 HCARE 170 Fitness and Wellness: Introduction to Exercise Science**

Students in this course will learn to utilize current concepts of physical fitness and wellness to increase the quantity and quality of their own lives as well as of the lives of others. Topics include body mechanics, nutrition and body composition, stress, the contributions of physical exercise to the prevention of certain life-threatening diseases, and the relationship of physical exercise and activity to the aging process. Students will also be introduced to a variety of exercise science assessment techniques and training programs.

Same as U74 Sci 170  
Credit 3 units. UColl: OLI

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**U86 HCARE 192 Understanding Exposure to Hazards for the General Public**

This course covers the ways people are exposed to hazards such as asbestos, lead, arsenic, and radioactivity. The routes of entry include ingestion, inhalation, absorption through the skin, and crossing the placenta. When comparisons are made between perceptions of hazard and actual hazard, some hazards are overperceived and others underperceived. Hazards from natural sources are frequently underperceived, since natural sources are imagined to be safe, while things that are technological in origin are seen as more harmful. This course examines both how biomedical science determines the harm caused by these materials, and the sources and impacts of these exposures. Case studies include Chernobyl; Fukushima; lead in drinking water, soil and paint; occupational exposure to asbestos; mass groundwater arsenic poisoning; and radon.

Same as U74 Sci 192  
Credit 3 units. UColl: OLI

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**U86 HCARE 204 Nutrition**

This introductory course examines nutrition as an interdisciplinary science. Topics include: the chemistry, function, and metabolism of nutrients; regulations of food intake; food habits; digestion and absorption of nutrients; methods of determining nutrient content of foods and nutrient requirements for humans and animals; comparative nutrition; problems of human malnutrition; relation of nutrition to disease; toxic materials in foodstuffs; economic, nutritional, and social problems involved in feeding the world population and future possibilities for meeting nutritional needs of the world's population. This is a basic course in nutrition; it is not designed to train nutritionists.

Same as U29 Bio 204  
Credit 3 units. UColl: OLI

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**U86 HCARE 204H Nutrition**

Online hybrid version of the course U29 204. This introductory course examines nutrition as an interdisciplinary science. Topics will include the chemistry, function, and metabolism of nutrients; the regulation of food intake; food habits; the digestion and absorption of nutrients; methods of determining the nutrient content of foods and nutrient requirements for humans and animals; comparative nutrition; problems of human malnutrition; the relationship of nutrition to disease; toxic materials in foodstuffs; and the economic, nutritional, and social problems involved in feeding the world's population today as well as possibilities for meeting those nutritional needs in the future.

Same as U29 Bio 204H  
Credit 3 units. UColl: OLI

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**U86 HCARE 211 General Physics**

This course is designed for prospective majors in science and engineering as well as students planning to enter professional schools. Topics include kinematics, Newton's laws, energy, momentum, rotation, gravity, harmonic motion, wave motion, sound, and fluids.

Weekly laboratory sessions are required; no labs meet the first week of class. This course is restricted to students admitted to the Post-Baccalaureate Premedical Program. Other students may register with instructor permission on a space-available basis. Prerequisite/ Corequisite: U20 Math 156 or equivalent. There is a materials fee of \$65 for this course.

Same as U23 Phys 211  
Credit 4 units.

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**U86 HCARE 212 General Physics II**

Continuation of General Physics I. Designed for prospective majors in science and engineering and for students planning to enter professional schools. Electricity and magnetism, electromagnetic waves, light and optics, quantization. Weekly laboratory sessions. Prerequisites: U23 Phys 211 and working knowledge of calculus. Concurrent enrollment in U20 Math 255 is acceptable.

Same as U23 Phys 212  
Credit 4 units. UColl: OLI

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**U86 HCARE 230 Human Growth and Development**

This course provides an overview of emotional, psychological, physical, and social development through the life span. We will emphasize the developmental tasks, characteristics, and typical behaviors of each developmental era (infancy, childhood, adolescence, adulthood, later life). We will study major developmental theorists including Freud, Erickson, Piaget, Millet, Gilligan, and Kohlberg. Prerequisite: U09-100 Intro to Psychology.

Same as U09 Psych 230  
Credit 3 units. UColl: OLI

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**U86 HCARE 235 Introductory Statistics for the Health Sciences**

This course covers material commonly presented in introductory statistics classes from a health science perspective, with some additional techniques from medical research. Topics include exploratory data analysis, hypothesis testing, probability, t-tests and ANOVA, correlation and regression, chi-square, diagnostic performance, and survival analysis. In-class examples cover medical issues, and there are supplementary readings from professional journals. There will be a computer lab in which students use a statistics package to analyze research data. In addition to mastery of statistical concepts, considerable emphasis will be placed on understanding how to interpret information in journal articles and how to carry out research.

Credit 3 units.

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**U86 HCARE 250 Fundamentals of Clinical Research Management I**

This introductory course provides the basic foundation for clinical research. We examine the historical evolution of research, linking it to the current regulations and guidelines for good clinical practice. Course material includes research roles and responsibilities, institutional review boards, phases of drug development, the informed consent process, human subject protections, and an overview of study conduct.

Same as U80 CRM 250  
Credit 3 units.

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**U86 HCARE 251 Fundamentals of Clinical Research Management II**

This course focuses on the application of principles and theories covered in Fundamentals of Clinical Research Management I. Students will develop and complete documents for a specific assigned protocol. This will include completing institutional review board paperwork, writing an informed consent, developing source documents, and critiquing research articles. Prerequisite: Fundamentals of Clinical Research Management I or instructor permission.

Same as U80 CRM 251  
Credit 3 units. UColl: OLI

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**U86 HCARE 270 Exercise Science and Personal Training**

Students in Exercise Science and Personal Training will learn exercise science and personal training principles in order to sit for a personal training examination. The course will cover the field and science of personal training and exercise science. Topics include basic musculoskeletal anatomy, biomechanics, exercise physiology, nutrition and human performance, behavior modification, client screening, and comprehensive exercise program prescription. Students will also be introduced to a variety of exercise science assessment techniques and training programs.

Same as U74 Sci 270

Credit 3 units.

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**U86 HCARE 280 Microbiology for Health Professions**

This course will introduce students to microbes with the emphasis on microbial diversity, transmission of infectious diseases, antimicrobial chemicals, and human defenses against infection. The course includes a two-hour weekly lab. Prerequisite: Concepts in Chemistry (U05 1001), Concepts in Biology (U29 1001), General Biology I - lecture only (U29 101), high school Biology or Chemistry within the last five years, or permission of the instructor.

Same as U29 Bio 280

Credit 4 units. UColl: OLI

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**U86 HCARE 301 Doctoring in the 21st Century**

Medicine is a humane and caring art based on the application of facts and principles discovered by biological and social scientists to maintain health as well as to diagnose and treat symptoms or recognizable disease entities. It requires the constant re-evaluation of evidence obtained from patients, hypothesis formation and testing, the repeated weighing of probabilities, and an openness to being challenged and appearing wrong. This course is designed to introduce students to the following: (1) how doctors think and diagnose disease, how this process evolved over the past 3000 years, and how doctors take a medical history and perform a medical exam; (2) major disease processes such as infection, neoplasia, and metabolic and developmental disease; (3) therapeutic modalities (e.g., pharmacology, surgical repair, organ replacement); and (4) medical ethics, including informed consent and end-of-life issues. As a prelude to this course, students should be familiar with basic concepts of cell structure and function, genetics, and evolution. The basics of anatomy, physiology, and biochemistry will be provided early in the course.

Same as U29 Bio 308

Credit 3 units. UColl: ML

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**U86 HCARE 306 Evidence-Based Decision Making: Unlocking the Power of Information**

Policies can fail because of weak foundational support. Many times, there are no detailed strategic objectives and no clear and measurable success criteria, or these may not be aligned with strategic goals. This course is an introduction to developing policy. Using information about COVID-19 in St. Louis as a case study, this course highlights the intersection of culture; government; leadership; and social determinants such as sex, gender, and poverty. To develop the skills used to evaluate and solve problems, students will learn to critically examine the following: (1) the concept of health (broadly defined); and (2) how data are used to develop policies and programs for communities.

Credit 3 units. UColl: OLI, SSC

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**U86 HCARE 308M Race Matters! How Race and Racism Affect Health and Medicine**

This course grapples with the relationships among race, racism, health, and medicine, both in the United States and abroad. It examines the historical roots of medical racism, the role of medical and genetic research in constructing and deconstructing race as a biological concept, and the ways that systemic racism harms health. This course will also consider how race operates with other intersecting social and political identities (e.g., ethnicity, age, sex, gender, sexual orientation, class, disability) to influence health outcomes. Although anthropological and critical race theories will frame our learning, we will read broadly across other disciplines, including (but not limited to) sociology, the history of medicine, law, public health, and science and technology studies.

Same as U69 Anthro 308M

Credit 3 units. UColl: OLI

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**U86 HCARE 309 Health and Society**

This course examines topics of how public and personal health are affected by societal and institutional forces. We will use a historical perspective to explore the complex interplay between individual genetic susceptibilities and an evolving environment, where traditional metabolic signals are not always operative, often replaced by synthetic materials that the receptors have not encountered before through evolution. We will explore how sleep, food, and leisure have been changed by industrial, economic, political, and cultural developments (globalization). We will take a close look at the roles of urban planning, industrial farming, industrial food production / processing, animal husbandry, and the attendant evolving role of the family as well as the education of the individual. We will scrutinize global climate change, as it influences infectious disease vectors, pandemics, pollution, and related political and economic forces that do not promote societal health and well-being. Finally, we will focus on the role of the mind-brain in communication with the environment and needed in health and healing. Through critical reading of medical journal articles and newspapers we will discuss related ethical and policy questions relevant to disease prevention and public health.

Same as U80 CRM 509

Credit 3 units. UColl: OLI

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**U86 HCARE 312 Legal Issues in Health Care Management**

This course offers an overview of the most important legal issues currently facing hospitals, physicians, and other health care organizations. We will study the Affordable Care Act, liability for data breaches under HIPAA /HITECH (the health privacy laws), False Claims Act and whistleblower suits (for Medicaid and Medicare fraud), laws governing physician-hospital relationships (the Stark Law and Anti-Kickback laws), labor and employment issues, mergers and antitrust law, medical malpractice and tort reform, and scope of practice laws.

Credit 3 units. UColl: OLI

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**U86 HCARE 313 Introduction to Public Health**

This introduction to the field of public health examines the philosophy, history, organization, functions, activities, and results of public health research and practice. Case studies include infectious and chronic diseases, mental health, maternal and reproductive health, food safety and nutrition, environmental health, and global public health. Students are encouraged to look at health issues from a systemic and population-level perspective, and to think critically about health systems and problems, especially health disparities and health care delivery to diverse populations.

Credit 3 units. UColl: OLH, OLI

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**U86 HCARE 3137 The Pandemic: Science and Society Follow-up**

This course is an extension of The Pandemic: Science and Society (Anthro L48 3515/U69 3136). Drawing from topics covered in the first course, this course will provide further examination of the societal and environmental impacts of the COVID-19 pandemic now and in the future. This course will offer students the opportunity to reflect on and apply the knowledge and critical-thinking skills acquired in Anthro L48 3515/U69 3136 to current events as well as their own experiences regarding the global pandemic. A core component of this course is its focus on the interconnectedness of the COVID-19 pandemic to health and racial disparities, education, climate change, and the human-animal-environment interface.

Same as U69 Anthro 3137

Credit 1 unit. UColl: OLI

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**U86 HCARE 314 Health Care Finance**

The magnitude of healthcare expenditures is a growing problem for providers and patients. This course, for current or future healthcare managers, covers fundamental tools, concepts, and applications of finance in healthcare organizations that produce cost-effective, efficient operations. We examine how expenditure control is influenced by individuals, governmental institutions, and newly formed insurance exchanges. We also study how healthcare organizations maximize revenue sources. The course explores the relation between market behavior, financial efficiency, and quality in healthcare organizations, and how these factors affect an organization's survival and growth in the changing healthcare environment.

Credit 3 units.

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**U86 HCARE 314M Health Care Finance**

Online version of U86 314; fulfills the same program requirements. The magnitude of health care expenditures is a growing problem for providers and patients. This course for current or future health care managers covers fundamental tools, concepts, and applications of finance in health care organizations that produce cost-effective, efficient operations. We examine how expenditure control is influenced by individuals, governmental institutions, and newly formed insurance exchanges. We also study how health care organizations maximize revenue sources. The course explores the relationship between market behavior, financial efficiency, and quality in health care organizations as well as how these factors affect an organization's survival and growth in the changing health care environment.

Credit 3 units. UColl: OLI

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**U86 HCARE 318 Statistics in Clinical Research**

This course presents the basic principles for understanding the design, conduct, analysis, and endpoints of clinical trials. We will review statistical terminology and explain trial design from a clinician's point of view, including theoretical and practical aspects of randomization, stratification, blinding, and single center versus multi-center trials. Additional topics include hypothesis formulation, commonly used research designs, statistical significance, confidence intervals, and statistical tests.

Same as U80 CRM 318

Credit 3 units. UColl: OLI

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**U86 HCARE 3191 Planning Sustainable & Racially Equitable Urban Communities**

This course explores principles, ethics and practice for planning sustainable and equitable urban communities. Learning how to manage resources for both current and future generations, students will gain greater understanding of the importance of integrating environmental, economic, social and institutional efficiency. With a focus on communities in the St. Louis region, students in this course will focus on equity and community capitalism aimed at ensuring that fairness and well-being are inclusive for all people in providing for

health, safety and the built environment. You will learn to integrate and utilize a racial equity lens, trauma-informed approaches, cultural competence and Anti-Bias/Anti-Racism practices to help lead to better decision-making and creating solutions aimed at reducing adverse impacts on the environment, preventing gentrification, improving the welfare of people, and shaping urban areas and neighborhoods into healthier, robust and more equitable communities. This course will prepare the student to be a leader-advocate for sustainable urban planning and community development, whether as an elected or public official, a professional staff person, or a citizen volunteer.

Same as U19 SUST 319

Credit 3 units. UColl: ML, OLH, OLI

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**U86 HCARE 3200 Child Health Psychology**

This course examines the field of child health psychology, which focuses on the impact of health and illness on the physical and psychological development of children and adolescents. We will explore the relations among psychological and physical health and the welfare of children within a developmental perspective, considered within the contexts of families, health care systems, schools, peers, and community. Topics such as chronic illness (e.g., Cystic Fibrosis, sickle cell disease, organ transplant, asthma), adherence to medically prescribed regimens, and neuropsychological aspects of chronic illness will be addressed. Previous course work in Developmental Psychology (e.g., U09 230, U09 322) would be helpful but not required.

Same as U09 Psych 3200

Credit 3 units.

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**U86 HCARE 324 Health Care Reform and Policy**

This course examines the complexities of health care policy, using the Patient Protection and Affordable Care Act (PPACA) as a reference point. In analyzing this most recent (2010) health care legislation, we begin with an historical perspective on health care reform — how and why we got here — and then look at the social, political, and economic realities going forward. We will study and apply policy analysis tools for measuring cost and overall effectiveness of new proposals. Additional course topics include special interests, federal and state government roles, unintended consequences of health care policies, influence of regulatory agencies, and ethical issues.

Credit 3 units.

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**U86 HCARE 326 The Doctor Is In: Anton Chekhov and Narrative Medicine**

This course bridges the world of literature and the world of medicine by focusing on both Anton Chekhov, a practicing doctor and one of the greatest Russian writers of the 19th century, and the newly emerging field of Narrative Medicine. In this course we will explore how Chekhov was able to integrate and express cultural attitudes towards illness, suffering, and healing in his writing and medical practice, as we simultaneously explore how doctors and other health care practitioners apply such topics in their professional work today. We will supplement Chekhov readings with foundational Narrative Medicine texts and the works of such contemporary doctor-writers as Atul Gawande, Sayantani DasGupta, and Paul Kalanithi. Class will include self-reflective writing workshops with Sarah Stanage, MD. The course is discussion-based and appropriate for students of literature, culture, and medicine at all levels. This course counts towards both the IAS major and the Medical Humanities minor.

Same as U43 IS 326

Credit 3 units.

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**U86 HCARE 3310 Health, Healing, and Ethics: Introduction to Medical Anthropology**

A cross-cultural exploration of cultures and social organizations of medical systems, the global exportation of biomedicine, and ethical dilemmas associated with medical technologies and global disparities in health.

Same as U69 Anthro 3310  
Credit 3 units. UColl: CD, ML, OLI

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**U86 HCARE 342 Introduction to Human Disease and its Scientific Basis**

This course will examine current research on the physiological, genetic, and biochemical pathways of human diseases. Topics will include cardiovascular disease, stroke, osteoporosis, diabetes, kidney disease, arthritis, cancer, chronic obstructive pulmonary disorder, obesity, and infectious disease. We will study the primary causes, risk factors, and biological mechanisms underlying such diseases, their impact on the lifestyle and lifespan of afflicted individuals, and what effective preventative or therapeutic treatment strategies are currently in use or emerging through exciting new research discoveries. Special topics will focus on new therapeutics and the lessons they can teach us about the inherent difficulties associated with pharmaceutical drug development today. Prerequisites: General Biology I and General Biology II.

Same as U29 Bio 342  
Credit 3 units. UColl: OLI

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**U86 HCARE 346 Managing Healthcare Organizations: Clinical Perspectives**

Credit 3 units.

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**U86 HCARE 349 Health Care Communications and Marketing Strategy**

This course provides an integrated approach to organizational strategy, brand development and marketing communications programs within health care organizations. We will explore the fundamental steps required to shape an organization's strategic plan: environmental scan, SWOT assessment, consumer assessment, operating assessment and the development of strategic goals and objectives. Building on this foundation, we will learn to shape an organizational brand to articulate what we stand for, what we strive for, how we express our brand, and how we structure our brand.

Credit 3 units.

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**U86 HCARE 353 Pharmacology for Clinical Research**

This course presents the basic principles of pharmacology and their application to clinical research management to help ensure safe and effective management of drug trials. We will study the foundations of pharmacology, including the principles of drug absorption, distribution, metabolism and excretion, drug binding sites and interactions, and drug development. We also will examine pharmacological problems with special populations, and the emergent area of pharmacogenetics. In the second half of the course we will review important drug classes, with an emphasis on understanding "Investigator's Brochures," including drug action and place in therapy, pharmacology, toxicity, chemical properties, and kinetics.

Same as U80 CRM 353  
Credit 3 units.

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**U86 HCARE 355 Health Care Policy**

This course examines important and complex developments in contemporary health care policy. We begin with a historical overview, then look at the structure of current health care delivery, and identify political and economic challenges moving forward. In particular, we will critically examine methods and principles for evaluating health care

costs and measuring policy effectiveness. The course also addresses unintended consequences of health care policies, special interests and political agendas, and the influence of major institutional forces on clinical and translational research. Case studies and guest speakers will help illustrate current ethical dilemmas and other real challenges to contemporary health care and reform.

Same as U80 CRM 555  
Credit 3 units. UColl: OLI

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**U86 HCARE 358 Health Psychology**

This course examines the history of health psychology and its place in general health care. We will examine relevant theory as applied to specific topics including stress, coping, weight loss, chronic illness in general (diabetes in particular), adherence to medically prescribed regimens, Type A personality and cardiac risk factors. Prerequisite: U09-100.

Same as U09 Psych 358  
Credit 3 units. UColl: OLI

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**U86 HCARE 360 Strategic Planning and Management in Health Care**

Healthcare Strategic Planning and Management provides students with a framework to assess, develop, implement, and monitor strategic plans for health care organizations. Goals include understanding the relationship between mission, vision, values and strategic objectives; developing a plan based on organizational and environmental constraints and opportunities; creating action plans that support achievement of the plan; and measuring, monitoring, and modifying the strategic plan.

Credit 3 units.

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**U86 HCARE 363 Healthcare Negotiations**

Health care spending in the United States is the highest in the world, and the industry requires leaders who can understand and negotiate opportunities while managing conflict and change. This course covers major challenges in health care negotiations, including managing competing constituencies, negotiating financial conflicts, drawing together providers and patients, and leading negotiations about access and quality of care. We also study negotiation pre-planning and competitive assessment, shifting from competition to cooperation, irrational actors in negotiations, and when to end negotiations. The course provides a theoretical framework for negotiation along with simulations with local health industry executives.

Credit 3 units.

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**U86 HCARE 364 Healthcare Entrepreneurship**

Health care entrepreneurs improve the overall quality of health care delivery. This course introduces students to the particular characteristics of health care entrepreneurship, focusing on the creation, funding, and management of biotechnology and health services enterprises. Students will learn the steps involved in the conceptualization, planning, capitalization, launch, compensation, and management of an entrepreneurial health care venture. Students will use course principles and skills to develop an entrepreneurial business plan that addresses a real clinical problem.

Credit 3 units.

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**U86 HCARE 369 Strategic Planning and Management in Health Care**

Credit 3 units.

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**U86 HCARE 370 Writing and Representation of Pain**

This course explores a range of discourses about pain, including theoretical and technical ones.

Same as U65 ELit 370  
Credit 3 units. UColl: ENL

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**U86 HCARE 377 Compassion Cultivation Training**

Compassion Cultivation Training (CCT) is an 8-week educational program designed to help students cultivate compassion, strengthen their resilience, feel more connected to others, and improve their overall sense of well-being. CCT is a distillation from Tibetan Mahayana Buddhist practices for developing compassion, adapted to a secular setting. Initially developed by Stanford University scholars with support from the Dalai Lama, CCT combines traditional contemplative practices with contemporary psychology and scientific research. The program involves instruction in a series of meditation practices starting with mindfulness-based meditation. The curriculum uses modern concepts of psychology and neuroscience to understand and enhance our ability to be compassionate.

Same as U69 Anthro 3777  
Credit 1 unit.

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**U86 HCARE 4022 Transnational Reproductive Health Issues: Meanings, Technologies and Practices**

This course covers recent scholarship on gender and reproductive health, including such issues as reproduction and the disciplinary power of the state, contested reproductive relations within families and communities, and the implications of global flows of biotechnology, population, and information for reproductive strategies at the local level. We will also explore how transnational migration and globalization have shaped reproductive health, the diverse meanings associated with reproductive processes, and decisions concerning reproduction. Reproduction will serve as a focus to illuminate the cultural politics of gender, power, and sexuality.

Same as U69 Anthro 4022  
Credit 3 units. Art: SSC BU: BA UColl: OLI

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**U86 HCARE 409 Health and Society**

Credit 3 units.

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**U86 HCARE 4252 Aging in Cross-Cultural Perspective**

Population aging, driven by increasing longevity and decreasing fertility, is a worldwide demographic transformation that is changing societies and social relationships at all levels, from family household interactions to national debates on policies and expenditures. This course, run in a seminar format, investigates global aging through the lenses of demography and cultural anthropology. The objectives are for students to gain an empirical understanding of current population trends and an appreciation for how the aging process differs cross-culturally. The first part of the course introduces basic concepts and theories from social gerontology, demography, and anthropology that focus on aging and provide a toolkit for investigating the phenomenon from interdisciplinary perspectives. The second part is devoted to case studies of aging in different societies, while the third part centers mainly on training in research methods and individual student projects.

Same as U69 Anthro 4252  
Credit 3 units. UColl: CD

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**U86 HCARE 4350 Exploring Project Management in Clinical Research**

This course aims to explore basic concepts of project management with direct application to clinical research. Students will better understand criteria defining a project and product (versus operations), roles and responsibilities of a project manager, various methodologies (e.g. agile, waterfall, etc.), and planning tools (e.g. Microsoft Project, Jira, Teams). Student experiences in clinical research will be integrated into course discussions to explore application of project management skills and practice important team-building skills (e.g. effective meeting

principles). Additionally, the course will incorporate a variety of learning resources from the Project Management Institute (PMI), LinkedIn, and professional research organizations (e.g. ACRP) into class discussions and project assignments. One or more (modified) research protocols will be used for hands-on experience applying project management strategies.

Same as U80 CRM 535  
Credit 3 units. UColl: OLI

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**U86 HCARE 458 Readings and Research in Biomedical Sciences**

Each day, more than 5000 new biomedical research articles are published. As future physicians and scientists, students will need to be able to identify and stay current on medical advancements. Medicine is interdisciplinary, and a successful scientific career means being able to make connections between diverse research fields. The goal of this journal club is to help students develop skills for locating, analyzing, and understanding scientific research articles. Students will learn how to locate primary journal articles using a variety of search engines such as PubMed and Ovid, and practice reading articles outside of their comfort zone without being intimidated by scientific jargon and formal writing styles. Students will be expected to discuss current research articles and develop effective scientific writing skills by analyzing the main sections of a scientific manuscript (Abstract, Background, Methods, Results, Discussion, Conclusion, Implications).

Same as U29 Bio 458  
Credit 2 units.

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**U86 HCARE 460 Behavioral Medicine**

The role of behavior in the prevention and treatment of significant medical problems will be studied. The history of the field of behavioral medicine will be reviewed, with applications to medical problems and its complementary role in preventative medicine in the context of a number of medical disorders and risky behaviors, including obesity, chronic pain, cancer, and smoking. Effective stress management practices to help ameliorate common results of stress such as tension headache and high blood pressure also will be studied. Prerequisite: Psych 100.

Same as U09 Psych 460  
Credit 3 units.

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**U86 HCARE 471 Topics in Cancer Biology**

Cancer has a significant impact on society in the United States and across the world. This course aims at providing students with a more extensive understanding of what cancer is and how it affects the human body. This course will teach you to be conversant on issues related to cancer, including its etiology, development, genetics, treatments, and prevention. We will be using a combination of lectures and discussions, so each student is expected and encouraged to participate in class discussions and contribute relevant thoughts and ideas. The material will cover the basics of cancer biology using a traditional lecture including a review of relevant primary literature. The online portion of the course will include discussions of current topics and research articles and videos that will be assigned. The major topics covered in the course include causes of cancer, Oncogenes, p53 its role in cell cycle and cell death, Mutagens and carcinogenesis, Cancer Genetics, Cancer metastasis, Hypoxia, Angiogenesis, Epithelial-Mesenchymal Transition (EMT), Cancer screening, diagnosis, Cancer therapy including immunotherapy, Cancer biomarkers, Cancer staging, Cancer Imaging and Personalized medicine. Prerequisite: General Biology I.

Same as U29 Bio 471  
Credit 3 units. UColl: OLH, OLI