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# HEALTH INFORMATICS GRADUATE STUDENT GUIDE

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UNIVERSITY OF CALIFORNIA, DAVIS

2008-2009

## **Acknowledgements**

The Health Informatics Graduate Group Faculty and staff would like to thank our colleague Este Geraghty, M.D., M.S., M.P.H. Assistant Professor, Division of General Medicine, Department of Internal Medicine for the use of her photograph, and Michelle Burke, Academic Information Systems, for contributions in the writing of this handbook.

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# elcome to the UC Davis Health Informatics Program.

Congratulations on becoming a part of our academic community! I would like to personally welcome you and thank you for your interest in health informatics and for your commitment to your studies and to UC Davis, a truly world class University.

I urge you to use this comprehensive student guide in beginning your studies and in particular, follow up the many relevant links suggested within it. Life as a graduate student can be complicated, and understanding the way that graduate programs work is of great importance to you as you plan your way through to successful graduation. Throughout your career in our Health Informatics Program do take every opportunity you can to develop strong relationships with your peers, your major professor and adviser and the rest of the faculty and staff in our graduate program. You will find your studies will be more rewarding, fun and useful.

If I have not already met you, then I look forward to sitting down with you soon and getting to know you personally. I would like to thank you most sincerely for choosing our program at UC Davis, and I wish you all the very best as you begin this next phase of your educational career.

**Peter Yellowlees, M.B.B.S., M.D.**

Professor and Chair, UC Davis Health Informatics Program

## Principles of Community

### University of California, Davis:

The University of California, Davis, is first and foremost an institution of learning and teaching, committed to serving the needs of society. Our campus community reflects and is a part of a society comprising all races, creeds and social circumstances. The successful conduct of the university's affairs requires that every member of the university community acknowledge and practice the following basic principles:

We affirm the inherent dignity in all of us, and we strive to maintain a climate of justice marked by respect for each other. We acknowledge that our society carries within it historical and deep-rooted misunderstandings and biases, and therefore we will endeavor to foster mutual understanding among the many parts of our whole. We affirm the right of freedom of expression within our community and also affirm our commitment to the highest standards of civility and decency towards all. We recognize the right of every individual to think and speak as dictated by personal belief, to express any idea, and to disagree with or counter another's point of view, limited only by university regulations governing time, place and manner. We promote open expression of our individuality and our diversity within the bounds of courtesy, sensitivity and respect.

We confront and reject all manifestations of discrimination, including those based on race, ethnicity, gender, age, disability, sexual orientation, religious or political beliefs, status within or outside the university, or any of the other differences among people which have been excuses for misunderstanding, dissension or hatred. We recognize and cherish the richness contributed to our lives by our diversity. We take pride in our various achievements, and we celebrate our differences.

We recognize that each of us has an obligation to the community of which we have chosen to be a part. We will strive to build a true community of spirit and purpose based on mutual respect and caring.

-April 20, 1990; reaffirmed 1996, 2001. <http://principles.ucdavis.edu>.

## How to use the UC Davis Health Informatics Student Handbook

This handbook is intended to serve as a supplement to the University of California, Davis Student and [Graduate Student Handbook](#). The information found in this guide is specific to the Health Informatics Program and is intended as a resource for new and existing students in our graduate program. Please take advantage of the hyperlinks provided throughout in the electronic version of this handbook. All hyperlinks are indicated by both an underline and blue font.

It should be noted that campus policies change frequently, and that maintaining the links to campus resources found on the last page of this guide will be a continual process. Please contact Jennifer Bannister ([jennifer.bannister@ucdmc.ucdavis.edu](mailto:jennifer.bannister@ucdmc.ucdavis.edu)) or Charlie Darrington ([charlie.darrington@ucdmc.ucdavis.edu](mailto:charlie.darrington@ucdmc.ucdavis.edu)) with suggestions for additional content or to update links.

# PART 1: PROGRAM OVERVIEW

## History

With the wide expanse of medical and biological information, innovative advances in storing, retrieving, and interpreting information have become essential for health professionals and scientists. Physicians can no longer expect to comprehensively master all of the information within their areas of expertise. Instead, they must increasingly rely upon problem solving strategies and the ability to systematically access the information required for thoughtful patient care. In 1999, UC Davis began educating health professionals in the Medical Informatics Masters degree program, which produced graduates who now have successful careers in industry, academia, public health, and other related fields. Capitalizing on the success of this early Medical Informatics training program, the newly designed Health Informatics Program now offers a unique and comprehensive graduate training program in Health Informatics.

## Mission Statement

Researching and teaching the transformative power of information technology in healthcare.

## Program at a Glance

The Health Informatics Masters Degree program has been designed to efficiently combine generalized training in Health Informatics with a more specialized focus area. The program delivers advanced training in informatics to professionals redirecting their careers to become health informatics researchers, as well as those who are interested in integrating health informatics expertise in their current professional roles.

The Masters Degree requirements include a mandatory research project and thesis, with a goal of producing work that may be published in peer-reviewed journals. Possibilities for projects will include research in areas such as disease management and the Internet, decision support, the human-computer interaction and interfaces, the electronic medical record, HIPAA, telemedicine, standardized medical terminology and messaging systems, security of health care systems, and the privacy of patient data.

The 40 Health Informatics faculty are members of UC Davis' highly regarded, School of Medicine, School of Veterinary Medicine, College of Engineering, Proposed Betty Irene School of Nursing, Library Sciences and our state-of-the-art Genome Center, creating a rich, multidisciplinary environment that parallels the diversity found within this exciting field of study.

The program provides excellent opportunities for research projects within the university and throughout its affiliated partners including the UC Davis Center for Virtual Care, UC Davis Center for Comparative Medicine, and the UC Davis Health System's Center for Health and Technology, with its internationally recognized telemedicine program, among others.



## Learning Objectives

The UCD Health Informatics Graduate Program has detailed learning objectives for each course as they cumulatively add to the entire program. The program has adopted learning objectives defined by the American Medical Informatics Association (AMIA) ([www.amia.org](http://www.amia.org)). Below are the Health Informatics Core Competencies as listed on the AMIA website:

- 1) Data, Information and Knowledge: Representation and Structure  
Data, Information and Knowledge: Analysis and Manipulation  
Health Care Systems
  - a) Healthcare Applications Systems
  - b) Intelligent Health Systems
- 2) Information Technology
  - a) System Architectures
  - b) Health Communications Systems and the Health Technologic Infrastructure
  - c) System Customization/Development Topics
- 3) Health Education Systems
- 4) Health Research Systems
- 5) User and Use of Health Information Systems
  - a) The Health User Interface and Interactive Systems
  - b) Human/Social Aspects of Health Information and Communications Systems
- 6) Management and Operations of Health Information Systems
  - a) Technology Management Topics
  - b) Procurement and Implementation Topics
  - c) Vendor/Service Provider Topics
  - d) Project Management Topics
  - e) Systems Maintenance and Support Topics
  - f) Security Management Topics
  - g) General Technical Topics for IT Professionals
  - h) General Business and Management Topics
  - i) Team and Human Resource Management Topics
- 7) Design and Evaluation of Health Information Systems
  - a) Assessment of the Effects, Value, and Cost of IT
  - b) Re-engineering and Management of Change Topics
  - c) User and Process Observation and Assessment Topics
- 8) Professional Skills

## Course Calendar

Courses	Fall Quarter 1	Winter Quarter 2	Spring Quarter 3	Summer Quarter 4	Fall Quarter 5	Winter Quarter 6
MHI 202: Computer-Based Patient Records			X			
MHI 207: Medical Decision Support Systems		X				X
MHI 208: Health Informatics Web-Based Enterprise Computing			X			
MHI* 209: Clinical Data Acquisition and Analysis	X				X	
MHI* 210: Principles of Health Informatics	X				X	
MHI* 211: Telemedicine (online only)	X		X		X	
MHI* 215: Programming in M (online only: consult with IOR)	X	X	X	X	X	X
MHI 289F: Clinical Databases and Knowledge Management		X				X
MHI* 290: Research in Health Informatics	X	X	X	X	X	X
MHI* 299: Research in Health Informatics	X	X	X	X	X	X

Note: Courses are anticipated to be offered as listed above. As course offerings are subject to change please keep in close contact with the program coordinator and program advisers.

## PART 2: PROGRAM POLICY AND REQUIREMENTS

### Ethics and Integrity

#### Academic Honesty

The Health Informatics Program insists on a strict policy of academic honesty for all students. All students are required to attend instruction about academic honesty during orientation, or alternatively, view a video about academic honesty that was created for the Health Informatics Program. The video is found at the following URL:

<https://chtapps.ucdmc.ucdavis.edu/VideoConf/Events/meta/864-500k.aspx>

Students who are suspected of academic dishonesty will be referred to the Office of Student Judicial Affairs (SJA)\*. SJA officers will meet with students to determine if a problem exists, and if appropriate, will provide the necessary action to prevent a future incident up to and including dismissal from the university. Instructors retain the right to determine how incidents of academic dishonesty are reflected in student grades.

#### Ethics in Authorship

With respect to professional ethics, integrity, and fairness, the authorship of any scholarly work implies the following:

1. That each author has made a substantial intellectual contribution to the work. “Substantial intellectual contribution” is interpreted by the Graduate Council to mean input beyond that of: (a) only providing instruction, (b) granting use of laboratory space or equipment, (c) provision of financial support, or (d) dissertation guidance by a faculty member. It means a considerable degree of involvement with the development of the work, the generation and interpretation of data, the drawing of conclusions, and/or the actual writing of the manuscript.

2. That each author accepts responsibility for the contribution to the collaborative effort. Responsibility involves each author understanding the methodology involved, the relationship to other research of a similar nature, and the significance and implications of that contribution to the publication. All authors must also have the ability to defend their individual contributions.

3. That each author accepts responsibility for the scholarly conclusions appearing in the publication. Authorship should not be undertaken if these aspects of the work are not understood, or a potential author is unwilling to accept responsibility for them, or do not agree with the conclusions made.

## **Academic Misconduct/ Plagiarism**

### **University California, Davis Student Judicial Affairs:**

**Cheating**, including receiving or providing unpermitted help on an exam; copying or sharing test answers; engaging in unauthorized communication about or during an exam; giving test questions to one who hasn’t taken the exam, using unauthorized material during an exam, submitting an altered exam for re-grading, taking a test for another, continuing to work on an exam when time is up, stealing others’ work

**Fabrication**, including fabricating or falsifying data, results, or references, e.g., in reports or papers submitted for class or in a thesis or dissertation.

**Providing False Information**, including giving forged excuses to postpone or avoid assignments or to add or drop classes; or signing another’s name or having another sign in to a class.

**Unauthorized Collaboration** or assistance, including working with others on graded work without the instructor’s permission (e.g., on inclass or take-home tests, papers, labs, or assignments).

**Re-Using Work without Permission**, e.g., submitting the same work in more than one course or re-using work submitted in another course or for a different purpose, without the current instructor’s permission.

**Plagiarism**, including using others’ work (e.g., words, ideas, pictures, or data) from any source without giving credit. Others’ words must be put in quotation marks and cited, and

others' ideas must be cited even if paraphrased in the student's own words. The plagiarism guidelines for faculty can be found at the following link:

<http://writing.ucdavis.edu/facultystaff/resources/plagiarism/>

## **Integrity and Safety in Research**

### **UC Davis Office of Research, Research Compliance and Integrity:**

Quality research requires adherence to the highest standards of integrity in proposing, conducting and reporting research. Misconduct in research is a serious ethical and legal issue. To safeguard the public trust in University research, UC Davis has established a policy and process for promptly investigating allegations of research misconduct. The UC Davis policy on [Integrity in Research, PPM 220-05](#) complies with federal law and applies to all allegations of research misconduct, regardless of funding source. The Research Compliance and Integrity unit is responsible for evaluating and investigating all allegations of misconduct related to research at UC Davis. For further information about the research integrity policy and procedures, contact the [Research Compliance and Integrity Office](#).

## **Admissions and Evaluation**

### **Admissions**

All applicants for admission to graduate study in Health Informatics must first meet the requirements of Graduate Studies of the University of California

(<http://gradstudies.ucdavis.edu/>). Along with their application students must submit:

- A complete set of official transcripts of all previous undergraduate and graduate work
- Statement of purpose
- Curriculum vitae uploaded via the online application web site
- Three letters of recommendation from academic references submitted electronically by the referees
- TOEFL scores (*international students only*)

Students can be admitted on a provisional basis; however, program prerequisites must be completed before the first quarter.

### **Academic Performance**

Each student in the program must maintain a 3.0 GPA or higher throughout his or her course of study. If academic issues arise students should contact their program adviser.

### **Academic Probation**

Students whose academic performance is less than satisfactory or who are not meeting program requirements are placed on academic probation and given a timeline for removing their deficiencies and returning to good standing. Students on academic probation are subject to disqualification. The term "disqualification" should NOT be confused with "dismissal." Dismissal is removal from graduate study based on behavior or conduct.

### **Unsatisfactory Progress/ Probation/Disqualification**

A student whose progress is judged unsatisfactory is regarded as a student on probation. This includes the student whose annual evaluation indicates unsatisfactory progress or the student who receives written notice from the Advisory/Guidance Committee or Graduate Adviser

that progress is unsatisfactory. If the student fails to meet the requirements specified in the notices sent by the Dean of Graduate Studies or by the Advisory/Guidance Committee, the student will be subject to disqualification from further graduate study in the graduate program. For a full explanation of disqualification, go to [http://gradstudies.ucdavis.edu/facstaff/policies/disqual\\_appeal.pdf](http://gradstudies.ucdavis.edu/facstaff/policies/disqual_appeal.pdf)

### **Appeals**

A student who is subject to disqualification, or who has been disqualified, may submit an appeal within 30 days for reconsideration for cause to the Administrative Committee of the Graduate Council. For appeal procedures, see the [Graduate Studies Adviser's Handbook](#).

### **New Degree Requirements**

Students are responsible for fulfilling the requirements of their degree program provided at the time of entry into the program. Changes in program requirements typically should not affect students already in the program.

### **Student Evaluation of Faculty and Courses**

Student evaluation of courses and instructors will take place at the end of each academic quarter. Standard evaluation forms will be provided unless the instructor has developed a customized evaluation for his or her course. The instructor should make arrangements for the evaluation process with the Graduate Group Coordinator, Jennifer Bannister.

The graduate group coordinator (or an approved, independent evaluator) will administer and collect completed evaluations during the final course period, or via email, depending on arrangements made with the instructor. Anonymous copies of the evaluations, as well as a summarized score sheet, will be given back to each instructor in a timely fashion. Course evaluations will be reviewed by the Chair, Director, and members of the graduate group who serve as members of the Committee on Educational Policy. Instructor evaluations will be reviewed only by the Chair of the Program. Confidentiality of evaluations will be strictly observed by the program, and only those individuals mentioned in this section will have access to the evaluations.

## **PART 3: CURRICULUM AND ADVISING**

### **Curriculum**

#### **Core Courses**

##### **MHI 202 – Computer-Based Patient Records**

This course will provide a comprehensive 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.

##### **MHI 207 – Medical Decision Support Systems**

This course will explore decision support systems for medical applications. Topics include medical decision making, uncertainty, review of existing decision support systems, knowledge engineering, data mining, and knowledge-based systems.

**MHI 208 – Health Informatics Web-Based Enterprise Computing (Medical Informatics Web-Based Enterprise Computing)**

The purpose of the course is to introduce the student to the decision making processes and technologies that are involved in developing web based distributed enterprise applications in medicine. It will focus on the Informaticists role as a team member.

**MHI\* 209 – Clinical Data Acquisition and Analysis**

The course examines the nature, acquisition, and analysis of medical data. Such data ranges from signals of electrical potentials, sounds, text, images (still and motion), and data from nucleic acid and protein expression and sequencing instruments.

**MHI\* 211 – Telemedicine (online only)**

This course is designed to address necessary issues for the development and maintenance of a successful telemedicine program with focus on strategic planning, clinical applications, project management, risk management and legal issues; reimbursement and contracting; human resources and program sustainability.

**MHI 289F – Clinical Databases and Knowledge Management**

Introduces the student to the relational database concepts of normalization, SQL queries and interface design. Students start with basic text field requirements and go through the process of sequential development of a logical data model followed by normalization to a 3rd normal form and implementation of a physical data model.

**MHI\* 290 – Health Informatics Seminar Series**

Monthly seminars covering research and evaluation methods, core concepts in health informatics, and classic and current informatics literature are reviewed. Includes seminars featuring the latest informatics research by local, national, and international informatics professionals.

**MHI\* 299 – Research in Health Informatics**

This course designates time for meeting with the major professor and thesis committee, conducting research, topic selection and preliminary planning for tentative research material. This should be done as early as possible so that the Health Informatics student is able to make a timely and informed decision about his or her thesis material.

Note: MHI\* formerly MDI

## **Electives Courses**

Elective coursework may be chosen from the approved list below to fulfill the 34 unit minimum requirement. A total of three elective units are required.

### **Health Informatics**

**MHI\* 210 – Principles of Health Informatics (Formerly Introduction to Health Informatics)**

This course provides an in-depth survey of the diverse field of informatics with emphasis on Health Informatics. Topics covered include: an overview of informatics sub-specialties, roles/employment outlook for health informaticists, and a primer on a range of informatics-specific topics such as data, information management, the personal health record, health policy, telemedicine and e-health, programming and databases, common terminologies,

clinical decision support, data tools, and HIPAA and ethics related to the use of clinical data (2 units).

**MHI\* 215** – Programming in M (online only)

Project-oriented approach to fundamentals of programming in ANSI Standard M (MUMPS) language. Basic syntax, hierarchical file structure; arrays and string subscripts, indirection and extrinsic functions are covered (3 units).

**Computer Science**

**ECS 145** Scripting Languages  
(4 units)

**ECS 155** Computer Security, Non-  
majors  
(4 units)

**ECS 156** Discrete-Event Simulation  
(4 units)

**ECS 157** Computer Networks,  
Non-majors  
(4 units)

**ECS 160** Introduction to Software  
Engineering  
(4 units)

**ECS 163** Information Interfaces  
(4 units)

**ECS 165** A/B Database Systems  
(4 units)

**ECS 170** Artificial Intelligence  
(4 units)

**ECS 175** Computer Graphics  
(4 units)

**ECS 177** Introduction to Visualization  
(4 units)

**ECS 189K** Scientific Computing  
(1-5 units)

**ECS 272** Information Visualization  
(4 units)

**Electrical Engineering**

**EEC 160** Scripting Languages  
(4 units)

**EEC 206** Digital Image  
Processing  
(4 units)

**EEC 207** Pattern Recognition  
and Classification  
(3 units)

**EEC 208** Image Analysis and Computer  
Vision  
(3 units)

**EEC 209** Multimedia Compression  
Processing  
(4 units)

**Biomedical Engineering**

**BIM 242** Introduction to  
Biomedical Imaging  
(4 units)

**BIM 246** Magnetic Resonance Technology  
(3 units)

**Neurobiology, Physiology and Behavior**

**NPB 163** Information Processing in Neuroscience and Psychology  
(4 units)

**Epidemiology and Preventative Medicine**

**EPI 222** Epidemiology Modeling  
(3 units)

**EPP 223** Spatial Epidemiology  
(3 units)

### Preventive Veterinary Medicine

**MPM 402** Medical Statistics  
(4 units)

**MPM 408A** Veterinary Research  
(2 units)

### Biological and Agricultural Engineering

**ABT 180** Introduction to Geographic Information Systems  
(4 units)

### Graduate School of Management

**MGT 206** Decision Making and  
Management Sciences  
(3 units)

**MGT 207** Management  
Information Systems  
(3 units)

**MGT 250** Technology Management  
(3 units)

**MGT 251** Management of Innovations  
(3 units)

**MGT 287** Business Data and Information  
Management  
(3 units)

Note: Courses are subject to change. The addition of electives in the areas of nursing and public health is expected in 2009-2010. Other electives may be considered at the discretion of the graduate adviser or education committee.

### **Requirements for the Master of Science Degree**

The requirements for a Master of Science Degree in Health Informatics are completion of 43 units of approved coursework. All courses must be passed with a grade of a B- or higher and a satisfactory grade in MDI 290 seminar series. This will result in the student completing the following:

- 31 units in Common Core
- 3 units of elective coursework
- 9 units (minimum) of research under MDI 299 "Research in Health Informatics."
- A mandatory research project and thesis

Elective coursework may be chosen from the approved list to fulfill the 34 unit minimum requirement.

Note: **34 units constitute the minimum** elective units as it may be necessary to take additional prerequisite courses, and these **additional units will not count toward the M.S. degree**. The courses may be required to meet prerequisites or refresher coursework necessary to begin a thesis and research project.

The research project and thesis are major components of the M.S. Degree Program. The purpose of the thesis is to demonstrate proficiency in research or scientific analysis learned through his or her course of study. The thesis research is carried out under the supervision of the major professor chosen by the student. The thesis must be approved by the thesis



committee, which is composed of the major professor and two faculty members. Please see page 16 for details regarding the thesis plan and requirements.

## **Advising**

### **Graduate Adviser**

Upon matriculation into the Health Informatics Graduate Program, students should meet with their Graduate Adviser. The Health Informatics Program assigns each student an Adviser, chosen from the 40 Health Informatics faculty and approved by the Dean of Graduate Studies. Each student needs to schedule a meeting with his or her Adviser at least once per quarter. Additional appointments may also be scheduled as needed. Students who feel their assigned Adviser is not a good fit, may freely change Advisers at any time.

Students are expected to take the initiative in planning their program of study, but it is essential that students maintain close contact with their adviser while making the following important program decisions:

- Approval of any forms requiring the signature of a "Graduate Adviser"
- Major professor selection
- Thesis committee selection (these individuals may be changed later if it is found that other professors are more appropriate)
- Subject of thesis

### **Core and Elective Course Planning**

By the end of the first quarter of full-time study or its equivalent (completion of 12 units), the major area of interest should be identified and a tentative course of study outlined. During the second quarter, the development of a detailed study program should be completed with the assistance of the Graduate Adviser. A copy of this study program must be given to the Graduate Adviser by the end of the second quarter.

### **Major Professor**

The Major Professor is the faculty member who will:

- Assist in preparing a detailed study program
- Assist in conducting thesis research
- Chair the thesis committee and determine the degree of involvement of each committee member

## **PART 4: THESIS AND GRADUATION**

### **Thesis and Project Preparation**

#### **Research Project and Thesis**

The research project and resulting thesis are major components of the M.S. Degree Program. The thesis research is carried out under the supervision of the major professor. The thesis must be approved by a three-member faculty committee. The thesis must demonstrate the student's proficiency in research or scientific analysis. A commonly accepted principle in the curriculum leading to a Masters degree in Health Informatics is that the Masters thesis is to be

primarily considered as a contribution to the training of the candidate rather than a contribution to knowledge.

## **Thesis Committee**

Students are expected to take the initiative in identifying the courses to be included in their academic program, suggesting members for the thesis committee, and in selecting the subject of investigation for their thesis. The thesis committee consists of three faculty members who are selected once the area of research is chosen so they can assist with:

- Planning a student's research program
- Giving advice during the course of the research
- Preparing a suitable manuscript
- Reviewing research after public presentation
- Signing the completed version of the student thesis

Students may contact appropriate academic personnel to serve on their thesis committee from the following departments:

- School of Medicine
- School of Veterinary Medicine
- College of Engineering
- Proposed Betty Irene School of Nursing

## **Development of Study Program and Research Topic Selection**

Students are encouraged to explore research topics as early as possible to facilitate a timely and informed decision in choosing the members of their thesis committee. The first quarter of research course time (MHI 299) may be used for literature review, topic selection and preliminary planning.

The program provides excellent opportunities for research projects within the university and throughout its affiliated partners. Example research environments include:

- UC Davis Health System's Center for Virtual Care
- UC Davis Center for Comparative Medicine
- UC Davis Genome Center
- UC Davis Health System's Center for Health and Technology, with its internationally recognized telemedicine program
- UC Davis Clinical and Translational Science Center

Program of study development and research topic selection must be done in conjunction with the major professor.

## **Advancement to Candidacy**

Students can apply for application to candidacy once they have begun their thesis project. Candidacy applications for the Master of Science degree must include the members of the thesis committee.

## **Public Presentation of Thesis**

Students are responsible for submitting a draft of their thesis to the committee. A presentation form must be obtained from the Graduate Adviser. In agreement with the committee, a public presentation of the research must be scheduled. Following the presentation the committee meets to review the research. Students then complete the final version of the thesis and obtain

the signatures of the committee members. **Note: Published deadlines for turning in the thesis will be strictly observed; students who miss the deadline will be scheduled for a later graduation date.**

### **Normative Time**

The Health Informatics masters program is designed to require 1.5 to 2 full-time years of study. The average time for completion of the program is 3 part-time years.

### **Commencement**

The Office of Graduate Studies, the Graduate Council and the Graduate Student Association, host the graduate commencement in June at the Activities and Recreation Center Pavilion (the ARC). Following the ceremony, a reception is held for degree recipients, candidates, faculty, family and friends. Students who receive their graduate degree in September, December, March or June are eligible and welcome to participate in the annual June commencement ceremony. Students close to completion are also eligible to participate in the June commencement, with the approval of their Graduate Adviser or Major Professor.

## **PART 5: RESOURCES FOR STUDENTS**

### **Program Resources**

#### **Library Services**

##### **F. William Blaisdell, M.D., Medical Library, Sacramento**

The F. William Blaisdell, M.D., Medical Library includes a student commons area, a lounge, study areas (reading areas and group study rooms), and traditional library stacks. Its media center features computer workstations with advanced graphics, statistical and multimedia presentation capabilities, and consultation rooms with videoconferencing and distance-learning technologies. The library is located at 45th and X Streets. For more information call (916) 734-3529.

##### **Loren D. Carlson Health Science Library (HSL), Davis Campus**

The HSL provides access to more than 11,000 full-text journals and over 100 textbooks, available in full-text. Additional resources such as the Clinical Resource Center (online research databases, drug information, textbooks, guidelines, protocols etc, available only to health system faculty, students and staff), UC Davis Harvest Library Catalog, and other medical resources can be accessed through the Health Science library as well.

See: <http://www.lib.ucdavis.edu/dept/hsl/>

#### **Parking and Transportation**

Parking and Transportation Services provides information regarding parking and commuting needs at the health center including parking, shuttle and public transportation information as well as maps and directions. See <http://www.ucdmc.ucdavis.edu/parking/>

#### **Sakai**

Sakai is a set of software tools designed to help instructors, researchers, and students create websites for collaboration. This information management system has been implemented by the UC Davis campus as well as the School of Medicine. This system facilitates up to the minute communication between faculty and students and, helps us to display student course

information in a more standardized format. A UC Davis campus kerberos account is needed to access the site. <http://mycourses.ucdmc.ucdavis.edu/portal>

### **Financial Aid**

Students who are undertaking full time study (at least 9 units per quarter in accordance with UCD School of Medicine policies) in the Health Informatics Program may apply to the Chair, Dr Yellowlees, for up to \$3,000 per quarter of financial aid from a block grant held by the Program. The level of financial aid is dependent on funds available and numbers of student applicants. A decision on which students are recommended for such aid will be made by the Admissions and Awards Committee, and a final decision on the amount of aid granted will be made in conjunction with the Chair. Students receiving financial aid must demonstrate satisfactory academic progress quantitatively by passing all courses in which they are enrolled, and qualitatively through continuing support from their graduate adviser. Any appeals on academic grounds as a consequence of this process will be considered by the Committee on Educational Policy. Students who require higher levels of financial aid than this should make this known to the Chair so that possible paid research or teaching roles may be investigated.

### **Advocacy Resources within the HI Graduate Program**

#### **Graduate Advisor**

The Graduate Advisor the first resource for students having an academic problem or an issue with another faculty member, if the issue or concern cannot be resolved with the course professor directly.

#### **Health Informatics Program Chair**

The Chair can be helpful if there is an issue with the major professor or if the student feels the major professor/ advisor may be biased on an issue.

[Peter Yellowlees, M.B.B.S., M.D., Chair; Professor, Psychiatry](mailto:peter.yellowlees@ucdmc.ucdavis.edu)  
[peter.yellowlees@ucdmc.ucdavis.edu](mailto:peter.yellowlees@ucdmc.ucdavis.edu)

#### **Health Informatics Program Staff**

The program staff can be good resources. Our program staff may have insight into issues that arise and can point students to other advocacy resources within and outside of the department.

Mark Carroll, MPH  
Assistant Director; Public Health  
Informaticist  
[healthinformatics@ucdavis.edu](mailto:healthinformatics@ucdavis.edu)

Kathy Chorba  
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Jennifer Banister, Ed. M  
Group Student Affairs Coordinator  
[healthinformatics@ucdavis.edu](mailto:healthinformatics@ucdavis.edu)

## UCD Campus Resources

### Academic Resources

#### **SISWEB**

SISWEB is available for course enrollment, schedule adjustment, class schedules, unofficial academic records, and contains personal information for university records such as student address, account, financial aid status, and more. Students can also apply for Graduate Studies through SISWEB. For more information see <http://sisweb.ucdavis.edu>

#### **Internship and Career Center**

The Internship and Career Center (ICC) provides career development services for all graduate students at UC Davis. Career coordinators provide career advising, guidance for academic and public or private sector careers, CV writing, career options, transferable skills, and applying and interviewing workshops. For more information see <http://icc.ucdavis.edu>. For an appointment contact the Graduate Student and Postdoctoral Career Services assistant at (530) 752-7841.

#### **Learning Skills Center**

The Learning Skills Center provides group and individual services in reading, writing, English as a second language, science, mathematics, and study skills. Pre-arranged, ongoing group tutoring in mathematics and science courses, as well as drop-in tutoring in mathematics, science and writing and pre-arranged, ongoing one-to-one tutoring in writing are also provided. All services are free to UC Davis students. See <http://www.lsc.ucdavis.edu> for more information.

### Health and Wellbeing Resources

#### **Student Health Insurance Plan (SHIP)**

The University of California requires that all registered students have health insurance. The Student Health Insurance Plan (SHIP) is designed specifically for UC Davis students, offering both Davis-area and worldwide coverage. The SHIP plan includes medical and dental benefits for undergraduate, graduate, and professional students. Registered students are automatically enrolled in SHIP. SHIP can be waived for students with existing coverage. Go to <http://healthcenter.ucdavis.edu/insurance>.

#### **Cowell Student Health Center (CSHC)**

The CSHC provides low student rates for primary healthcare services.

All registered students may use Cowell healthcare services whether or not they are enrolled in SHIP. SHIP members receive primary care services at CSHC and are covered by SHIP for referral care when referred by a CSHC provider. For more information call (530) 752-2300 or go to <http://healthcenter.ucdavis.edu>

#### **Counseling & Psychological Services (CAPS)**

CAPS offers short-term, confidential individual and group counseling, crisis intervention, psychological and psychiatric assessment and psychological testing for students with educational, career, personal, emotional, cross-cultural, and social concerns. CAPS also conducts psycho-educational programs and consults with faculty and staff on student needs, including students in crisis and disruptive students and assists in enhancing communication

between individuals and groups. The office is located at 219 North Hall. For more information see <http://caps.ucdavis.edu>

## **Advocacy Resources**

### **Student Judicial Affairs**

Issues of academic and personal misconduct by undergraduate, graduate, and professional students are referred to Student Judicial Affairs (SJA). For more information, go to the SJA Web site at <http://sja.ucdavis.edu>. The SJA office can be contacted at (530) 752-1128 or [sja@ucdavis.edu](mailto:sja@ucdavis.edu).

### **Cross-Cultural Center**

The Cross-Cultural Center (CCC) encourages a multicultural community through education and advocacy. The CCC supports student success by offering academic, leadership, cultural and social resources, educational programs, student internships, funding opportunities and knowledgeable staff. For more information, go to <http://ccc.ucdavis.edu>.

### **Lesbian, Gay, Bisexual, Transgender Resource Center**

The Lesbian, Gay, Bisexual, Transgender Resource Center (LGBTRC) on the main campus provides an open, safe, community that promotes education about all genders and sexualities and provides advocacy and support for all students. For more information, go to <http://lgbtcenter.ucdavis.edu>.

### **Student Disability Center**

UC Davis is committed to ensuring equal educational opportunities for students with disabilities. The SDC is staffed by professional disability specialists with expertise in various areas of disability: learning, vision, hearing, medical, psychological, and mobility. See <http://sdc.ucdavis.edu>.

### **Veterans Affairs Office**

The Veterans Affairs Office assists veterans, reservists or dependents of a disabled or deceased veteran. The office certifies course attendance to the Department of Veterans Affairs and processes Cal-Vet Fee Waivers. It also provides information about benefit eligibility and tutorial assistance, as well as advice about the GI Bill and educational benefits. The Veterans Affairs Office is located at 107 South Hall and can be reached at (530) 752-2020 or see <http://advisingservices.ucdavis.edu/student-services/veterans>

### **Women's Resources and Research Center**

The Women's Resources and Research Center (WRRRC) offers graduate women academic and personal resources. The WRRRC offers an extensive library, educational programs, advising and referrals, academic support, a welcoming space, and a caring, accessible staff. For more information on the WRRRC's wide range of programs and services, call (530) 752-3372 or stop by 113 North Hall. Visit their Web site at <http://wrrc.ucdavis.edu>

### **Resources for International Students**

Services for International Students & Scholars (SISS) represents the interests and concerns of approximately 2,300 international students, faculty, and researchers who come to UC Davis each year. SISS provides orientation, assistance, information, and referral to international students, faculty, and researchers regarding financial, personal, cultural, and academic

concerns. SISS assists international students and scholars with maintaining their legal status while within the U.S. and can provide expert advice regarding U.S. immigration regulations and help with any problems that relate to visa status. For more information, go to <http://siss.ucdavis.edu>.

**The University of California, in accordance with applicable federal and state law and university policy, does not discriminate on the basis of race, color, national origin, religion, sex, disability, age, medical condition (cancer-related), ancestry, marital status, citizenship, sexual orientation, status as a Vietnam-era veteran or special disabled veteran. The university also prohibits sexual harassment. This nondiscrimination policy covers admission, access, and treatment in university programs and activities. Inquiries regarding the university's student-related nondiscrimination policies may be directed to Margaret Heisel, (510) 987-9572.**



## Faculty Roster

### Administration and Leadership

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### School of Medicine

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Medicine; Department of  
Pathology and Laboratory  
Medicine

Anthony T. Cheung, Ph.D.  
Professor, Department of  
Pathology and Laboratory  
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Thomas Engel, M.D.  
Associate Professor, Department of  
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Management Medical Director,  
*Health Informatics Graduate Student Guide, Rev. 9/08*

Applied Medical Informatics Group

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Regina Gandour-Edwards, M.D.  
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Director, Rural Program in Medical  
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Co-Director, Hilty/Gandour-Edwards  
College of Advising, School of Medicine  
Professor and Vice-Chair of Faculty  
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Director, Electronic Death Registry Systems  
Project

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Davis Health System

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Executive Associate Dean for  
Administration and Clinical  
Outreach  
Director, Center for Health and  
Technology

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Biomedical Informatics Core,  
CTSC; Medical Director, Electronic  
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Calvin Hirsch, M.D.,

Professor, Geriatric Medicine

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California Animal Health and Food Safety  
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**College of Engineering**

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Computer Science

Bernd Hamann, Ph.D.

Professor, Department of Computer Science  
Associate Vice Chancellor for Research,  
Office of Research

Patrice Koehl, Ph.D.

Associate Professor, Department of  
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Betram Ludascher, Ph.D.

Associate Professor, Department of  
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Kwan-Liu Ma, Ph.D.

Professor, Department of Computer Science

Dick Walters, Ph.D.

Professor Emeritus, Department of  
Computer Science; Department of  
Mechanical and Aeronautical Engineering

Cristina Davis, Ph.D.

Assistant Professor, Department of  
Mechanical and Aeronautical Engineering

**Health Sciences Library**

Terri Malmgren, M.L.S.  
Head Librarian, Carlson Health  
Sciences Library

Elizabeth Gibson, M.A.  
Director of Academic Technology  
Services

**Proposed Betty Irene Moore School of  
Nursing**

[Heather M. Young, PhD, RN, FAAN](#)  
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Betty Irene Moore School of Nursing

**Please submit updates to Jennifer  
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