Courses in Global Disease Biology (GDB)

90. Introduction to Global Disease Biology (1)
Seminar—1 hour; fieldwork—1 hour. Introduction to the Global Disease Biology major, research and intern opportunities, and potential career paths in human, animal, and plant health. Communication, ethics and the nature of science. (P/NP grading only)—F (F) Rizzo

Upper Division

101. Epidemiology (4)
Lecture—2 hours; laboratory—3 hours; discussion—1 hour. Prerequisite: Science and Society 13; Biological Science 2A, 2B, 2C; Statistics 13, 101 or Plant Sciences 120. Principles and practice of epidemiology as applied to human, animal, and plant populations. Examination of the interrelationships among diseases that co-exist. Quantitative analysis of both infectious and non-infectious disease. Interdependence between epidemiological analysis, decision-making and policy formulation will be highlighted. GE credit: SciEng 1, SE, SL, =S (F, W) Rizzo

102. Disease Intervention and Policy (4)
Lecture—3 hours; discussion—1 hour; project. Prerequisite: course 101, Science and Society 13; Biological Science 2A, 2B, 2C; Pathology, Microbiology and Immunology 129Y; VM-Medicine and Epidemiology 158. Examination of the prevention and treatment of diseases affecting human, animal, and plants. Case studies will illustrate the merits of a unified approach to promoting health at local, regional, and global scales. GE credit: SciEng 1, CI, SE, SL, =S (F, W, S) Rizzo

103. The Microbiome of People, Animals, and Plants (3)
Lecture—3 hours. Prerequisite: Biological Science 2A, 2B, 2C. Examination of the structure and function of microbial communities that live inside and on host organisms. Introduction to general concepts of the microbiome and microbiota, and their relationship to host health and disease. GE credit: SciEng 1, CI, SE, SL, =S (F) Rizzo

187. Global Disease Biology Seminar (3)
Seminar—1 hour; discussion—1 hour; term paper. Prerequisite: junior standing, course 90, Science and Society 13. Open to Global Disease Biology majors. Seminar leading to development of the research proposal and academic plan for the Global Disease Biology major.—F (F)

189. Global Disease Biology Senior Research (3)
Independent study—1 to 3 hours. Prerequisite: senior standing, courses 90, 187; (course 189D concurrently). Independent study course taken over two quarters; second quarter used to finish research paper.—F, W, S, Su (F, W, S, Su)

189D. Global Disease Biology Research Discussion (1)
Discussion—1 hour. Prerequisite: courses 90, 187, Science and Society 13; course 189D concurrently. Discussion of recent papers at scientific meetings and other research experiences. Experience is not intended to be a research project but rather an introduction to the process of conducting and synthesizing research.—F, W, S, Su (F, W, S, Su)

Greek

See Classics, on page 211.

Health Informatics (A Graduate Group)

Formerly Medical Informatics (A Graduate Group)

Michael Hoganth, M.D., Professor (Department of Pathology and Laboratory Medicine)

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Health Informatics Program
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Faculty

Nicholas Anderson, Ph.D., Assistant Professor (Pathology and Laboratory Medicine)

Aarón Bair, M.D., M.S.C., Associate Professor (Emergency Medicine)

Matt Bishop, Ph.D., Professor (Computer Science)

Doratz Bologa, Ph.D., Assistant Professor (Emergency Medicine)

Robert Cardillo, M.D., Ph.D., Professor (Pathology and Laboratory Medicine)

Mark Carroll, M.P.H., Health Sciences Assistant Clinical Professor (Pathology and Laboratory Medicine)

Mary Christopher, D.V.M., Ph.D., Professor (Pathology, Microbiology, and Immunology)

Cristina Davis, Ph.D., Assistant Professor (Mechanical and Aerospace Engineering)

Fred Garin, M.D., Ph.D., Professor (Neurology)

Berrnd Hamann, Ph.D., Professor (Computer Science)

Calvin Hirsch, M.D., F.A.C.P., Professor (Internal Medicine and Public Health Sciences)

Anthony Jerant, M.D., Associate Professor (Family and Community Medicine)

Hershman Johl, M.D., Associate Physician Diplomate (Internal Medicine)

Kanjii Johl, M.D., Ph.D., F.A.C.P., Associate Clinical Professor of Medicine (Internal Medicine)

Tae Youn Kim, Ph.D., R.N., Associate Professor (Nursing)

Patrice Koehl, Ph.D., Associate Professor (Computer Science)

Krish Krishnan, Ph.D., Associate Professor (Pathology and Laboratory Medicine)

Richard Levenson, M.D., Professor (Pathology and Laboratory Medicine)

Scott MacDonald, M.D., Associate Physician (Internal Medicine)

James Marcini, M.D., M.P.H., Associate Professor (Pediatries)

Thomas Nisbett, M.D., M.P.H., Professor (Family and Community Medicine)

Hien Nguyen, M.D., M.A.S, Assistant Professor (Infectious Diseases)

Alberto Odor, M.D., Adjunct Professor (Nursing)

Sean Peisert, Ph.D., Assistant Adjunct Professor (Computer Science)

Brad Pollock, M.P.H., Ph.D., F.A.C.E., Professor (Public Health Science)

Jason Roal, M.D., Assistant Clinical Professor (Psychiatry)

J. Anthony Seibert, Ph.D., Professor (Radiology)

Hendry Toi, M.D., M.S., Associate Professor (Psychiatry)

Xiaowei Yang, Ph.D., Assistant Professor (Biostatistics)

Peter Yelovich, M.B.B.S., M.D., Professor (Psychiatry)

Heather Young, Ph.D., R.N., G.N.P., F.A.A.N., Associate Vice Chancellor (Nursing)

Emeriti Faculty

Richard Wallers, Ph.D., Professor Emeritus (Computer Science)

Graduate Study. The Group currently offers an M.S. degree in Health Informatics. The program is primarily designed for clinicians (M.D., D.O., D.V.M., V.M.D., M.P.H., Pharm. D., R.N., others) and healthcare IT professionals with a bachelor's degree.

The course of study provides research-oriented training that spans the use of computer systems in medicine today, including methods for clinical data acquisition, storage, and retrieval, the development, use and implementation of the electronic medical record, management of clinical data, and the use of medical decision support systems. A research project and thesis are mandatory degree requirements.

Preparation. The Group encourages applications from clinicians and healthcare IT professionals who have had experience in the manipulation of clinical information. Basic qualifications include an advanced degree in a health-related field or the equivalent in work experience. Proof of proficiency in a programming language is required. Applicants with extensive computer science or information technology background but little knowledge of clinical information would need to gain considerable practical experience in dealing with clinical information to be competitive in applying to the program.

Graduate Advisers. M. Carroll (Pathology and Laboratory Medicine)

Courses in Health Informatics (MHI)

Graduate

202. Computer-Based Patient Records (4)
Lecture/discussion—3 hours; project 2 hours. Prerequisite: current enrollment within the Health Informatics graduate program or consent of instructor. Introduction and overview of computer-based clinical record systems. Topics include data modeling, health system standards and terminologies; security, privacy and confidentiality; workflow modeling; data visualization; legal; decision support; public health; and evidence-based practice.—S. (S.) Odor

207. Decision Support Systems (4)
Lecture/discussion—2 hours. Prerequisite: consent of instructor. Explores decision support systems for medical application. Topics include medical decision making, uncertainty, review of existing decision support systems, knowledge engineering, data mining, and knowledge based systems.—W. (W.) Greene

208. Medical Informatics in Web-Based Enterprise Computing (4)
Lecture—2 hours; discussion—2 hours. Introduction to the decision making processes and technologies that are involved in developing Web-based distributed enterprise applications in medicine. Focus on the informatician's role as a team member.—S. (S.) Carroll

209. Data Acquisition and Analysis (4)
Lecture—2 hours; discussion—1 hour; laboratory—3 hours. Examines the nature, acquisition, and analysis of medical data. Data ranges from signals of electrical potentials, sounds, text, images (still and motion), and data from nuclear acid and protein expression and sequencing instruments.—F (F) Hogan

210. Introduction to Health Informatics (4)
Lecture—3 hours; discussion—1 hour. Overview course to give the student a broad exposure to the field of Health Informatics. Topics covered include, but are not limited to, networking, information systems, coding, HL7, Security, and HIPAA.—F (F) Hogan

211V. Telemedicine (4)
Web virtual lecture—3 hours; web electronic discussion—1 hour. Issues for the development and maintenance of a successful telemedicine program with a focus on strategic planning, clinical applications, project management, risk management and legal issues; reimbursement and contracting; human resources and program sustainability.—S. (S.) Yellow

212. Computer Security in Health Informatics (4)
Lecture—3 hours; project. Prerequisite: course 210; 202; 209. Critical thinking about basic concepts in computer security and privacy. How the computer
security and privacy impact health informatics, ranging from electronic health records to telemedicine to remote, virtual surgeries. —F. (F.)

215. Beginning and Intermediate Programming in M (MUMPS) (3)
Lecture—3 hours. Project-oriented approach to fundamentals of programming in ANSI Standard M (MUMPS) language. Basic syntax, hierarchical file structure, arrays and string subscripts, induction and extrinsic functions. [S/U grading only.]

289A. Special Topics in Medical Informatics; Data Acquisition (1-5)
Lecture/laboratory. Prerequisite: consent of instructor. Special topics in Data Acquisition. May be repeated for credit when topic differs.

289B. Special Topics in Health Informatics; Seminars in Clinical Translational Informatics (1-5)
Seminar—1 hour. Seminars in current clinical translational informatics research topics. Guest presenters and faculty led discussion.—F, W, S. (F, W, S.)

289F. Database and Knowledge Management (4)
Lecture/discussion—3 hours; term paper. Prerequisite: consent of instructor. Class size limited to 20 students. Includes understanding the informatics techniques for data capture, information management, and knowledge generation that a student will use throughout their career. May be repeated for credit.—F, W (W.)

289G. Special Topics in Health Informatics; Biostatistics (4)
Lecture—3 hours; laboratory—3 hours. Prerequisite: consent of instructor. Special topics in Biostatistics. Evaluation of methods and statistics in Biomedical Informatics. Research design and analysis with specialized emphasis in Biomedical Informatics.—F, S. (F, S.)

289H. Modeling Biological Systems (4)
Lecture—3 hours; laboratory—1 hour. Class size limited to 20 students. Create awareness of how modern computer graphics have led to VR-Sim-robot applications, and how they are modifying the teaching of medicine and in some cases the diagnosis and treatment of patients.—W. (W.)

290. Seminar in Medical Informatics (1)
Seminar—1 hour. Restricted to 20 students. Discussion of current graduate research and topics in Health Informatics. Oral presentations of individual study. [S/U grading only.—F, W, S. (F, W, S.)

299. Research in Health Informatics (1-12)
Independent research in Health Informatics. [S/U grading only.—F, W, S. (F, W, S.)]

Hebrew

See Classics, on page 211.

Hindi

See Classics, on page 211.

History

[College of Letters and Science]
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Gregory Downs, Ph.D., Associate Professor
Edward Dickinson, Ph.D., Professor
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A. Katie Harris, Ph.D., Associate Professor
Ellen Hartigan-O’Connor, Ph.D., Associate Professor
Quinn Javers, Ph.D., Assistant Professor
Rachel Jean-Reséndez, Ph.D., Associate Professor
Ari Kelman, Ph.D., Professor
Kyu H. Kim, Ph.D., Associate Professor
Justin Leroy, Ph.D., Assistant Professor
Lisa Materson, Ph.D., Associate Professor
Michael Saler, Ph.D., Professor
Margaret Seabrook, Ph.D., Professor
Rebecca S. Silverman, Ph.D., Professor
Eric Thayer, Ph.D., Professor
Academic Senate Distinguished Teaching Award
Loren Ocepea, Ph.D., Associate Professor
Kathryn S. Olmsted, Ph.D., Professor
Sudipta Sen, Ph.D., Associate Professor
Sudipta Sen, Ph.D., Professor
Doris Stoler, Ph.D., Associate Professor
Dorothea Stoler, Ph.D., Professor
Kathleen Stuart, Ph.D., Associate Professor
Baki Tezcan, Ph.D., Associate Professor
Charles Walker, Ph.D., Professor
Academic Senate Distinguished Teaching Award
Louis S. Warren, Ph.D., Professor
Adam Zientek, Ph.D., Assistant Professor
Emeriti Faculty
Arnold J. Bauer, Ph.D., Professor Emeritus
Robert Borger, Ph.D., Professor Emeritus
Cynthia L. Brantley, Ph.D., Professor Emeritus
David Brody, Ph.D., Professor Emeritus
Joan Cadden, Ph.D., Professor Emeritus
Daniel H. Callaghy, Ph.D., Professor Emeritus
Robert O. Crummey, Ph.D., Professor Emeritus
Manfred P. Fleischer, Ph.D., Professor Emeritus
William W. Hagen, Ph.D., Professor Emeritus
Thomas H. Holloway, Ph.D., Professor Emeritus
Norma B. Landau, Ph.D., Professor Emeritus
Susan L. Mann, Ph.D., Professor Emeritus
Ted W. Margadant, Ph.D., Professor Emeritus
Barbara Metcalf, Ph.D., Professor Emeritus
Don C. Price, Ph.D., Professor Emeritus
Ruth E. Rosen, Ph.D., Professor Emerita
Academic Senate Distinguished Teaching Award
Alan S. Taylor, Ph.D., Professor Emeritus
UC Davis Prize for Teaching and Scholarship
Richard N. Thomas, Ph.D., Professor Emeritus
Deborah Smith, Ph.D., Professor Emeritus
Clarence Walker, Ph.D., Professor Emeritus
UC Davis Prize for Teaching and Scholarship
F. Roy Willis, Ph.D., Professor Emeritus
UC Davis Prize for Teaching and Scholarship

The Major Program
The History major develops critical intelligence and fosters an understanding of ourselves and our world through the study of the past—both the “deep past” and the more recent past. The Program. A student electing a major in History may complete Plan I or Plan II. Plan I enables students to receive a broad education in histories of several geographic areas. Plan II encourages interested students, including those preparing for graduate work in history, to enroll in a seminar, to undertake independent work, and to study the history of historical thought as part of the major. Students preferring more engagement in research and writing are encouraged to follow Plan II.

Career Alternatives. A degree in history is excellent preparation for a professional career such as teaching, law, journalism, public administration, or business management. Professional schools in these and related fields (including the health professions) are looking for students who can weigh conflicting evidence, evaluate alternative courses of action or divergent points of view, and express conclusions logically in everyday language. These analytical skills are stressed in history classes, and their mastery gives the history student a solid preparation for subsequent training in a specialized career.

A.B. Major Requirements:

Preparatory Subject Matter

Plan I or II ........................................ 20
Five lower division courses chosen from the following six fields, including at least two from one field, one from a second field, and one from a third field. The fifth course can be taken from any field. —W. (F.
(a) African and Middle East History: History 6, 15
(b) Asian History: History 6, 8, 9A, 9B
(c) European History: History 3, 4A, 4B, 4C
(d) Latin American History: History 7A, 7B, 7C
(e) U.S. History: History 17A, 17B, 72A, 72B
(f) World History: History 10A, 10B, 10C

Depth Subject Matter—Plan I: General History

Plan I ........................................ 40-41
Four upper division courses from one of the fields of concentration listed below. —W. (F.
Two upper division courses from one of the other fields of concentration listed below. —W. (F.
Two upper division courses from a field or fields other than those chosen to satisfy the two preceding requirements. —W. (F.
One additional upper division course chosen from any of the fields. —W. (F.
One course from the following: History 101 or 102 or 103 (in field of concentration). —W. (F.
One of the courses taken to fulfill the above requirements must deal with pre-modern history. —W. (F.

Total Units for the Major—Plan I: General History

Plan II ........................................ 60-61
Depth Subject Matter—Plan II: Research Focus

Plan II ........................................ 42
Four upper division courses from one of the fields of concentration listed below. —W. (F.
Three upper division courses from one of the other fields listed below. —W. (F.
History 101 in field of concentration (in exceptional circumstances, a student may, with the permission of an adviser, take the seminar in another field). —W. (F.
History 103 in field of concentration. —W. (F.
One of the courses taken to fulfill the above requirements must deal with pre-modern history. —W. (F.

Total Units for the Major—Plan II: Research Focus

Plan III ........................................ 62
Fields of Concentration

(b) United States History: History 102K, 102L, 102M, 120, 169A, 169B,