

**THE UNIVERSITY OF TEXAS
HEALTH SCIENCE CENTER AT HOUSTON**

THE SCHOOL OF BIOMEDICAL INFORMATICS

2009-2011 CATALOG ADDENDUM

Academic Year 2011-2012 information is included as an addendum to the
2009-2011 UTHSC-Houston catalog

Index Page

As of July 2010, the School of Health Information Sciences changed the school name to the School of Biomedical Informatics.

- I. Tuition Increase Effective Fall 2011
- II. Academic Calendar
- III. Master of Science in Applied Health Informatics Program
- IV. Addition of New Courses
- V. Application deadline date change

ADDENDUM TO
SCHOOL OF BIOMEDICAL INFORMATICS
CATALOG YEAR 2009-2011

Current Catalog Page Number where change will take place: Page 82
Short Description of type of change: change in tuition fee

Beginning 2009-2011, Texas resident tuition is \$146 per semester credit hour.

Change to:

Beginning Fall Term 2011, Texas resident tuition is \$206 per semester credit hour.

Current Catalog Page Number where change will take place: Page 83
Short Description of type of change: change in differential tuition

Graduate differential tuition will be \$50/semester credit hour for residents and \$200/semester credit hour for non-residents.

Change to:

Graduate differential tuition will be \$50 per semester credit hour for residents and \$250 per semester credit hour for non-residents.

Academic Calendar 2011-2012

Fall Term 2011	August 1- 26	Orientation – Entering Students Registration
	August 29	Classes Begin
	December 9	Classes End
	December 12-16	Final Examinations
Spring Term 2012	Dec. 15 – Jan. 7	Orientation – Entering Students Registration
	January 9	Classes Begin
	March 5-9	Spring Break
	April 27	Classes End
	April 20 – May 4	Final Examinations
Summer Term 2012 (12-Week Session)	April 30 – May 18	Orientation – Entering Students Registration
	May 21	Classes Begin
	August 10	Classes End
	August 13-14	Final Examinations

Note: At the discretion of the Dean, the attendance of certain individuals (students/faculty) may be required on a scheduled university holiday and on other than the usual scheduled class dates because of practicum/Preceptorship requirements. Holidays will be announced in the class schedule each semester/session. See uth.edu/registrar/index.htm

Master of Science in Applied Health Informatics Program

Goals and Program Description

Formal study of applied informatics at the master's level is designed to accomplish these major goals:

1. Acquire an understanding of the scope of the applied health informatics area;
2. Demonstrate knowledge of the applied health informatics domain;
3. Demonstrate skills in Electronic Health Records (EHR) and computerized health information systems;
4. Apply the skills set the area of applied health informatics;
5. Develop problem solving skills for applied health informatics' problems; and
6. Understand opportunities and limitations of current technologies used in applied health informatics.

The Applied Master's Program in Health Informatics is directed toward creating an educated workforce with the knowledge and skills to assess, implement, maintain and evaluate Electronic Health Records (EHRs) and computerized health information systems. The program requires 36 semester credit hours. Each course consists of didactic and laboratory coursework with the exception of the capstone project. The courses investigate a broad selection of areas such as the modern American healthcare system, healthcare legislation, primary care facilities, electronic health records, health information security protocols, project management, and change management. The program culminates with a capstone project that requires the student to apply knowledge, and skills learned from coursework in a practical real world setting.

The courses for the Applied Health Informatics Program are available as an online program and will be offered every semester for the first year starting in Spring Semester, 2011.

The Applied Masters Program in Health Informatics course work is not transferable to the Master of Science in Health Informatics or the Doctor of Philosophy in Health Informatics programs of study.

Master of Science in Applied Health Informatics Admission Requirements

Admission Requirements

The applicant should present to the Registrar's Office the following:

1. A baccalaureate or higher degree in an appropriate area, e.g., science, medicine, dentistry, MIS, engineering, or computer science
2. A personal statement detailing his or her interest in the Applied Health Informatics Program
3. A resume or curriculum vitae (as appropriate)
4. A Graduate Record Exam (GRE) or Miller Analogies Test (MAT) score
5. Grade Point Average (GPA) in previous degrees
6. A minimum TOEFL score of 550 on the paper test, a score of 87, writing 26, speaking

23, reading 21, listening 17 on the internet based test, or a minimum score of 213 on the computer test is required for international students

Admission is contingent upon consent to and satisfactory results from a criminal background check

Applicants are to submit relevant materials in a portfolio manner, which will then be reviewed. An interview may be requested. Applicants are required to take either the GRE exam or the MAT exam for admission.

The admission subcommittee will consider such areas as:

Health, MIS, Computer, or Engineering related degree

Previous healthcare and/or work experience

Database work experience

Informatics work experience

Demonstrated expertise in programming

GRE or MAT score

GPA in previous degree

Success in overcoming social, economic or educational disadvantages, race and ethnicity

Masters of Science in Applied Health Informatics application deadlines:

Fall admission **July 1**

Spring admission **November 1**

Summer admission **March 15**

Transfer Credit

Transfer credit for equivalent courses taken elsewhere may be awarded and used to meet degree requirements if their equivalency to a SBMI degree program course is approved through a Petition for Equivalency Credit. The maximum number of transferable semester credit hours is 6 for the applied master's program.

Applicants who are presenting course work from universities or colleges outside the United States to meet admission or graduation requirements are referred to the section on International Applicants in this catalog for a listing of additional requirements.

Requirements for the Master of Science in Applied Health Informatics Degree

Academic Requirements

Credit hours must total at least 36 semester hours for all courses in the degree plan. Each student

follows a degree plan developed with an Advising Committee. A total of 36 semester credit hours listed in the sample curriculum matrix in this catalog for Applied Health Informatics must be completed prior to graduation.

A full-time student in the Applied Health Informatics Program has up to four years (12 semesters) from the time of entry to complete the course work. A part-time student has up to eight years (24 semesters) from the time of entry to complete the required coursework. Continued enrollment is required unless approval from the advising committee is obtained. A maximum of one year of approved leave will be allowed for continuance in the program. If more than one year of leave occurs, the student must be readmitted to the program.

Each course with a HIT prefix in the Applied Health Informatics degree program is a graduate level professional course and should be passed with a grade of "B" or better. Only one course grade of "C" is allowable. The minimum grade point average (GPA) required for graduation is 3.0 in all HIT courses.

If a student in the Applied Health Informatics Program fails a course in the curriculum, the student may enroll in that particular course one more time (a total of two enrollments for the same course). If the student makes lower than a B in that particular course the second time, the student cannot continue in the program. If a student fails two academic courses in one semester or three or more courses during enrollment in the degree program, the student will be dismissed from the program for academic reasons.

Other Requirements

In Residence Requirement- the term "in residence" refers to a total of 30 semester credit hours, which must be taken at UTHSC-H. A student must fulfill his or her in residence requirement in order to receive any academic degree from the School.

Computer Requirements

Every student is required to have access to a computer that meets the minimum requirements. A laptop computer is strongly recommended.

Recommended Requirements:

- Intel Core 2 Duo T7250
- 120 GB hard drive
- 2 GB of RAM
- CD-RW/DVD drive
- Running XP SP2 or Vista
- Full-size keyboard and monitor
- Connection to Internet/Network

Connect from home

- DSL
- Cable Modem
- Satellite

Minimum Requirements:

- Intel Core 2 Duo E6600 (or equivalent)
- 40 GB hard drive
- 1 GB of RAM
- CD drive
- Running XP

Ability to accept a full-size keyboard and monitor
Connection to Internet/Network

The Professional Course of Study Master of Science in Applied Health Informatics

The curriculum of the Master of Science degree in Applied Health Informatics includes required didactic courses, practicums and a capstone experience. Didactic courses (lecture/discussion, demonstration and student practicums) are presented to provide facts, concepts, and theories related to the techniques and procedures of the applied health informatics area.

The Practicums are designed to provide students the opportunity to apply theory and techniques in the hospital, research or private healthcare settings. The Applied Program in Health Informatics consists of 36 Semester Credit Hours (SCH). The part-time student has up to two and a half years (8 semesters) from the time of entry to complete the required course work.

Each student has a designated degree plan that must successfully be completed to satisfy the program requirements. Each student will be assigned an advisor. The Applied program is designed as an online program only. The three-hour practicum and Capstone project is required so that students receive real world experience.

Sample Curriculum: Student Entering in Spring Semester

Spring Semester		13 semester hours
HIT 5300	Intro to Health Informatics (3 Sem. Hrs)	
HIT 5301	The U.S. Healthcare System (3 Sem. Hrs.)	
HIT 5302	Communication in Applied Health Informatics (3 Sem. Hrs.)	
HIT 5320	Applied Health Information Systems in the Delivery of Healthcare (3 Sem. Hrs.)	
HIT 5000	Practicum in Applied Health Informatics (1 Sem. Hrs.)	
Summer Semester		10 semester hours
HIT 5324	Project Management in Applied Health Informatics (3 Sem. Hrs.)	
HIT 5327	Standards and Standards Development in Applied Health Informatics (3 Sem. Hrs.)	
HIT 5326	Assessments in Applied Health Informatics (3 Sem. Hrs.)	
HIT 5000	Practicum in Applied Health Informatics (1 Sem. Hrs.)	
Fall Semester		13 semester hours
HIT 5303	Safety and Security in Applied Health Informatics (3 Sem. Hrs.)	
HIT 5325	Social Dynamics in Applied Health Informatics (3 Sem. Hrs.)	
HIT 5323	Evaluation of Health Information Systems in Applied Health Informatics (3 Sem. Hrs.)	
HIT 5322	Systems Analysis in Applied Health Informatics (3 Sem. Hrs.)	
HIT 5000	Practicum in Applied Health Informatics (1 Sem. Hrs.)	

For further curriculum information, please contact:

James P Turley, Ph.D., R.N. or Juliana Brixey Ph.D., R.N.
7000 Fannin Street Suite 600
Houston, TX 77030
713-500-3924 or 713-500-3643
James.P.Turley@uth.tmc.edu or Juliana.J.Brixey@uth.tmc.edu

Health Information Technology Course Descriptions

HIT 5000 Practicum in Applied Health Informatics

(Variable hours/week)

1-3 Semester Credits

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: During the practicum, each student will select an area of interest in which to apply the knowledge and skill gained during the didactic courses. Students will become active participants in the work of developing informatics-based applications and/or applying informatics science and skills to address an information management need. Each student will develop a specific set of goals to be accomplished. The student's advising committee and practicum supervisor must approve these goals. These goals will reflect the student's area of interest and the needs of the preempting organization. This course is graded on a pass/fail basis and is repeated for a maximum of 6 semester credit hours to meet degree requirements.

HIT 5001 Special Topics: Applied Health Informatics (Variable hours/week) 1-3 Semester Credits

Prerequisite: Consent of the instructor

This course provides a timely way to examine cutting edge topics of interest to students and faculty. The varying content may include topics such as technical writing in Health Informatics comparing knowledge use across disciplines and computational knowledge methods in Health Informatics. This course may be repeated as topics vary.

HIT 5002 Directed Study: Applied Health Informatics (Variable hours/week) 1-3 Semester Credits

Prerequisite: Consent of the instructor

3 Semester Credits/meets the requirement for the Applied Masters of Science in Health Informatics

This course provides a mechanism for students to explore issues of personal interest in the field of Health Informatics. The varying content may include topics such as display of large scale nursing data, mapping issues for dentistry, and linking public health knowledge to clinical medicine. This course may be graded on a letter grade or pass/fail basis and may be repeated as topics vary.

HIT 5300 Introduction to Health Informatics (2 hours lecture/3 hours laboratory/week

lecture/demonstration/discussion)

3 Semester Credits/meets the requirement for the Applied Masters of Science in Health Informatics

Prerequisites: Access to the Internet, personal computer and consent of instructor.

This introductory graduate level course covers the discipline of informatics in health care delivery and is designed to be multi-disciplinary in nature. The course will focus on the clinical aspects of information technology and provide a broad overview to the nature of information technology,

focusing on hardware, software and conceptual models of information. Students will explore different data types and data models both specific to their discipline and those which can be shared across disciplines. The focus will be on comparing and contrasting the data types and data models of the different disciplines.

HIT 5301 The US Healthcare System

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion)

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: This course will present a survey of the modern American health care system. The course will focus on major pieces of legislation that serve as the foundation of the current US health care structures. Topics in the course will include Medicare, Medicaid, and HIPAA, their impacts on financing, health care access and professional roles. The course will integrate current legislative actions, public concerns, implications, and discussions surrounding healthcare reform.

HIT 5302 Communication in Applied Health Informatics

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion).

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: This course will combine theoretical and practical exploration of communication within healthcare, including standard data (ICD-9-CM, ICD-10-CM, CPT etc), data interchange (HIEs) and other standards for health communication. The course will also examine the communication patterns of physicians, nurses, and other healthcare providers, and the implications of these patterns in the context of information technologies. The course will examine the standard languages which each discipline has adopted and the informal language used when communicating to and about each other. This focus on language will be the entry point to understanding the culture of healthcare and healthcare workers. In addition, students will learn and practice interpersonal communication skills and formal communication skills with the use of PowerPoint etc.

HIT 5303 Safety and Security in Applied Health Informatics

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion).

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: This course will focus on the social and technical aspects of safety and security in healthcare. While there is much public focus on the technical aspects of privacy and security, social practices and behaviors are often the "weak link" in the security chain. Students will explore the strengths and weakness of different password structures, biomorphic identification, and automated security systems. These topics will be explored from both technical and social aspects. The goal will be to find the optimal combination that can be incorporated into the workflow of specific organizations. The rest will be a "best fit" security solution.

HIT 5320 Applied Health Information Systems in the Delivery of Health Care

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets the requirement for the Applied Masters of Science in Health Informatics

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: This course will focus on the design, implementation, and components of health care information Systems. The course will include a history of health care information systems. Students will examine the changing uses and expectations of health care information systems and the expected usage of such systems at each level of development. The course will explore new options in technology and design that will allow for the clinically driven information systems of the future. The needs of multiple clinical disciplines will be explored to understand how they can share and communicate patient information using information systems.

HIT 5322 Systems Analysis in Applied Health Informatics

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion)
3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: The purpose of this course is to assist the student in understanding the components, processes and tools used in the necessary components of a health information system. The course will focus on the variety of approaches and tools available for systems analysis. Students will have experience with modeling tools and rapid prototyping tools.

HIT 5323 Evaluation of Health Information Systems in Applied Health Informatics

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion)
3 Semester Credits/meets part of research informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: This multi-disciplinary course will focus on the process of evaluating and choosing a health information system. The course will assist students in identifying the critical needs that the health information system is intended to address. Different methods of evaluation will be presented and discussed in terms of how they would apply to health information systems. The evaluation process will begin with identifying the needs of the organization, and presenting them in an organized manner so the vendors can address the needs followed by mechanisms for evaluation.

HIT 5324 Project Management in Applied Health Informatics

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion)
3 Semester Credits/meets part of the advanced informatics component

Prerequisites: Access to the Internet, personal computer and consent of instructor.

Description: This course is an introduction to Project Management structured for students who have begun to run their own projects. The course is project-based and is designed to develop managers for large healthcare projects, such as a system implementation, evaluation of an existing system, or other large project.

HIT 5325 Social Dynamics in Applied Health Informatics

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion)

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: This course is based upon the premise that implementation of information systems

will not only greatly enhance the quality of healthcare but also radically change the nature of healthcare. Students will examine healthcare as a distributed system composed of groups of people interacting with each other and with information technology. Two major areas will be covered in the course. The first area is computer-supported cooperative work (CSCW), which is defined as computer-assisted coordination of activities such as reasoning, problem solving, decision-making, routine tasks, and communication. CSW involves a group of collaborating individuals who interact with complex information technology. Most health information systems (such as EHR) are examples of large groupware. Groupware supports large numbers of synchronous and asynchronous users of diverse backgrounds as they execute many different types of tasks. The second area is the social impact of information technology. This area will focus on the impact of Internet, social networking, and similar innovations on healthcare.

HIT 5326 Assessments in Applied Health Informatics

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion).

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: Students in this course will learn how to identify and assess different aspects of healthcare systems and healthcare workflow. The addition of a comprehensive electronic health record (EHR) may be very disruptive to the workflow and organization of a primary care provider. It is known that EHR decreases the throughput of a primary care clinic. However, if properly designed, an EHR can improve the quality of the healthcare delivered and the satisfaction of the clinicians and patients. Students will learn the skills needed to assess and help improve workflow and the quality of healthcare delivery.

HIT 5327 Standards and Standards Development in Applied Health Informatics

(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion).

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Description: Unlike much of the world, healthcare standards are frequently developed by private organizations rather than the government. The Standards Development Organizations (SDOs) create an alphabet soup of organizations that are often not well known to people within the healthcare fields, let alone those just entering the field. This course will explore the history of a variety of SDOs, examining their membership and focus domain. Students will examine the role of the major SDOs and their impact on the structure and function of healthcare delivery in the US. The relationship between US and International Standards Organizations will be reviewed.

ADDENDUM TO
SCHOOL OF BIOMEDICAL INFORMATICS
CATALOG YEAR 2009-2011

Current Catalog Page Number where change will take place: Page 79
Short Description of type of change: change in application deadline date

Doctor of Philosophy in Health Informatics application deadlines

Fall admission February 1
Spring admission November 1

Change to:

Doctor of Philosophy in Health Informatics application deadline

Fall admission December 1

Current Catalog Page Number where change will take place: Page 115
Short Description of type of change: change in application deadline date

Doctor of Philosophy in Health Informatics application deadlines:

Fall admission February 1
Spring admission November 1

Change to:

Doctor of Philosophy in Health Informatics application deadline:

Fall admission December 1

THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON

GENERAL INFORMATION SECTION 2009 – 2011 CATALOG



The University of Texas Health Science Center at Houston is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award certificate, undergraduate, masters, doctoral, and professional degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033 4097 or call 404 679 4500 for questions about the accreditation of The University of Texas Health Science Center at Houston.

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Message from the President



Larry R. Kaiser, M.D., F.A.C.S.

As a student at The University of Texas Health Science Center at Houston, you have joined one of the most comprehensive academic medical centers in the southwestern United States – a university that offers you unparalleled opportunities to contribute to the enhanced health of the world.

The Health Science Center – through its three-part mission of education, research and patient care – plays a critical role in the health of our region and our state. In fact, the breakthroughs occurring on our campus have an impact on millions of lives around the globe. You have the opportunity to work alongside our exceptional faculty and healthcare professionals to make your own mark as you pursue your passion in the health sciences.

We have six schools within the university devoted to medicine, dentistry, nursing, public health, the biomedical sciences and health informatics. We also have an institute focused on molecular medicine and a psychiatric hospital. At this university, located in the Texas Medical Center – the world's largest – you will become actively involved in your field as you engage in this rich, collaborative learning environment.

You may make a great discovery or solve a complex medical riddle. You may pursue laboratory investigation or sit by the bedside. You are the next generation of health professionals, and what you learn here will not be abstract concepts. Once you apply this knowledge, you will transform the lives of real people. You will make a difference.

We believe in you and wish you the best in your academic pursuits.

Sincerely,
Larry R. Kaiser, M.D., F.A.C.S.
President

Welcome!



Peter J.A. Davies, M.D., Ph.D.
Provost & Executive Vice
President for Research

I am delighted to welcome you to The University of Texas Health Science Center at Houston (UTHSC-H). As current or potential student, or perhaps even an interested parent, it is important for you to know that there are many facets to our university that, working together, make it a rich and stimulating learning environment that nurtures creativity and discovery. The combination of our six schools, multiple research institutes and centers, and hospital partners and clinics provides a wealth of opportunities for personal and professional growth.

Our vision of “Excellence Above All” is apparent in all that we do to further education, research, patient care and community service throughout the university. That is our mission. As a result of our commitment to this vision and mission, you will find that:

- We are rigorous in our recruitment of faculty and students and our investment in leadership, both current and future.
- We highly value the diversity of every individual in our university community, from students to faculty to staff to patients.
- We believe that scholarship is the foundation of all our activities, especially in learning or discovering new knowledge and in teaching, integrating and applying that knowledge.
- We believe that service occurs often as an extension of scholarship as members of the university community translate and apply their knowledge and skills to care for patients, to prevent disease, or to analyze and set or change public policies related to education and health care. Our services are provided at the local, state, national and international levels.
- Our location and research activities benefit every one of our educational programs. Our presence in not only the Texas Medical Center but also in five regional campuses across Texas, in community hospitals, in clinics, and in local schools supports scholarly activity. Our physical plant includes more than 4 million gross square feet of space in facilities for education, basic science and clinical research, inpatient and ambulatory health care, student accommodations, and recreation.
- The quality of our faculty and the variety of our educational, research and patient care programs provide distinctive opportunities for students to excel. Our 19 academic degree programs employ cutting-edge technology and innovative educational approaches to student learning.
- We believe in teamwork while also valuing the individual. Students learn to work together, and with faculty, drawing strength from the knowledge, skills and contributions of others. At the same time, we value one another, recognizing and celebrating the talents, creativity and character of each member of the team.

As a longtime UTHSC-H employee, I feel strongly that UTHSC-H is an outstanding place to learn and grow. Those who join us will certainly share many positive experiences that will enrich their lives, build on the reputation of our university, and benefit our community.

Peter J.A. Davies, M.D., Ph.D.
Provost & Executive Vice President for Research

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ADMINISTRATIVE OFFICERS

The University of Texas System

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MISSION AND VISION STATEMENTS

Teaching, Searching, Serving

Mission Statement

As a comprehensive health science university, the mission of The University of Texas Health Science Center at Houston is to educate health science professionals, discover and translate advances in the biomedical and social sciences, and model the best practices in clinical care and public health.

We pursue this mission in order to advance the quality of human life by enhancing the diagnosis, treatment, and prevention of disease and injury, as well as promoting individual health and community well-being.

To fulfill our mission, UTHSC-H:

1. Educates health professionals and scientists in a diverse interdisciplinary academic community.
2. Creates and evaluates new knowledge – through basic science and applied research – as it relates to disease prevention, treatment and cure.
3. Provides leadership and advances scholarship in biomedical sciences, health professions, health promotion, public health policy and health care delivery.
4. Models appropriate and compassionate clinical care.
5. Addresses the health needs of the community at large through public health expertise, information, outreach and service.
6. Develops the expanding field of health information science.

Vision Statement

“Excellence above all” in the quest to be an acknowledged leader in the collaboration to treat, cure, and prevent the most common diseases of our time through education, research, and clinical practice.

The University of Texas Health Science Center at Houston aspires to be a leader in the collaboration to treat, prevent, and cure the most common diseases of our time by:

1. Utilizing the distinctive capabilities of its schools, clinics, institutes and centers;
2. Collaborating with colleagues in The University of Texas System, the Texas Medical Center and throughout the world;
3. Being an academic health science center that is nationally and internationally recognized in teaching, research and service;
4. Serving as a home for the visionaries and scholars who will lead the way in defining and creating the future of the health sciences; and
5. Providing a diverse work environment that is ethically-based, service-oriented and community-sensitive.

GENERAL INFORMATION

History of The University of Texas System

The idea of a university of Texas is as old as the State. The Texas Declaration of Independence lists as one of its main indictments against the government of Mexico the fact that “it has failed to establish any public system of education...” Several early attempts were made to establish a state university, but they were not successful because of the Civil War and subsequent Era of Reconstruction. Establishment of a state university for Texas was provided first by act of the State Legislature in 1881. It provided for the location of the institution by popular vote and for appointment of a Board of Regents to be entrusted with its organization and governance. By results of an election in September 1881, the site of the main university was designated as Austin and Galveston was chosen as the location for the Medical Branch. An undergraduate college and law school were established and The University of Texas formally opened on September 15, 1883.

Since then numerous campuses, schools, colleges, divisions and branches have been added to The University of Texas System at several locations throughout the state. The System now includes academic campuses in Arlington, Austin, Brownsville, Dallas, El Paso, Midland/Odessa (UT Permian Basin), San Antonio, Tyler and Edinburg. The health science centers are located at Dallas, Galveston, Houston, and San Antonio. A health center (hospital) is located in Tyler. The University of Texas M. D. Anderson Cancer Center is located in Houston.

Other components of the System include the Institute of Texas Cultures (at San Antonio), the Institute of Humanities in Medicine (UT Medical Branch, Galveston), the Environmental Science Park near Smithville (UT Cancer Center), the Marine Science Institute in Port Aransas (UT Austin), the McDonald Observatory at Fort Davis (UT Austin), and the Shriners Burn Institute (in conjunction with UT Medical Branch, Galveston).

The University of Texas Health Science Center at Houston

The University of Texas Health Science Center at Houston (UTHSC-H) was established in late 1972 to administer and provide for the operation of the several biomedical and health-related units located in the city through the integration and coordination of functions and activities. The Health Science Center presently includes, in order of establishment:

- 1905 Dental Branch (originally as the Texas Dental College – joined UTHSC-H in 1943)
- 1963 Graduate School of Biomedical Sciences
- 1967 School of Public Health
- 1970 Medical School
- 1972 School of Nursing
- 1973 School of Health Information Sciences
- 1990 Harris County Psychiatric Center
- 1995 Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases

As a component of The University of Texas System, UTHSC-H is subject to The University of Texas System Board of Regents – Rules and Regulations for the governance of The University of Texas System.

The official name of the institution is The University of Texas Health Science Center at Houston. It is informally termed UTHSC-H or the Health Science Center.

Today, UTHSC-H employs more than 5,600 faculty and staff and has over 3,700 students enrolled in various health and biomedical disciplines at its component schools.

UTHSC-H Addresses*

Dental Branch

6516 M.D. Anderson Blvd.
Houston, TX 77030-3402

Medical School

Medical School Building
6431 Fannin
Houston, TX 77030-1503

Graduate School of Biomedical Sciences

6767 Bertner Ave., Rm 3.8344
Houston, TX 77030

School of Health Information Sciences (University Center Tower)

7000 Fannin, Suite 600
Houston, TX 77030

School of Nursing

6901 Bertner
Houston, TX 77030

School of Public Health

(Reuel A. Stallones Building)
1200 Herman Pressler
Houston, TX 77030-3900

Child Development Center

7900 Cambridge
Houston, TX 77054-5500

Jesse Jones HAM-TMC Library

1133 John Freeman Blvd.
Houston, TX 77030

Harris County Psychiatric Center

2800 S. MacGregor Way
Houston, TX 77021

Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases

1825 Hermann Pressler St.
Houston, TX 77030

Mental Sciences Institute

1300 Moursund
Houston, TX 77030

Recreation Center

7779 Knight Road
Houston, TX 77054

UTHSC-H Administrative Offices (University Center Tower)

7000 Fannin
Houston, TX 77030

UT Police Department

7777 Knight Road
Houston, TX 77054

UTHSC-H Professional Building

6410 Fannin
Houston, TX 77030

*Unless otherwise clearly posted or expressed by an authorized official of The University of Texas Health Science Center at Houston (UTHSC-H), the various UTHSC-H facilities and locations are open only to persons with legitimate business purposes requiring presence at such facilities and locations. UTHSC-H allows only agents of UTHSC-H, employees acting within the scope of their employment with UTHSC-H, the Student InterCouncil, and other registered student, faculty, and staff organizations to solicit on the grounds, sidewalks, or streets of the UTHSC-H campus or in any building, structure, or facility owned, controlled, or operated by UTHSC-H.

Institutional Governance

Institutional governance at The University of Texas Health Science Center at Houston is supported by a system of councils and standing committees. As a whole, these councils enhance communication both vertically and horizontally within the university; enable leaders and constituent representatives from each of the major mission areas to participate in exchange of information and decision making; and incorporate ideas and points of view from a variety of students, faculty and staff in the decision-making process. Deliberations and recommendations from councils provide assistance to executive leadership of the university as they make decisions about the university's future and well-being. The Executive Council is responsible for advising the President in matters of policy development and administration of UTHSC-H. Additional councils are the Academic Council, Diversity Council, Research Council, Clinical Council, Institutional Relations Council, Administrative Council, and Safety Council.

A complete guide to UTHSC-H councils can be found at
uth.tmc.edu/council/index.html.

Standing Committees

Animal Welfare Committee
Audit Committee
Awards Committee
Chemical Safety Committee
Committee for the Protection of Human Subjects
Committee on the Status of Women
Continuing Education Advisory Committee
Employee Relations General Administration Committee
Executive Council
Faculty Development Leave Committee
Institutional Biosafety Committee
Intellectual Property Committee
Interfaculty Council
Health Informatics Advisory Committee
Learning and Technology Advisory Team
Nominating Committee
Radiation Safety Committee
Research Conflicts of Interest Committee
Safety Council
Student InterCouncil
Student Services Council
University Appointment, Promotion and Tenure Committee
University Classified Staff Council
Work/Life Council

Development Board

'The University of Texas Health Science Center at Houston Development Board consists of approximately 180 community leaders who have committed to advance the mission and vision of the Health Science Center by increasing public awareness and philanthropic support through advocacy, service and investment.'

CENTERS, PROGRAMS AND INSTITUTES

A variety of interdisciplinary centers, institutes and programs have been created to enrich the primary programs of the schools of UTHSC-H. In general, the centers focus on specific service and research efforts while the institutes provide opportunities for special multidisciplinary educational projects. These efforts reinforce UTHSC-H's commitment to providing a means through which the health professions may join with each other and with society to consider health-related issues.

The centers, programs and institutes are listed below along with their primary school affiliates and Web URL addresses when available. Inquiries for more detailed information should be directed to the appropriate school.

The Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases

Advances in molecular and cell biology have enormous potential for innovative medical research and the future practice of medicine with more novel therapies. These approaches have been most successfully used to determine the causes of infectious disorders and genetic diseases. However, it is clear that molecular and cell biology will play a major role in clarifying the causes of many unsolved problems of modern medicine: heart disease, hypertension, vascular disorders, major mental illnesses, and inflammatory and immunologic diseases. The Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases (IMM) houses six research centers and several support laboratories, each exploring the genetic and molecular aspects of biological processes significant to explain the basis of human diseases.

The long-term goals of the IMM are to set the example for research excellence and collaborations locally, nationally, and internationally. Scientifically, the IMM is on the verge of a new frontier of expansion and collaborations.

The IMM is housed in the new 223,000-square foot Faye S. Sarofim Research Building adjacent to the University Center Tower. The new facility consists of two wings, one for technology and administrative offices and one for research labs, with at least 65% of its usable space devoted to actual research. The facility also includes a 200-seat auditorium, a large atrium for events, and conference rooms for collaborative scientific discussion. In addition, a satellite facility exists at the Texas Heart Institute in the Denton Cooley Building. This satellite facility strengthens the IMM's basic science programs, builds upon its excellence in research, and supports the institution's goal of continual partnership or collaboration with other Texas Medical Center institutions by sharing space and support services. The additional research space allows the IMM to expand its present research capabilities and recruit the caliber of scientists capable of conducting research at the leading edge. Ten Research Centers are currently in operation at the IMM, along with several core facilities and laboratories. Although senior investigators and their associates pursue their individual research goals, there are thematic approaches the different laboratories have in common.

The IMM Center for Cardiovascular Genetic Research (CCGR) studies heart disease, stroke and atherosclerosis. Established in 2006, the Center focuses on elucidation of molecular genetics and pathogenesis of cardiovascular diseases in humans. The research activities entail human molecular genetic studies as well studies in genetic models of human heart disease.

The Research Center for Cell Signaling investigates the role of cell signaling in vascular biology, inflammation in the gastrointestinal tract and other tissues, and diseases such as cancer and diabetes..

The Research Center for Diabetes and Obesity Research focuses on noninsulin-dependent diabetes, the most common form of the disease affecting our population today. By investigating the genes responsible for risk factors such as obesity, high blood pressure and high cholesterol, we may provide physicians with the new tools to help diagnose and treat diabetes long before debilitating complications can arise, or even before the disease itself can strike.

Hans J. Müller-Eberhard and Irma Gigli Center for Immunology and Autoimmune Diseases studies allergies, autoimmunity, asthma, infectious lung disease, skin, and kidney diseases.

Human Genetics addresses a range of diseases including heart disease, stroke, hypertension, diabetes, atherosclerosis, and cerebrovascular disorders.

Molecular Imaging develops and engineers new imaging instrumentation, algorithms, and agents for in vivo molecular imaging in small animals. The Center uses in vivo imaging of unique animal models to answer key biological questions of collaborators. It also focuses upon translating scientific discoveries and new imaging approaches into the clinic such as the current trials of for near-infrared fluorescence lymphatic imaging and non-invasive PET and optical imaging for nodal staging of cancer.

Neurodegenerative Diseases investigates the development of the brain and the entire nervous system; we hope to discover the genetic and molecular causes of neurodegenerative diseases, including various forms of dementia such as Alzheimer's disease, amyotrophic lateral sclerosis and multiple sclerosis.

Proteomics and Systems Biology connects research efforts across the university in systems biology, clinical and translational sciences, protein chemistry, genomics, and proteomics, bringing together people to promote intellectual exchange and the transfer of expertise in these key fields and beyond.

- Protein Chemistry examines the structural analysis of proteins while addressing a range of diseases including neurodegenerative diseases.
- Proteomics seeks to understand cellular regulation, elucidate disease processes, and identify drug targets using the detailed characterization of proteins achievable through mass spectrometry and array technologies.
- Laboratory for Systems Biology develops a first class, high visibility research program on proteogenomics, the synthesis of genomics and proteomics, using advanced algorithms for signal processing, data analysis and information handling.
- Proteomics Core Laboratory of the Center for Clinical and Translational Sciences provides proteomics analysis services such as protein identification, analysis of differential expression and post-translational modifications of protein, as well as analysis and interpretation of results.

The Research Center for Stem Cell Research explores the mechanisms behind stem cell self-renewal and differentiation with plans to expand current studies to develop stem cell lines designed to benefit transplantation medicine and the regeneration of tissues, and to provide vectors for gene therapy with direct implications for the treatment of a wide range of chronic diseases.

Senator Lloyd and B.A. Bentsen Center for Stroke Research promotes research and collaboration leading to the prevention of stroke, a medical problem affecting countless individuals and families. With three-quarters of a million new or recurrent strokes each year in the U.S., research is vital to better understand, treat and help people avoid stroke. Researchers involved in the Bentsen Center - in areas including stem cell therapy, genetic predictors of stroke, induced hypothermia/hibernation, molecular imaging of the vascular system, and others - will have tremendous impact on the medical field as the center goes forward.

Core Facilities and Other Laboratories:

Laboratory for Developmental Biology

Automated DNA Sequencing Core

Flow Cytometry & Cell Sorter Core

Protein Chemistry Core

Website: uth.tmc.edu/uth_orgs/imm/

Children's Learning Institute

The University of Texas Medical School at Houston's Children's Learning Institute (CLI) combines data and studies from the fields of psychology, neurodevelopment, education, medicine and child development to provide proven learning solutions derived from and supported by documented research. The mission of CLI is to create a quality learning environment for all children through classroom curriculum, teacher mentoring, clinical programs and applied research. CLI's goal is to make sure every child is equipped to learn and able to excel. Through CLI's clinical component, the Dan L. Duncan Children's Neurodevelopmental Clinic, CLI provides continuing care for the developmental, psychological and educational needs of infants, children and young adults. CLI's research and programs are supported by the National Institute of Child Health and Development, the Office of Educational Research Improvement, the Texas Education Agency, private foundations and generous individuals.

Website: www.childrenslearninginstitute.org

Center on Aging

The Center on Aging, established in 1987, aims to improve the quality of life for an aging society through interdisciplinary activities, recognizing that the care of older persons requires the collaborative effort of all health care professionals in cooperation with the individual and family. The Center achieves its mission through research, education, professional leadership and community service.

Specific interdisciplinary aging-related activities of the Center include: (1) research projects aimed at improving the well-being of older adults and their caregivers, including studies of stroke recovery and quality of life, and the prediction and prevention of problems such as pressure ulcers; 2) educational programs including all academic programs, baccalaureate through doctoral, in the School of Nursing, as well as, interdisciplinary programs through Houston-Geriatric Education Center, and through programs that increase knowledge of aging among health care providers; 3) The Long-term Care Ombudsman Program, funded by the Area Agency

on Aging which addresses the health and well being of older adults and their families in nursing and assisted living facilities through education and advocacy; and 4) collaboration and leadership in the community through educational offerings and shared expertise.

Website: son.uth.tmc.edu/coa/default.htm.

The Center for Biosecurity and Public Health Informatics Research

The Center for Biosecurity and Public Health Informatics Research (CBPHIR) is established by the School of Health Information Sciences, to coordinate research and development of next generation informatics infrastructures and technological platforms relevant to the public health preparedness, bioterrorism readiness, emergency response and situation awareness.

The Center promotes collaborative research and technology development activities in the context of:

- Bioterrorism Preparedness (Situation Awareness), Emergency Response and Command, Control and Communication, in City, County, State and National levels.
- Education, Training and Drill for emergency response and mass casualty event preparedness, using state of the art information technologies
- Community Awareness and Public Preparedness Services
- Biomedical, Clinical and Public Health Informatics

Primary mission and objectives of the Center are: “To be the pioneering research entity nationwide, designing and developing the next generation of information systems and emergency response management infrastructure for public health preparedness.. The center promotes a multidisciplinary collaboration environment between university researchers, private enterprises and government agencies to provide state of the art technologies, research and development infrastructures and training, education and drill opportunities for the students, scientists, and for the community.”

This overall mission is supported by three other goals that differentiate this effort from other local initiatives:

1. To establish a “Center of Excellence” from a cluster of scientists, researchers and students of different domains to:
 - a. Identify needs and develop the rationale to deploy new technologies.
 - b. Provide a continuous source of grant support.
 - c. Collaborate within an inter-disciplinary program to translate or transfer technologies from different domains.

Establish an advanced and state-of-the-art training and learning laboratory to simulate, experiment and study public health and environmental incidents in a multi-disciplinary environment.

Develop technologies relevant to community services to enhance vigilance, awareness and public preparedness.

Website: phinformatics.org

Center for Biosecurity & Public Health Preparedness

The Center for Biosecurity and Public Health Preparedness was created in 2003 to respond to the unique public health preparedness challenges in Texas through its regional campuses, including sites along the critical U.S.-Mexico Border. The Center's mission is to educate frontline public health workforce, medical and emergency responders, key leaders, and other professionals to respond to threats such as bioterrorism and other public health emergencies. The Center works at the local, state, national, and international level with academic institutions, governmental agencies, relief organizations, and foreign ministries of health to promote public health preparedness programs. During the 2005 Hurricanes, Katrina and Rita, the Center responded by immediately establishing an operations center for the coordination of university public health relief efforts, in support of local health departments for disease tracking among survivors. In addition to working closely with state and local health departments, the Center responded abroad to the SARS outbreak in China in 2003 and the Tsunami in Indonesia in 2004. Public-private partnerships are encouraged for staff working within the Center to ensure the most competitive products. The Center, as a designated CDC Academic Center for Public Health Preparedness, has trained more than 100,000 persons, and is organized into three main areas:

Integrated training and community service endeavors provide a forum to bring critical community responders and academic experts together. In addition to targeted programs of preparedness instruction for the community health and legal workforce, the Center provides public health emergency response support, and expertise for planning, exercises, public health and hospital preparedness. A main focus of the Center is to work with local health departments and organizations, such as the Texas Association of Local Health Officials (TALHO) to promote public health readiness. The Student Epidemic Intelligence Society (SEIS), an integral part of the Center, provides volunteer epidemiologic support for local health departments across the state of Texas, and provides support for drills and exercises.

Evaluation of efforts for preparing local public health departments for disasters include syndromic surveillance, rapid case identification, epidemic response, financial investment outcomes in the preparedness infrastructure, the impact of preparedness training programs on responder readiness, and business continuity. The Center also strives to translate new ideas into effective solutions that address state and local health security needs.

Many of the educational products developed by the Center are now being made available online, such as disaster preparedness, public health and the law, preparedness considerations for vulnerable populations (elderly), a laboratory guide for working with select agents, public health and displaced populations, field epidemiology, and risk communications. The Center also provides a number of different opportunities for a more specialized graduate education including a certificate program in emergency preparedness offered by the SEIS program. A concentration in public health preparedness is expected to be available soon.

Website: texasbiosecurity.org

Center for Cardiovascular Biology and Atherosclerosis Research

The Center provides a platform in which physicians and research scientists conduct research in cardiovascular biology and diseases that alters the function of hearts and blood vessels. Research projects and interests include the studies of molecular and cellular mechanisms underlying the development of atherosclerotic coronary disease, ischemic heart failure thrombolysis and myocardial infarction; the development of left ventricular assist pumps, new PTCA procedures, artificial blood vessels, atherectomy devices, and quantitative arteriography to evaluate coronary restenosis and the progression of atherosclerosis. Additionally, clinical research in cardiac imaging is being pursued with positron emission tomography and SPECT gamma imaging. Electrophysiology studies are evaluating new antiarrhythmic drugs, intelligent pacemaker cardioverters, implantable defibrillators and the effect of ablation procedures. Clinical trials for cardiovascular stem cell therapies have been also conducted at phase I or II. Basic science research is underway in molecular and cell biology, particularly with regard to endothelial aspects of atherosclerosis, smooth muscle apoptosis in atherosclerotic lesions and vascular aneurysms, and ischemic myocardial damage and repair.

Website: uth.tmc.edu/cbar/

Center for Clinical Research & Evidence Based Medicine

The goal of the Center for Clinical Research & Evidence-Based Medicine is to increase the public's healthy years of life by promoting clinical research of the highest quality and by advancing the application of this research in preventing suffering, disability, and premature death. The Center was established in 1998 and now involves 21 faculty from a variety of disciplines: biostatistics, epidemiology, ethics, economics, psychology, pediatrics, obstetrics, internal medicine, surgery, family practice, and pathology.

The Center has developed a master's of science degree program in clinical research and a clinical research curriculum and mentorship program. These programs provide in-depth training in clinical research to fellows and faculty within any department. Mentorship is provided jointly by departmental faculty and center faculty to assist mentees in preparing major grant proposals and in obtaining career development awards. The research of the Center faculty has focused on problems in newborns, children or adults that cause a major loss of healthy life years. Last year, center faculty were authors on 107 published manuscripts, principal investigators for nine funded grants and investigators for 22 funded grants.

The degree program for a Master of Science in Clinical Research was initiated in September 2002. Though originally envisioned for 6-12 participants, 25 degree and 13 non-degree fellows or faculty are now enrolled. There are 75 current mentees with a Departmental Mentor and a Program Mentor. Mentee grants funded since 1999 include a large Center grant and 27 career development awards (funding sources include Robert Wood Johnson Foundation; American Heart Association; Agency for Health Care Research and Quality; Department of Defense; National Institute of Child Health and Human Development Specialized Clinical Investigator Award; NIH K08, K12, K23, and K24).

Website: ped1.med.uth.tmc.edu/neo/center-home.htm

Center for Computational Biomedicine

Over the past several years, computational issues for technology-driven biomedical research have proliferated. The Center for Computational Biomedicine (CBM) at The University of Texas School of Health Information Sciences at Houston pursues collaborative, interdisciplinary research and education within the broadly defined scientific area of computational biomedicine. This new discipline is defined by and indeed resides upon the interface between the computational sciences (i.e., signal analysis, data mining and computer science in general) and a wide variety of biomedical disciplines including neuroscience, genomics, cardiology and structural biology to name a few. Fundamentally, CBM addresses the modeling, acquisition, processing and long-term storage of the ever-increasing volume of biomedical information.

The Center for CBM encourages the development of collaborative relationships among faculty and others around research and education in CBM related to the mission of the university. The Center for CBM emphasizes the highly interdisciplinary nature of this emerging scientific discipline in health care and biomedical research. The Executive Committee of the Center is composed of representatives from each of the other five UTHSC-H schools.

Website: shis.uth.tmc.edu/school-foci/computational-biomedicine

Center for Education and Information Resources

The Center for Education and Information Resources (CEIR) supports faculty and students at the University of Texas School of Nursing at Houston (SON) by providing instructional design direction and solutions both online and in the classroom. The Center also provides all classroom and distance education technology and application support as well as manages the School of Nursing website.

CEIR website: son.uth.tmc.edu/centers-progs/ceir/default.htm

SON website: son.uth.tmc.edu/

Center of Excellence for Patient Safety Research and Practice

The Center of Excellence for Patient Safety Research and Practice is a multi-institutional and multi-disciplinary project dedicated to improving healthcare for providers and patients.

Medical errors are a common and expensive problem in the U.S. healthcare system. To address this public health problem, the Institute of Medicine, the general public, and numerous researchers cite the aviation industry as an example for the healthcare industry to follow. We have assembled a multidisciplinary research team that has a track record of developing, translating, and utilizing aviation safety practices in healthcare. The individual projects of the Center are unified by the theme of translating safety practices from aviation to healthcare.

Website: uth.tmc.edu/schools/med/imed/patient_safety/index.htm

Center for Transforming Public Health Systems

The mission of the Center for Transforming Public Health Systems is to contribute to fundamental transformation of the people, processes, and technologies required to achieve the vision of Healthy People in Healthy Communities. Center programs of research, development and technical assistance focus upon three major areas:

- Public health infrastructure: public health workforce; public health organizations and systems; and public health information systems, especially geographic information systems.
- Community studies: epidemiologic and participatory community assessment methods, and community-based policy and program development.
- Public health leadership and practice: public health leadership development; futures studies; practice-based research; teaching; and service.

The Center is headquarters for the Texas Public Health Workforce Training Consortium, a collaborative endeavor involving the three Schools of Public Health in Texas.

Another component of the Center is the Community Engagement Resource Group. This project serves as focal point for research, analysis, planning and policy development related to health services and health status in the South Texas Region. This activity supports the translational research infrastructure being developed by the Institute for the Integration of Medicine and Science at the University of Texas Health Science Center at San Antonio. Project faculty and students, in collaboration with UTHSC-SA institutions and community representatives, develop and implement innovative strategies to expand access to health services and enhance community health.

Website: sph.uth.tmc.edu/ctphs/default.aspx

Center for Health Promotion & Prevention Research

The mission of the Centers for Health Promotion and Prevention Research (CHPPR) is to conduct research and to develop, evaluate, and disseminate health promotion and disease prevention programs in diverse settings and populations. Faculty members form the core for graduate education in health promotion and behavioral sciences at the School of Public Health and provide a stimulating research environment for pre- and post-doctoral training. CHPPR leadership has worked to attain a breadth and depth of collaborative relations with a wide variety of academic and community partners. CHPPR has been designated as a Centers for Disease Control and Prevention (CDC) Prevention Research Center and has been a World Health Organization (WHO) Collaborating Center designation (currently in re-application).

Website: sph.uth.tmc.edu/chppr/

Center for Health Services Research

The Center for Health Services Research (CHSR) will conduct research and provide technical assistance and training in the organization, financing, and outcomes of health services, systems, and policies. Center faculty and students will apply health services research methods related to the design and evaluation of individually targeted healthcare and community-based public health services. Three major areas will be emphasized: (1) clarify the comparative effectiveness, costs, benefits and budgetary impact of health promotion, protection, prevention, treatment, and rehabilitation services; (2) identify and evaluate financing and service delivery initiatives to better serve uninsured, low-income populations; and, (3) identify and evaluate relevant federal, state, and local health policy related to these issues.

The Center will complement other research activities within the UTHSC-H and the School of Public Health by applying basic research on causal relationships, intervention design, and population surveillance to service, system, and policy questions. The CHSR will provide gradu-

ate and postgraduate training and practice opportunities for students and fellows, and collaborative research opportunities with other centers, institutes, and external organizations where knowledge of financing, evaluation, organizational relationships, and policy is important. It will create opportunities for research collaboration among faculty and students at the Houston and regional campuses and the Texas Medical Center, as well as with other public and private organizations throughout Texas.

Website: sph.uth.tmc.edu/chsr/

Center for Human Development Research

The Center for Human Development Research (CHDR) is a multidisciplinary center for research on developmental psychopathology and developmental disabilities, based in the UT Medical School at Houston's Department of Psychiatry and Behavioral Sciences. The Center's mission is to improve the lives of people with developmental differences and/or mental illness originating in childhood, through research on the nature, causes, and treatment of these disorders. CHDR research and clinical service, educational activities, and community service focus on children, adolescents and adults with developmental differences, particularly those on the autism spectrum and other developmental disabilities.

Website: uth.tmc.edu/chdr/

Center for Infectious Diseases

The Center for Infectious Diseases (CID) was created by the Texas Legislature in 1989. It is housed in the The University of Texas School of Public Health at Houston and consists of offices and research laboratories. The Center's mission is to address the problems of emerging infectious diseases in Texas and abroad, especially food-borne water-borne, and mosquito borne infections and sexually transmitted diseases. The Center strives to develop fundable and sustaining research programs. Current programs include studies in hepatitis viruses, parasitic infections, travelers' and bacterial viral and parasitic diarrhea, HIV/AIDS and sexually transmitted diseases, zoonotic diseases and respiratory diseases. Although the research program is of primary importance, the Center is also dedicated to educating and training public health professionals by involving students and trainees in laboratory research projects. CID members consist of public health and medical researchers brought together for a multidisciplinary approach to infectious disease problems. Center investigators are also involved in a number of international studies and collaborations in the US-Mexico border area and at other non-US sites with the recognition that immigration and travel have introduced a variety of non-endemic diseases into the state. In this respect, the Center has established a global network of infectious disease research and training in Africa, Asia, Latin America and the Caribbean. These studies have direct applications to Texas where residents travel to Mexico and other international settings and in view of the migration of international populations to our state. Through a strong program of research and education, CID scientists are working to find ways in which to identify, control and prevent infectious diseases that threaten the public health.

Website: sph.uth.tmc.edu/cid/

Center for Laboratory Animal Medicine & Care (CLAMC)

The Center for Laboratory Animal Medicine and Care (CLAMC) is a program accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC-International), which manages and operates all animal care and use programs for the Health Science Center. CLAMC includes six physically separate animal facilities and numerous satellites on the Texas Medical Center campus. The program provides professional veterinary, surgical, and animal care services in support of principal investigators' animal use studies. The CLAMC is an integral part of UTHSC-H's research and teaching mission and provides the highest standards possible for ensuring the health and well-being of laboratory animals used in biomedical research. CLAMC staff includes five veterinarians, one veterinary resident, seven veterinary technicians, and approximately 30 animal care and support personnel.

Website: uth.tmc.edu/orsc/clamc/index.html

Center for Membrane Biology

The Center for Membrane Biology, located in The University of Texas Medical School at Houston, is dedicated to advancing our understanding of the structure, function, evolution, and biomedical aspects of biological membranes in cells and organelles. The mission of the Center is to conduct biomembrane research on the cutting edge, stimulate and coordinate graduate education in membrane biology, and foster career development of biomembrane scientists in a world-class center of research excellence.

The Center, housed in the Department of Biochemistry & Molecular Biology, also includes participating faculty members from the Departments of Integrative Biology & Pharmacology and Microbiology & Molecular Genetics. Currently 11 faculty members provide career opportunities for new students, post-doctoral researchers, and new faculty members.

Website: uth.tmc.edu/cmb/

Center for Nursing Research

Developed in 1986, the Center for Nursing Research (CNR) in the School of Nursing is dedicated to advancing science that improves patient care and evidence-based practice through support of School of Nursing faculty and student research. The CNR provides infrastructure to support preclinical, biobehavioral and clinical intervention research. CNR staff provides methodological, statistical and editorial consultations; supports an extensive proposal review process; and facilitates the preparation and submission of research proposals for extramural funding and protocol approval forms to institutional review boards. Other CNR initiatives include a competitive, peer-reviewed intramural grants program, a faculty research internship, an annual Visiting Research Scholar series and faculty development seminars. The Center also maintains an electronic Research Bulletin Board.

Website: son.uth.tmc.edu/research/default.htm

Center for the Study of Emerging & Reemerging Pathogens

The Center for the Study of Emerging and Reemerging Pathogens (CSERP) is a university-based inter-departmental collaborative unit that targets molecular biology, genetics and therapeutics of infectious diseases. The scientific goals of CSERP are to determine how microorganisms cause disease, how they resist host defenses and what microbial targets are crucial for survival in the infected host. The long-range goal is to use this information to develop strategies for preventing or treating these diseases. Educational activities include the Molecular Basis for Infectious Diseases data club (an interdisciplinary monthly seminar with presentations from clinical and basic scientists), an associated training grant for graduate students and summer undergraduate trainees, an annual retreat with nationally recognized speakers and poster presentations from schools in the south Texas area, and, co-sponsored with the Department of Microbiology and Molecular Genetics, a new course: Bioterrorism Preparedness and Response. The Center provides graduate students, postdoctoral fellows and other trainees with a day-to-day exposure to clinical disciplines as well as the basic sciences in order to establish a broad-based foundation in microbial virulence and its consequences. Major projects of CSERP investigators include enterococcal virulence, pathogenesis mechanism of B anthracis, antibiotic resistance, Lyme disease and syphilis projects, microbial genome analysis, host immune response, immune evasion by microbes, mycology research, new antimicrobial targets, cryptosporidia and HIV clinical trials.

Center for Teaching Excellence

The Center for Teaching Excellence housed in the School of Nursing was established to promote teaching excellence and support the scholarship of teaching in order to enhance faculty performance in nursing education. Greater understanding of pedagogic methodology and teaching technology contributes to more efficient learning and reduces both faculty and student attrition.

Goals of the Center are to facilitate the use and sharing of traditional and innovative teaching methodologies and technologies to promote more efficient student learning; increase program participants' knowledge and skills related to teaching and learning effectiveness and evaluation; encourage collaborative teaching and promote educational research; and identify, stimulate and reward excellent and innovative teaching.

Website: son.uth.tmc.edu/centers-progs/cte/default.htm

Coordinating Center for Clinical Trials

The Coordinating Center for Clinical Trials, established in 1971 and located in the School of Public Health, coordinates leading multi-center randomized, controlled clinical trials. The goals of the Center are to identify important health problems; design clinical trials to study the efficacy of appropriate interventions; collect, report and interpret study findings; and contribute to medical, statistical, and clinical trials knowledge. Investigators in the Center include scientists in biostatistics, clinical trials, medicine, epidemiology, biological sciences, genetics, behavioral sciences, health economics, and other disciplines. The Center's expertise includes protocol design and operation, manual development, study forms design, randomization and quality-control procedures, data processing, central and remote data entry, computer software development and maintenance, report generation, analysis, interpretation, and dissemination,

and fiscal management. The Center has directed 17 nation-wide multi-center clinical trials and has obtained almost \$200 million in research funding since its inception.

Website: sph.uth.tmc.edu/ccct/

Gulf States Hemophilia & Thrombophilia Center

The Gulf States Hemophilia and Thrombophilia Center (GSHTC), as part of the University of Texas Medical School at Houston, is a federally funded hemophilia treatment center that provides comprehensive care to over 700 pediatric and adult patients with bleeding and clotting disorders. The Center is located in the Texas Medical Center next to multiple world recognized hospitals and training sites. The Center also operates as the coordinating center for the Maternal and Child Health Bureau (MCHB) Region VI and Centers for Disease Control and as such has oversight for eight hemophilia treatment center subcontracts in the states of Oklahoma, Louisiana, Arkansas and Texas. Through the World Federation of Hemophilia (WFH) the Center has been twinned with the treatment centers in Jamaica and El Salvador to provide training and education as needed and is also a designated International Hemophilia Training Program through WFH, hosting one to two physicians or other health care professionals per year.

The Center has a full complement of professional and administrative staff that meet clinical and research needs for our patient population (25 classified, 3 faculty). In addition, the Center operates a basic translational laboratory. Faculty have clinical responsibilities in three teaching institutions covering both pediatric and adult inpatient and outpatient individuals.

The Gulf States Hemophilia and Thrombophilia Center is able to offer education programs to patients who have a specific diagnosis, such as women with bleeding disorders, persons with hemophilia and HIV, and parents of newly diagnosed children. Additionally, many members of the staff regularly present at various conferences, including the National Hemophilia Foundation, the World Federation of Hemophilia and pharmaceutical sponsored meetings.

Website: uth.tmc.edu/schools/med/ped/divisions/hematology/gulf-states/index.html

The Donald M. Gross Pediatric Research Group

The Donald M. Gross Pediatric Research Group (DMGPRG), part of the University of Texas Health Science Center at Houston, Pediatric Infectious Diseases Division, conducts valuable research for the future treatment of HIV disease. In addition, this center provides prenatal care, nursing, medical care, social services and HIV counseling and education to HIV-exposed and -infected children at little or no cost. The majority of children and mothers receiving care from the Pediatric AIDS Center are from low-income, ethnically diverse backgrounds. For many, the Center provides the only source of comprehensive medical and psychosocial services.

Houston Biomaterials Research Center

Established in 1995, the Houston Biomaterials Research Center (HBRC) is a center of excellence in biomedical materials research that seeks to understand the relationship between material structure, material properties, biological response and medical outcomes. Members of the HBRC investigate applied and fundamental properties of materials (physical, chemical and physiochemical) and understand their biological response in dental, orthopedic, craniofacial,

soft tissue and other applications. The HBRC has over 4000 square feet of laboratories that are able to span the biomaterials investigative arena from in silico to bench top to in vitro to in vivo. The HBRC mission is to develop an internationally recognized collaborative and interdisciplinary program in the education and research of biomaterials at UTHSC-H.

Website: db.uth.tmc.edu/Biomaterials/

Human Genetics Center

Originally organized in 1972, the Human Genetics Center is a research and teaching facility that aims to better understand the nature and extent of man's burden of hereditary disease and disability. Research interests of the faculty involve the study of the mechanisms and forces that contribute to the distribution of genotypes and traits among individuals, families and populations. Implementation of these interests requires both analytic and laboratory approaches in addition to field work in Texas and elsewhere. Currently, major efforts are underway in the Center to localize and characterize genes contributing to the common chronic diseases, including blindness, coronary heart disease, stroke and diabetes. Also, faculty in the Center are also actively engaged in studying the fundamental evolutionary mechanisms underlying human genetic variation. In order to accomplish these objectives, high through-put DNA sequencing and analysis are a major focus of the Center's efforts. The Center maintains a field office in Starr County, Texas, as part of efforts to study the major contributions to ill health in the Mexican-American community.

Website: sph.uth.tmc.edu/hgc/

The Michael & Susan Dell Center for Advancement of Healthy Living

The Michael & Susan Dell Center for Advancement of Healthy Living was founded in 2006 with a grant from the Michael & Susan Dell Foundation to The University of Texas School of Public Health at Houston. The vision of the Michael & Susan Dell Center for the Advancement of Healthy Living is healthy children in a healthy world, with a mission to serve as a state, national and international leader in the promotion of healthy living. The Center seeks to achieve this through strategic priorities, including the prevention and control of childhood obesity through healthy eating and physical activity; promotion of healthy living behaviors in youth, policy and environmental change; and professional education and community service. Key functions of the Center consist of the creation of new scholarly works that push the frontiers of public health science; research and development; translation and dissemination of evidence-based programs and practices; collaboration with community partners; policy development and analysis. Faculty and staff of the Center are particularly concerned with community, national, and international nutritional health issues, and with the graduate education of students who plan careers in the fields of public health or community nutrition. A Dietetic Internship program is supported by the Center with accreditation from the American Dietetic Association. The Dell Center for Healthy Living seeks to achieve the mission and vision of the Center through the prevention and control of childhood obesity through healthy eating and physical activity, promotion of healthy living behaviors in youth, policy and environmental change, and professional education and community service.

The Center is housed in The University of Texas School of Public Health Austin Regional Campus, in Austin, TX. The Michael & Susan Dell Center for Advancement of Healthy Living was formerly the Human Nutrition Center, which was established in 1977.

Website: sph.uth.tmc.edu/dellhealthyliving/

John P. McGovern, M.D., Center for Health, Humanities and the Human Spirit

Established in 2004, The John P. McGovern, M.D. Center for Health, Humanities, and the Human Spirit promotes excellence in scholarship and teaching in the medical humanities and ethics. It provides an interdisciplinary forum where scholars, students, physicians, and other health care professionals examine questions of value and meaning in search of ethically sound and spiritually informed patient care. Appropriately, the Center bears the name of John P. McGovern, M.D. (1921-2007) who founded the American Osler Society and throughout his lifetime championed the importance of the compassionate art of medicine.

The McGovern Center is housed in the Medical School but serves all six schools at the Health Science Center. Drawing from bioethics, medical history, health law, spirituality, literature and the arts, the Center offers courses, lectures, research seminars, faculty workshops and consultation. It provides opportunities for collaborative research and professional development for students, residents and faculty. The Center collaborates closely with other academic institutions in Houston, including Rice University, UT M.D. Anderson Cancer Center and the University of Houston, as well as the Museum of Fine Arts and the Jung Center.

The Center established a Medical Humanities Certificate Program in 2006. This four-year program enriches medical students' education through additional study and involvement in the humanities, including participation in elective courses, seminars and ethics grand rounds, community outreach opportunities, writing workshops and directed research, leading to a Certificate in the Medical Humanities.

In 2009, the Center will launch a Campus-Wide Ethics Program that will enhance the ethics and professionalism curricula at each of the six schools at the Health Science Center.

Website: uth.tmc.edu/hhhs/

Laboratory for Molecular Diagnosis of Inherited Eye Diseases

The Laboratory for Molecular Diagnosis of Inherited Eye Diseases was inaugurated on September 1, 1994, and is a joint project of the Cizik Eye Clinic, the Richard S. Ruiz, M.D. Department of Ophthalmology and Visual Science, and the Human Genetics Center at the School of Public Health. The purpose of the laboratory is to provide genetic testing as a service for patients with inherited eye diseases and for ophthalmologists treating those patients. At present, the principal diseases tested are inherited forms of retinal degeneration such as retinitis pigmentosa and macular dystrophy. The laboratory also conducts research in the molecular causes of inherited eye diseases and has a role in training students and faculty in molecular techniques.

Mickey Leland National Urban Air Toxics Research Center

The Mickey Leland National Urban Air Toxics Research Center (NUATRC), located in the Texas Medical Center, was authorized by the U.S. Congress in the Clean Air Act Amendments of 1990, and incorporated in 1991. It is named after the late Congressman George Thomas "Mickey" Leland, whose efforts on behalf of public health contributed significantly to the passage of key amendments to the Clean Air Act.

The NUATRC is a research facility that has been specifically charged to sponsor and gather scientific information on the human health effects caused by exposure to air toxics. By law, it is a 501(c)(3) non-profit organization, financed by government and private funds. To date, private sector gifts to the Center have come primarily from corporations in the petroleum and chemical

industries. Additionally, support has been received from the state and county government, as well as philanthropic organizations.

The mission of the NUATRC is to develop and support research which will yield a better understanding of the potential risks posed to human health by exposure to air toxics, as defined by the 1990 Clean Air Act Amendments. The Center's research program, developed collaboratively by scientific experts from academia, industry and government, seeks to fill the gaps in scientific data that are required to make sound environmental health public policy decisions.

Website: sph.uth.tmc.edu/mleland/

Neuroscience Research Center

The Neuroscience Research Center facilitates interdisciplinary and interinstitutional research in the neurosciences. More than 300 faculty members from UTHSC-H schools and departments are involved in multidisciplinary investigations that address multiple aspects of the neurosciences from the molecular to the whole organism level, including translational research. These studies should hold the key to understanding, treating, and eventually preventing neural and behavioral disorders such as dementia, mental retardation, developmental disabilities, mental illnesses, substance-abuse problems, and loss of cognitive functions due to aging or traumatic brain injury. The Neuroscience Research Center publishes a quarterly newsletter and a monthly news sheet identifying ongoing research efforts and activities in the neurosciences and organizes various neuroscience lectures, including a Distinguished Lectures Series. The NRC also sponsors a course in The Graduate School of Biomedical Sciences at Houston, hosts an annual Neuroscience poster session, and fosters the exchange of information and discussion of new initiatives. As the structural foundation of its activities, the NRC utilizes the resources of the six Health Science Center schools, creating a rich and unique environment for research that spans both the clinical and basic science fields of inquiry. Departments with significant research activities within the Medical School include Neurobiology and Anatomy, Neurology, Neurosurgery, Psychiatry and Behavioral Sciences, Ophthalmology and Visual Sciences, and Integrative Biology and Pharmacology. Clinical departments utilize the facilities of Memorial Hermann Hospital, the major teaching hospital for the Medical School, and The University of Texas M. D. Anderson Cancer Center, a renowned oncology referral hospital and research institution. Other institutions include The Institute for Rehabilitation and Research, St. Joseph's Hospital, Shriners' Hospital, Texas Children's Hospital, St. Luke's Hospital, a private hospital, the UT Harris County Psychiatric Center, a 250-bed psychiatric hospital, and Lyndon Baines Johnson General Hospital, a full-service county hospital.

Website: nba.uth.tmc.edu/nrc/

Southwest Center for Occupational & Environmental Health

The Southwest Center for Occupational and Environmental Health (SWCOEH) was first established at the School of Public Health in 1977. Its mission is to promote health, safety and well-being in the workplace and the community. The goal of the Center is to respond to the critical need for well-trained occupational and environmental health specialists by providing graduate-level academic training and continuing education with an underlying foundation of a state-of-the-art occupational and environmental health research program. The SWCOEH houses the a National Institute for Occupational Safety and Health (NIOSH) Education and Research Center (ERC), and the National Institutes of Health Fogarty International Center. The NIOSH ERC and Fogarty International Center grants provide funding for US and foreign students seeking

masters and doctoral degrees in the disciplines of occupational and environmental health. In addition, the SWCOEH has been a designated World Health Organization Collaborating Center in Occupational Health since 1985.

Through the NIOSH and NIH training grants, the SWCOEH provides academic training in the core areas of industrial hygiene, occupational health for nurses and occupational medicine, as well as in the special emphasis areas of occupational epidemiology and injury prevention. Interdisciplinary courses and activities are offered to ensure interaction between faculty and students in the core disciplines.

The SWCOEH maintains an active research program, with an emphasis on applied research in the environmental and occupational health sciences. Current domestic research interests and activities include occupational risks of healthcare workers; occupational and environmental risk factors for asthma; exposure to air toxins, assessment of environmental exposure and/or cardiovascular and respiratory disease in human populations, and health issues of migrant farm workers. International research interests and activities include working conditions and health in Latin America, and occupational and environmental risk factors in the agriculture, petrochemical, and healthcare industries. Current projects include the development of worker safety training programs, assessment of cultural and psychosocial risk factors for workplace injury, and ergonomic standards and applications in Latin America. Additional research and training interests have focused on the growing trends in injury and death due to motor vehicle accidents. The SWCOEH maintains active collaboration with key stakeholder groups and university-based researchers throughout Latin America and Europe.

Through funding provided by the NIOSH ERC the SWOCEH maintains an active Continuing Education and Outreach program that offers courses annually throughout Public Health Region VI (Texas, Oklahoma, Louisiana, Arkansas and New Mexico), and through the Fogarty International Center and WHO activities internationally to practicing occupational health professionals, professionals in related disciplines, and paraprofessionals and technicians in a variety of aspects of occupational and environmental health. A hazardous substance training program, under the auspices of the NIOSH ERC Continuing Education Program, offers training to health and safety professionals in minority colleges and universities. Outreach activities are provided at the local, regional and international levels, through consultation, clinical services, presentations, community service and scholarship offerings and pilot project research awards.

Website: sph.uth.tmc.edu/swcoeh/

Structural Biology Imaging Center

Molecular mechanisms in cells are orchestrated by the cooperative activities of molecular machines built from amino and nucleic acids. Efforts to resolve the molecular architecture and functional design of these molecular machines are essential for an understanding of normal biological processes as well as the structural basis of disease states. Structural biology is the evolving branch of basic science that aims to provide detailed three-dimensional structures of molecular machines. The importance of structural biology will be amplified as researchers are challenged to identify the structures of proteins encoded by the tens of thousands of human genes.

The Center focuses on excellence in the three primary methods for resolving molecular structures – nuclear magnetic resonance, electron microscopy and x-ray crystallography. The Center will be a focal point for structural biology research at the Medical School and within

the Graduate School of Biomedical Sciences. In this way, the Center and its faculty provide UTHSC-H with a valuable and much needed resource for research and training in structural biology. Many collaborative projects with UTHSC-H faculty are anticipated thus significantly enhancing the Health Science Center's overall research enterprise.

Website: uth.tmc.edu/sbrc/

Trauma Research Center

The Trauma Research Center was established in 1988, and it was the first in the United States to concentrate on the role of the gastrointestinal tract in multiple organ failure. The Center, which is multi-departmental and multi-institutional, is funded by the National Institutes of Health and has successfully been implemented over twenty years. Since its creation, the focus of the research has evolved and is now aimed at the role of plasma in hemorrhagic shock. In 2001, a formal postgraduate training program was added to the Center. Currently, three trainees (with a Ph.D. or M.D.) devote themselves for two years to basic science, bench, and clinical research. The Medical School investigators represent the departments of surgery, integrative biology and pharmacology, internal medicine, biochemistry and pediatrics as well as academic computing, the Center for Laboratory Animal Medicine and Care, and the Center for Translational Injury Research.

Website: utsurg.uth.tmc.edu/trauma/

Clinical Research Unit

The mission of the Center for Clinical and Translational Sciences (CCTS) Clinical Research Units (CRU) is to facilitate clinical research by providing investigators with specialized facilities, personnel, and advice. Investigators from CCTS institutions (UTHSC-H, UT M. D. Anderson Cancer Center, and Memorial Hermann Hospital System) can use any of the CCTS CRUs, depending on the location of their patients and the availability of services at the three CRUs. Investigators without faculty appointments at UTHSC-H or UT M. D. Anderson should apply for CCTS membership. UTHSC-H CRU at Memorial Hermann—Texas Medical Center began as the UTHSC-H General Clinical Research Center in 1986. The UTHSC-H CRU at Memorial Hermann—Texas Medical Center offers six outpatient and four inpatient rooms; skilled nursing assistance; assistance with processing of laboratory samples; scheduling diagnostic tests and procedures; a research dietician; a chart room; and a physician charting area. For more information on the UTHSC-H CRU at Memorial Hermann—Texas Medical Center.

Website: ccts.uth.tmc.edu/ccts-services/clinical-research-units.

To use the CRUs, investigators must complete an iRIS application.

Website: ccts.uth.tmc.edu/ccts-services/clinical-research-units

Degrees Offered at The University of Texas Health Science Center at Houston

School/Program	Degree	Cert.	Bach.	Mast.	Doc.
Dental Branch	D.D.S.				X
	Oral and Maxillofacial Surgery Certificate (4 years post-DDS)	X			
	Oral and Maxillofacial Surgery Certificate/MD (6 years post-D.D.S.)	X			X
	M.S.D* / Advanced Education Programs *(General Practice Residency (GPR) (certificate only), Advanced Education in General Dentistry (AEDG) (certificate only), Endodontics, Periodontics, Prosthodontics (M.S.D. is required in these programs in addition to the certificate); Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry (certificate program, M.S.D. is optional)	X		X*	
	B.S. in Dental Hygiene		X		
	Dental Hygiene Certificate Program	X			
Graduate School of Biomedical Sciences	M.S. in Biomedical Sciences (with concentration in Biochemistry, Biomathematics and Biostatistics, Biomedical Sciences, Biophysics, Cancer Biology, Cell Biology, Genes & Development, Genetic Counseling, Human & Molecular Genetics, Immunology, Integrative Biology, Medical Physics, Microbiology & Molecular Genetics, Molecular Biology, Molecular Carcinogenesis, Molecular Pathology, Neuroscience, Pharmacology, Physiology, Radiation Biology, Reproductive Biology, Toxicology, Virology and Gene Therapy).			X	

School/Program	Degree	Cert.	Bach.	Mast.	Doc.
Graduate School of Biomedical Sciences	Ph.D. in Biomedical Sciences (with concentration in Biochemistry, Biomathematics and Biostatistics, Biomedical Sciences, Biophysics, Cancer Biology, Cell Biology, Genes and Development, Human and Molecular Genetics, Immunology, Integrative Biology, Medical Physics, Microbiology and Molecular Genetics, Molecular Biology, Molecular Carcinogenesis, Molecular Pathology, Neuroscience, Pharmacology, Physiology, Radiation Biology, Reproductive Biology, Toxicology, Virology & Gene Therapy)				X
	Certificate in Clinical Research for Biomedical Scientists	X			
School of Health Information Sciences	Certificate (in Health Informatics)	X			
	M.S. (in Health Informatics) (Focus areas in Biomedical Engineering, Clinical Informatics, Computational Biomedicine, Learning and Technology & Public Health Informatics)			X	
	Ph.D. (in Health Informatics) (Focus areas in Biomedical Engineering, Clinical Informatics, Computational Biomedicine, Learning & Technology and Public Health Informatics)				X
Medical School	M.D.				X
	M.S. in Clinical Research			X	
School of Nursing	B.S.N.		X		
	M.S.N.			X	
	Ph.D. (in Nursing)				X
	D.N.P.				X
School of Public Health	M.P.H. (in Public Health)			X	
	M.S. (in Public Health)			X	
	Dr.P.H. (in Public Health)				X
	Ph.D. (in Public Health)				X
	Certificate in Public Health	X			
	Certificate in Public Health Informatics	X			

Accreditation

The University of Texas Health Science Center at Houston is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS) to award certificate, undergraduate, masters, doctoral, and professional degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of The University of Texas Health Science Center at Houston.

While SACS accredits the total institution, many of the academic degree programs offered at UTHSC-H also undergo accreditation by specialized accrediting bodies*. They are as follows:

School	Degree or Certificate	Accrediting agency
Dental Branch	D.D.S.	American Dental Association Commission on Dental Accreditation
	M.S.	American Dental Association Commission on Dental Accreditation
	Advanced Education Certificate Program	American Dental Association Commission on Dental Accreditation
	B.S. (Dental Hygiene)	American Dental Association Commission on Dental Accreditation
	Dental Hygiene Certificate Program	American Dental Association Commission on Dental Accreditation
	Oral and Maxillofacial Surgery Certificate Program	American Dental Association Commission on Dental Accreditation
Graduate School of Biomedical Sciences	M.S. with specialization in Genetic Counseling	American Board of Genetic Counseling
	M.S. with specialization in Medical Physics	Commission on Accreditation of Medical Physics Education Programs
	M.S.	
	M.S. in Oral Biomaterials	
	Ph.D.	

School	Degree or Certificate	Accrediting agency
Medical School	M.D.	American Medical Association/ Association of American Medical Colleges Liaison Committee on Medical Education (LCME)
		Accreditation Council for Graduate Medical Education (ACGME)
		Accreditation Council for Continuing Medical Education (ACCME)
	M.S. in Clinical Research	
School of Health Information Sciences	M.S.	
	Ph.D.	
School of Nursing	B.S.N.	Commission on Collegiate Nursing Education
	M.S.N. Nurse Anesthesia	Commission on Collegiate Nursing Education Council on Accreditation of Nurse Anesthesia Educational Programs
	D.N.P.	
	Ph.D. (Nursing)	
School of Public Health	M.P.H.†	Council on Education for Public Health
	M.S.†	Council on Education for Public Health
	Dr.P.H.	Council on Education for Public Health
	Ph.D.	Council on Education for Public Health
	M.P.H. (Industrial Hygiene)	Council on Education for Public Health

*The University of Texas Health Science Center at Houston is also accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education for physicians.

† The Industrial Hygiene curriculum in the MPH and MS degree programs is accredited by the Applied Science Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), 111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone: (410) 347-7700.

Academic Qualifications

In accordance with Department of Education guidelines, in order to receive Title IV financial aid funds, a student must be qualified to study at the postsecondary level. A student qualifies if he/she:

- Has a high school diploma;
- Has the recognized equivalent of a high school diploma, typically a general education development or GED certificate;
- Has completed home schooling at the secondary level; or
- Has an academic transcript of a student who has successfully completed at least a two-year program that is acceptable for full credit toward a bachelor's degree.

In addition to these qualifications, please refer to the school catalog section for specific admissions criteria for academic degree program in each of the UTHSC-H schools.

Teaching Affiliations

UTHSC-H currently has more than 250 formal educational affiliation agreements with other institutions and agencies in the greater Houston area and the state, including a dozen major hospitals, city and neighborhood clinics, public schools, and other sites that provide settings for clinical services. Primary affiliations include those listed below; a list of other affiliations can be found on the following pages.

Memorial Hermann Hospital is the primary teaching affiliate of the Medical School and Dental Branch. Memorial Hermann Hospital and the Health Science Center work toward the goals of exemplary patient care, innovative teaching, community service, and productive research. The Dental Branch operates general practice, pediatric dentistry, and oral and maxillofacial surgery clinics in conjunction with Memorial Hermann Hospital as part of the advanced dental education programs.

Lyndon B. Johnson General Hospital is a 300-bed public facility staffed by faculty and residents of the Medical School and Dental Branch (oral surgery only). The hospital, owned and operated by the Harris County Hospital District, is medically staffed by Affiliated Medical Services, an organization formed through an agreement between the Medical School and Baylor College of Medicine.

The University of Texas M. D. Anderson Cancer Center and UTHSC-H, together with the Texas A&M Institute of Biosciences and Technology, collaborate extensively in research and education. Many faculty of M. D. Anderson Cancer Center have joint appointments in most UTHSC-H units, and UTHSC-H students and residents gain clinical experience at M. D. Anderson Cancer Center in a variety of medical, dental and nursing specialties.

The Medical School has affiliations with institutions where residents do rotations, including St. Joseph Hospital, for internal medicine, neurology, obstetrics, orthopedic surgery, radiology, urology; Harris County Psychiatric Center; Texas Heart Institute, for anesthesiology and cardiology; St. Luke's Episcopal Hospital, for internal medicine, family practice, neurology, pathology, and surgery; Memorial Hospital Southwest and San Jacinto Methodist Hospital in Baytown,

for family medicine; Shriners Hospitals for Children–Houston, for orthopaedics; and Texas Children’s Hospital, for radiology.

The Dental Branch has affiliations with institutions for dental student, dental hygiene student, and resident rotations and training. Hospital affiliations include: Ben Taub General, LBJ General, Memorial Hermann, The Methodist Hospital, St. Luke’s Hospital, Texas Children’s Hospital, The Institute for Rehabilitation and Research, U.T. M.D. Anderson Cancer Center, and the Veterans Affairs Medical Center. Community clinics and organizations include: Acres Home, Bering-Omega Clinic, Brazos Valley Community Action Agency, Communities in Schools Houston, Fort Bend Family Health Center, Good Neighbor Health Center, Harris County, Harris County Hospital District, HISD, Northeast Community Health Center, Richmond State School, Rusk Elementary School Health Project, San Jose Clinic, and St. Luke’s Episcopal Health Charities.

Texas A&M University College of Engineering and the School of Public Health offer a consor-tial program in occupational health and safety for pre- and postdoctoral education and research training in the academic areas of medicine, nursing, industrial hygiene, and safety engineer-ing. The program is administered through the Southwest Center for Occupational Health and Safety, one of 14 centers officially designated by the National Institute for Occupational Safety and Health.

The Harris County Psychiatric Center/Department of Psychiatry and Behavioral Sciences affiliations or program agreements include the School of Nursing; College of the Mainland (nursing); DeBakey High School for Health Professions (preceptorship program); Houston Baptist University (psychology and nursing); Houston Community College (Emergency Medical Tech. (EMT) and nursing); Lee College (EMT and nursing); Prairie View A&M (nursing); Sam Houston State University (music therapy and psychology); San Jacinto College South (nurs-ing); Stephen F. Austin State University (nursing and psychology); Texas Southern University (psychology, social work, and health information management); Texas Woman’s University (nursing); University of Houston (nursing, psychology, and social work); University of Houston-Clear Lake (psychology and counseling/educational psychology); University of Mississippi (occupational therapy); University of Montreal (psychology); UT Austin (social work); UT-El Paso (occupational therapy); and UT Medical Branch (nursing). Psychology residents from a variety of institutions are also trained.

UTHSC-H has academic affiliations with numerous universities in Latin America, Europe, and Asia that permit interested students to arrange, on an individual basis, periods of study or research abroad. We recognize that health and biomedical sciences are global in scope and encourage academic exchange with other countries and cultures.

Concurrent/Inter-Institutional Enrollment

The University of Houston, Texas Woman’s University, UT at Brownsville, UT El Paso, UTMB Galveston, UTHSC San Antonio, UT Austin, and UTHSC-H have concurrent enrollment agree-ments that allow students enrolled in one institution to enroll for support courses in another institution. Additionally, UTHSC-H has inter-institutional agreements with Rice University and Baylor College of Medicine.

The mechanism for payment of tuition and fees vary according to the individual institu-tion. Consult with the Registrar’s Office for specific details at the following website: registrar.uth.tmc.edu/Registration/ConcurEnrollment.html or call 713-500-3361.

Office of Community and Educational Outreach

The Community and Educational Outreach Office evolved to assist the medically underserved communities along the Texas-Mexico Border and Greater Houston. The office provides daily management of the Texas-Mexico Border Health Projects, works with The Greater Houston AHEC in institutional-community collaborative educational efforts, serves as a liaison among UTHSC-H Office of Academic Affairs and UT Medical School at Houston Family and Community Medicine, UTHSC-H System Administration, and other relevant persons and agencies that have a community health and primary health care education focus.

The Texas-Mexico Border Health Services Project has been in existence for 20 years and includes projects that assist the medically underserved communities along the Texas-Mexico Border. This program provides preceptorship opportunities for medical students who wish to have their clinical rotations along the border on the UTHSC-H's Medical Mobile Clinic.

For information about programs and activities, contact:

Office of Community and Educational Outreach
The University of Texas Health Science Center at Houston
P.O. Box 20036
7000 Fannin, Suite 1025
Houston, Texas 77225
(713) 500-3085 FAX (713) 500-3086
Website: uth.tmc.edu/ceo

The University of Texas Harris County Psychiatric Center

The University of Texas Harris County Psychiatric Center (UTHCPC) opened in 1986 and is the only acute care, public psychiatric facility in Harris County serving persons with debilitating chronic mental illness.

UTHCPC is dedicated to excellence and leadership in the treatment of persons with mental illness. It shares the additional unique missions of UTHSCH-H of conducting research into the causes and cures of mental illness, providing education of professionals in the care of mental illness and acting as a community resource providing outreach to the community.

- UTHCPC offers a comprehensive program of community-based, in-patient, partial hospitalization and outpatient diagnostic and treatment services for: Children and adolescents, ages 3 through 17 with depression, bipolar disease, schizophrenia, personality disorders, attention deficit disorders and hyperactivity disorder; and
- Adults ages 18 and up with bipolar disorders, depression, schizophrenia, dementia, psychosocial or personality disorders.

UTHCPC's treatment programs offer individualized treatment plans; individual and group counseling and therapy; family participation; discharge planning and community follow-up referrals; as well as a multidisciplinary team approach, including, as needed, psychiatrists, nurses, residents, psychologists, social workers, clinical programming therapists, dietitians and clergy.

UTHCPC serves more than 5,000 in-patients annually and provides more than 7,600 patient-days of outpatient and partial hospitalization care. Additionally, more than 500 students received practical experience in the fields of medicine, psychiatry, psychology, nursing, social work, pharmacy, and activity therapy.

In 2006, UTHCPC opened the Residential Treatment Center serving adolescents ages 13 through 17 who are in the custody of Children's Protective Services, Juvenile Detention or other youth facilities. This program provides longer-term treatment for these adolescents, in the hopes they will be able to be placed in less restrictive home environments upon program discharge.

Community-based outreach programs included the provision of services at Gulf Coast Community Head Start, Wesley Community Center, The Children's Assessment Center, and The UTHSC-H Recovery Campus. In addition, the hospital operates a tele-education program offered to nine local school districts and social service agencies providing information about behavioral issues.

Website: hcpc.uth.tmc.edu/

TEXAS MEDICAL CENTER

Texas Medical Center is a comprehensive medical complex that was organized in the mid-1940s as a means for coordinating medical and health education, patient care, and related research in a not-for-profit setting. Today it stands as the leading health care destination for people all over the world. More than 100 permanent buildings, not including Rice University, occupy nearly 1,000 acres which include 15 patient care facilities and 19 academic and research institutions. There are approximately 12,000 volunteers who assist with a wide variety of tasks benefiting the Texas Medical Center.

Over 72,000 full and part-time employees work in the Texas Medical Center in member institutions with a combined annual operating budget in excess of \$6 billion. Texas Medical Center hospitals contain more than 6,500 licensed beds and 600 bassinets. Over 5.5 million patient visits were recorded in 2008, the most recent year of record, which included about 15,000 international patients.

With more than 33,000 students, the Texas Medical Center includes two medical schools, four nursing schools, a dental school, two colleges of pharmacy, a school of public health, a high school for the health professions (with an annual rate of greater than 95 percent of its graduates going on to college), a community college specializing in health careers training, plus other graduate and post-graduate schools and programs to provide training in the allied health professions.

The Houston Academy of Medicine-Texas Medical Center (HAM-TMC) Library, which serves as the accredited library for most of the Texas Medical Center institutions, is recognized as the second largest medical library in the country following the National Library of Medicine in Maryland. In addition, research activities of the Texas Medical Center member institutions total about \$1 billion annually.

One of the most distinctive and visited locations in the Texas Medical Center is The John P. McGovern Texas Medical Center Commons amenities building, which is the central meeting and gathering place for thousands of staff, patients and visitors who frequent the campus daily. It features an exterior 64-foot waterwall; Waterside Court, which provides eight diverse food concepts; Trevisio Restaurant for fine dining, meetings and special events; and a 500-space parking garage.

A major part of this medical complex is UTHSC-H, which is the largest and most diverse of the educational institutions in the Texas Medical Center.



THE UNIVERSITY OF TEXAS M. D. ANDERSON CANCER CENTER

Celebrating more than six decades of Making Cancer History®, The University of Texas MD Anderson Cancer Center ranks as one of the world's most respected and productive centers devoted exclusively to cancer patient care, research, education and prevention. It was among the original three federally designated comprehensive cancer centers.

Since 1944, nearly 800,000 patients have turned to MD Anderson for cancer care in the form of surgery, chemotherapy, radiation therapy, immunotherapy, or combinations of these and other treatments. This multidisciplinary approach to treating cancer was pioneered at MD Anderson. Because they focus only on cancer, the center's experts are renowned for their ability to treat all types of cancer, including rare or uncommon diseases.

It's projected that more than 90,000 patients, an estimated one-third of them new patients, will receive care at MD Anderson in Fiscal Year 2009. About one-third of these patients come to Houston from outside Texas seeking the research-based care that has made MD Anderson so widely respected. Almost 13,000 patients participated in clinical trials exploring novel therapies and diagnostic tests in FY08, making it the largest such program in the nation.

At MD Anderson, important scientific knowledge gained in the laboratory is rapidly translated into clinical care. In FY08, the institution spent more than \$488 million in research, an increase of about 56% in the past five years. MD Anderson ranks first in the number of research grants awarded and total amount of grants given by the National Cancer Institute. The institution holds 11 NCI Specialized Programs of Research Excellence grants.

MD Anderson is expanding its research endeavors with the creation of the Red and Charline McCombs Institute for the Early Detection and Treatment of Cancer. The institute comprises six translational research centers focused on genomics, proteomics, screening, diagnostic imaging and drug development.

In FY08, almost 6,000 students, including physicians, scientists, nurses and allied health professionals, took part in MD Anderson educational programs. The School of Health Professions offers bachelor's degrees in seven allied health disciplines.

More than 1,000 clinical residents and fellows come to MD Anderson each year to receive specialized training in the investigation and treatment of cancer. More than 500 graduate students are working on advanced degrees at the Graduate School of Biomedical Sciences in which MD Anderson cooperates with UTHSC-H, and more than 1,500 research fellows are being trained in MD Anderson laboratories.

Thousands more participate in continuing education and distance learning opportunities sponsored by MD Anderson, sharing knowledge around the globe. The institution provides public education programs to teach healthy people about cancer symptoms and risk factors, giving them information that one day might aid them in making critical health care decisions.

Recognizing that prevention is the best way to eliminate the threat of cancer, MD Anderson takes a multifaceted approach. Expanded research efforts in epidemiology and behavioral science complement achievements made in clinical cancer prevention. The Cancer Prevention Center provides comprehensive cancer screening services, including cancer risk assessment,

screening exams based on age and gender, personalized risk-reduction strategies, genetic testing, chemoprevention, tobacco cessation and nutrition counseling.

The recent establishment of the Dan Duncan Family Institute for Cancer Prevention and Risk Assessment will bring together resources, research and experts to address prevention on several levels, including consideration of cancer's effects on medically underserved and minority populations.

MD Anderson employs more than 17,000 people, including more than 1,400 faculty members. A volunteer corps of about 1,400 people supplements its workforce; these volunteers provide more than 227,000 hours of service each year, the equivalent of 109 full-time employees. Faculty, staff and volunteers are dedicated to the core values of caring, integrity and discovery.

Support activities, such as UT Police, are joint activities of MD Anderson and UTHSC-H.

Website: mdanderson.org/

MEMORIAL HERMANN HOSPITAL AND MEMORIAL HERMANN CHILDREN'S HOSPITAL

The Memorial Hermann-Texas Medical Center Campus is home to three hospitals: Memorial Hermann-Texas Medical Center, Children's Memorial Hermann Hospital and TIRR Memorial Hermann.

Part of the 11-hospital Memorial Hermann System, these hospitals serve as primary teaching hospitals for The University of Texas Medical School at Houston, ensuring that patient care is based on new knowledge at the frontiers of medicine.

Memorial Hermann-Texas Medical Center

For generations, Houston and its surrounding communities have trusted Memorial Hermann-TMC for outstanding care. Memorial Hermann-TMC built a reputation for excellence in heart and vascular, cancer, neuroscience, sports medicine and orthopedics, specialty surgery and organ transplantation.

As the first hospital to open its doors in the renowned Texas Medical Center, Memorial Hermann-TMC has a long history of innovation. These are just a few of the firsts: In 1946, Memorial Hermann-TMC was the first in Texas to perform a cardiac catheterization. In 1976, the hospital was the first in Texas and the second in the nation to launch an air ambulance program, Memorial Hermann Life Flight®, which remains Houston's only hospital-based air ambulance service. In 1985, Memorial Hermann-TMC broke new ground in the treatment of end-stage liver disease as the site of Houston's first liver transplant. In 1988, the hospital opened the first stroke center in Houston and one of the first dedicated stroke programs in the world. In 2005, Memorial Hermann-TMC was the first in the world to perform robotic reconstructive aortic surgery. In 2006, Memorial Hermann-TMC performed the first four-organ transplant in Houston and only the fourth in the nation.

Through revolutionary advances in medicine and surgery, Memorial Hermann-TMC set new standards of care for the nation and has been recognized as an industry leader by prestigious national organizations, including Thomson Healthcare, VHA, U.S. News & World Report, University HealthSystem Consortium and the American Heart Association.

Children's Memorial Hermann Hospital

When families come to Children's Memorial Hermann Hospital, they expect to find the technological advances and healing expertise of a university-affiliated academic hospital. What continues to surprise them is the special compassion and focus on families that distinguishes Children's Memorial Hermann Hospital as one of the finest in the nation.

Founded in 1986, Children's Memorial Hermann Hospital is the primary teaching institution for the pediatrics and obstetrics/gynecology programs at The University of Texas Medical School at Houston. Our healthcare professionals are focused on the specialized needs of women and children, with an emphasis on quality, customer service and leading-edge research.

The hospital offers the latest advances in maternal-fetal medicine and neonatal critical care services, as well as renowned programs in pediatric trauma, neuroscience, pulmonology and cardiac services. Interdisciplinary teams include experienced nurses, child life specialists, pediatric respiratory therapists, pediatric clinical pharmacists, social workers and more.

As part of Memorial Hermann's network of hospitals, patients can now access children's healthcare or high-risk pregnancy services at our affiliated hospitals in the community or, for more acute healthcare needs, at Children's Memorial Hermann's main facility in the Texas Medical Center.

TIRR Memorial Hermann

TIRR Memorial Hermann changes lives by improving outcomes, offering hope and maximizing independence for people affected by disabling injury or illness. Recognized among the leading rehabilitation hospitals in the country, TIRR serves as a model for interdisciplinary rehabilitation services, patient care, education and research.

TIRR is one of only six rehabilitation hospitals in the nation designated as model systems by the National Institute on Disability and Rehabilitation Research (NIDRR) for both our spinal cord injury and traumatic brain injury programs. For 18 consecutive years, U.S. News & World Report has named TIRR to the list of "America's Best Hospitals."

TIRR's reputation is based on nearly 50 years of experience in rehabilitation and research, the high caliber of physician partners and clinical staff and comprehensive programs and services. TIRR is also recognized for its long-standing commitment to educating patients, families, healthcare professionals, caregivers and the general public about rehabilitation. Extending TIRR knowledge and resources into the community remains a top priority and part of its pledge to make a difference in the lives of those recovering from disabling injury and illness.

Website of Memorial Hermann locations: memorialhermann.org/locations/default.html

THE CITY OF HOUSTON

The nation's fourth most populous city was founded in 1836 by the Allen brothers, John and Augustus. It was named after General Sam Houston, the first President of the Republic of Texas and commander of the Texas army which won its independence from Mexico.

The early growth of Houston was precipitated as a commercial center serving Austin's colonies in central Texas, as an agricultural center—principally cotton—and, with the coming of the

railroads, as a timber processing center. Petroleum refining began a role in the early twentieth century. The city experienced increasing economic diversification in the 1980s and 1990s becoming a leading financial, commercial and industrial center, as well as an international energy capital. This economic diversification includes growth in high technology industries, medical research, health care and professional services. Houston is home to many businesses, including corporate headquarters for 29 of the Fortune 500 companies and more than 3,600 energy related firms. Houston is considered by many to be the Energy Capital of the World. In addition, many foreign countries and corporations have established a presence in Houston to access North American markets via the city's excellent distribution facilities. Among U.S. ports, the Port of Houston ranks 16th in the world in terms of shipping tonnage and first in the United States in terms of foreign tonnage.

Houston lies in three counties, Harris, Montgomery and Fort Bend, and is the fourth most populous in the United States. The 10-county Houston-Sugar Land-Baytown Metropolitan Statistical Area, with 5.7 million residents in 2008, has a median age of 33.0 years. Within the city limits, the population of Houston is estimated at more than 2.2 million. In the Houston region, there are 338,000 students in over 60 degree-granting colleges, universities and technical schools. Houston has the most affordable housing of the 10 most populous metropolitan areas and has the second lowest cost of living among major United States metro areas.

Houston has more than 500 cultural, visual, and performing arts organizations, some of which are devoted to multicultural and minority arts. Located downtown, Houston's 17-block Theater District is home to nine performing arts organizations and more than 12,000 seats. The Theater District is second only to New York with its concentration of seats in one geographic area and has emerged as a cultural center through its many quality offerings: The Houston Symphony presents a full season of concerts in Jones Hall and free summer concerts in Miller Theatre; the Houston Grand Opera is one of the nation's largest opera companies. Theatre Under The Stars presents musicals in free summer productions and in a winter subscription season. Other major musical groups include Ars Lyrica Houston, Bach Society, Context, Da Camera, Gilbert & Sullivan Society of Houston, Greater Houston Chorus, The Houston Chamber Choir, Houston Early Music, Houston Friends of Music, Houston Master-works Chorus, Houston Oratorio Society, Houston Symphony Chamber Players, and Orchestra.

The Houston downtown Theater District consists of the Wortham Theater Center, built entirely with private donations, which presents opera and ballet throughout the year; the Alley Theater, one of the country's oldest resident theaters; Hobby Center for the Performing Arts, which houses Theatre Under the Stars, the Broadway Series, and the Humphreys School of Musical Theatre; and the Jesse H. Jones Hall for the Performing Arts, which houses the Houston Symphony and the Society for the Performing Arts. Stages Repertory Theatre offers southwestern and world premieres, experimental productions of classic works and revivals of American masterpieces. The Houston Ballet was established as a professional company in 1969 and presents a season of local and touring performances.

The Houston Museum District includes the Contemporary Arts Museum, Houston, the Menil Collection, the Houston Museum of Natural Science, the Holocaust Museum Houston, the Children's Museum of Houston, and the John P. McGovern Museum of Health and Medical Science. The Contemporary Arts Museum, Houston houses more than 57,000 works from antiquity to the present, the largest collection in the Southwest. The Glassell School of Art offers art history and studio classes for adults and children. The one-acre Lillie and Hugh Roy Cullen Sculpture Garden was created by Isamu Noguchi and contains works by masters, including

Giacometti, Matisse and Rodin. The Children's Museum of Houston features hands-on activities for children. The Museum of Health and Medical Science is strongly supported by the Health Science Center and other Texas Medical Center institutions. Students at UTHSC-H serve as docents and may participate in design of exhibits.

Space Center Houston is a \$70-million visitors' center for the Johnson Space Center, the focal point for the U.S. manned spaceflight program and the Space Shuttle.

Sports enthusiasts can take advantage of professional sports action throughout the year with the Houston Astros baseball team; the Houston Rockets (two-time NBA champions) basketball team; the Houston Dynamo (2006 and 2007 MLS champions), soccer team; and the Aeros, International Hockey League hockey team. Racing facilities include Sam Houston Race Park for thoroughbred and quarter-horse racing and Gulf Greyhound Park for dog racing. Minute Maid Park, home of the Astros, and the Toyota Center, home to the Rockets and the Aeros, are located in downtown Houston, while the Houston Texans are at home in Reliant Stadium built next to the Astrodome in Reliant Park. The downtown sports facilities are connected to Reliant Stadium by MetroRail, which runs between downtown and points south.

The METRO light rail line began operation on January 1, 2004. The 7.5 mile Main Street line runs from south of Reliant Park to the University of Houston-Downtown, with 16 stops along the way. Along the Main and Fannin Streets route, one can stop at Reliant Park, the Texas Medical Center and Rice University, Hermann Park and the Museum District, Midtown, and Downtown Houston. Trains are scheduled to arrive at the stations every 6 minutes. This is the first phase of a projected 73 miles of light rail service in Houston by the year 2025.

Adjacent to the medical center is Hermann Park, one of the city's 350 developed parks and more than 200 green spaces totaling 38,959 acres, which features the Jesse Jones Reflection Pool, Japanese Garden, Houston Garden Center and International Sculpture Garden, Bayou Parkland nature center, 8-acre Lake McGovern (two islands for wildlife, one for fishing), 18-hole Hermann Park Golf Course, Playground for All Children and Houston Zoo (Wortham World of Primates, John P. McGovern Children's Zoo, Brown Education Center). The Houston Galleria is a three-story retail/entertainment/hotel center and a major attraction for residents and visitors. Galveston Island with its miles of beaches, Moody Gardens (10-story glass Rainforest Pyramid, Aquarium Pyramid, Discovery Pyramid, 3-D IMAX Theater) and annual Dickens on the Strand Festival is less than an hour's drive from Houston.

Website: houstontx.gov/about/houston/index.html

STUDENT GOVERNMENT

Student Government

The Student InterCouncil (SIC) is the recognized forum of student opinion and the primary vehicle for student participation in the governance of the Health Science Center. The organization comprises representatives from each of the six schools and from the minority and international student constituencies. The SIC contributes to the quality of student life at the university by participating in the development and implementation of policies and procedures affecting students, providing funds to support special projects other student groups, representing student interests on external and internal committees, improving communication among the schools

General Information

through the publication of a bimonthly online student newsletter, Student Pulse, and planning and implementing activities that address the special needs of students.

The SIC bylaws can be found online at
uth.tmc.edu/sic/sicbylaws.pdf

The full student government policy can be found online at
legal.hsc.uth.tmc.edu/hoop/06/6_06.html

The Statement on Governance can be found at
legal.hsc.uth.tmc.edu/hoop/university_governance.html

Contact the Student InterCouncil at:
(713) 500-9104 (leave a message)
FAX (713) 500-0933
email: sicgov@uth.tmc.edu
Website: uth.tmc.edu/sic

Student Organizations

The University of Texas Health Science Center at Houston (UTHSC-H) encourages its students, faculty, and staff to develop collegial relationships, and has established specific policies, based on UT System Board of Regents Rules and Regulations, policy Series 50202, that govern any organizations formed by those affiliated with the university.

An student organization that is registered with the UTHSC-H may have a membership composed of students, faculty, and staff of all or particular schools or operating units within the Health Science Center, but may not suggest or imply that it is acting with the authority or as an agency of the institution.

Accordingly, a registered organization will not use the name of the UTHSC-H or the name of The University of Texas System as part of the name of the organization. An organization cannot display the UTHSC-H logo or the seal of either the UTHSC-H or The University of Texas System in connection with any activity of the organization or use such marks as part of any letterhead, sign, banner, pamphlet, or other printed material that bears the name of the organization. A registered organization may not have any person as a member who is not either a registered student or a member of the faculty or staff of UTHSC-H. The full UTHSC-H Student, Faculty and Staff Organizations policy can be found online in the HOOP at legal.hsc.uth.tmc.edu/hoop/01/1_18.html

Additional information and registration forms for school-based organizations and for Health Science Center wide organizations can be found on the Academic Affairs website at uth.tmc.edu/academic/student_orgs.htm

Student Fees Advisory Committee

The Student Fees Advisory Committee was established as an affiliated committee of the Student InterCouncil and is charged with the responsibility of reviewing proposed student services, incidental, laboratory and other fee changes, and making recommendations to the President before submission of new fees to UT System for approval by the Board of Regents. Membership in the Committee consists of two representatives from each of the six UTHSC-H schools and two from the Student InterCouncil.

Student Guide

The Student Connection is an electronic resource document for students and prospective students that describes UTHSC-H and community services, and provides an overview of student policies and accompanying procedures, and information about the Texas Medical Center area.

The Student Connection is located online at
uth.tmc.edu/academic/student_guide/index.html

For more information about the guide contact the Office of Provost and Executive Vice President for Research at (713) 500-3060.

STUDENT SERVICES

Registrar

The UTHSC-H Registrar's Office was established in March 1981 to provide a central computer-based student record system and web registration activities and other services for schools on this campus. The goals of the office are to provide an effective and efficient application procedure; to direct an accurate, facile registration process; and to provide a computerized applicant, student and alumni record system.

Other services offered by the Registrar's Office include the issuance of transcripts, Hazelwood Act determination, certification of student status, Veteran's Administration counseling and verification, residence determination and enrollment verification. The office, in conjunction with the Office of International Affairs, assists foreign students in maintaining their student status. The Registrar's Office is located on the 22nd floor of the University Center Tower, 7000 Fannin, Houston, Texas 77030.

For further information, contact:
Office of the Registrar
The University of Texas Health Science Center at Houston
P.O. Box 20036
7000 Fannin, Suite 2250
Houston, Texas 77225
(713) 500-3361
email: registrar@uth.tmc.edu
Website: www.uth.edu/registrar/index.htm

Student Financial Services

UTHSC-H has available loans, grants, scholarships and other aid funds based on the most current regulations or guidelines in effect at the time of award. See the school section on criteria for the award of scholarships. Financial aid specialists are available Monday- Friday from 8:00 a.m. to 5:00 p.m. to provide counseling on the financial assistance programs available to students. The Office of Student Financial Aid is located on the 22nd floor of the University Center Tower, 7000 Fannin, Houston, Texas 77030.

A student subject to selective service registration will be required to file a statement that the student has registered or is exempt from selective service registration in order to be eligible to receive financial assistance funded by State revenue.

Application forms and complete information may be obtained online at sfs.uth.tmc.edu or by contacting:

Office of Student Financial Services
The University of Texas Health Science Center at Houston
P.O. Box 20036
7000 Fannin, Suite 2220
Houston, Texas 77225
(713) 500-3860
Website: sfs.uth.tmc.edu

Office of International Affairs

The Mission of the Office of International Affairs (OIA) is to serve as the internal institutional resource that facilitates and oversees the lawful immigration status of non- U.S. citizens permanent residents and international visitors who join the academic, research, and clinical endeavors of The University of Texas Health Science Center at Houston, while ensuring institutional compliance with state, local, and federal laws and regulations.

Services and programs offered include:

- Immigration advising to University components for legally hosting or employing international visitors
- Institutional compliance with immigration regulations assessment and training
- Processing of immigrant and non-immigrant visa applications sponsored by the institution
- Acting as a liaison among institutional departments, government agencies, and private organizations
- Coordinating educational and cultural programs and activities that promote the well-being of international visitors, students, trainees, faculty, and staff.

To ensure compliance with federal, state, and local regulations as well as institutional policies, all non-U.S. citizens must check-in with the Office of International Affairs prior to beginning their appointment and/or registering for classes in order to obtain the appropriate clearance to begin appointment and/or studies.

The Office of International Affairs is located in the University Center Tower, Suite 130. Office hours are Monday - Friday, 8:00 a.m. - 5:00 p.m., with the exception of Thursdays, when the office is closed from 8:00 a.m. - 11:00 a.m.

For further information, contact:
Office of International Affairs
The University of Texas Health Science Center at Houston
P.O. Box 20036
Houston, Texas 77225
7000 Fannin St.
Houston, Texas 772030
(713) 500-3176 FAX (713) 500-3189
Website: uth.tmc.edu/intlaffairs/

Office of Equal Opportunity

The University of Texas Health Science Center at Houston is committed to enhancing diversity and providing equal opportunities at the Health Science Center. The Equal Opportunity Office within Human Resources provides equal opportunity support to all students, staff, faculty and visitors. The office has the responsibility to ensure compliance with federal and state laws by providing a forum for dispute resolution for complaints as they relate to discrimination and harassment by providing guidance and accessibility options for all persons with disabilities and managing diversity by promoting an environment of respect and inclusiveness. This office also is responsible for assisting the individual schools' 504 Coordinators (Section 504 of the Rehabilitation Act of 1973) with the registration of disabilities, academic accommodations within the classroom, accessing special adaptive computer equipment, and providing interpretation services.

For additional information, contact:

The University of Texas Health Science Center at Houston

Human Resources

7000 Fannin, Suite 150

Houston, Texas 77030

(713) 500-3079

Website: hr.uth.tmc.edu/EEOnew/eo.html

Student Health Services (SHS)

Student Health Services (SHS) provides health services to all UTHSC-H students. The mission of SHS is to offer affordable health, wellness, and medical care for students and their families. A portion of the student services fee funds the programs. The health services available for Health Science Center students include immunizations required for matriculation into and through UTHSC-H, tuberculosis screening, physical examinations, well woman examinations, flu shots, treatment of general internal medicine and pediatric illnesses, and referrals to specialists as necessary. The clinic manages a 24-hour a day hotline for needlesticks and other exposures to hazardous body fluids. An on-site Class D pharmacy offers many prescription medications for common illnesses and oral contraceptives. The clinic is staffed by physicians who are board certified in both Internal medicine and Pediatrics.

Low complexity office visits are covered by the student fees. Higher complexity visits can be charged to the student's insurance carrier. Immunizations are offered at or near cost. Testing following blood or body fluid exposure while performing educational assignments is covered by the Needlestick Program as long as student reports incident to our Needlestick Hotline. Any charges not covered by the student's insurance carrier are the responsibility of the student. These may include laboratory tests, radiological services, hospitalization and referred consultation, and pharmaceuticals.

Student Health Services is located in the UT Professional Building, Suite 510. Office hours are 8:30 a.m. to 5:00 p.m. Appointments are preferred but not required.

General Information

For more information, contact:

UT Student Health Services

The University of Texas Professional Building

6410 Fannin, Suite 510

Houston, Texas 77030

(713) 500-5171 FAX (713) 500-0605

Website: med.uth.tmc.edu/administration/stud_health/index.html

Student Health Insurance

The Board of Regents of The University of Texas System approved mandating health insurance for students enrolled in the U.T. System health components, including students previously enrolled. The Board of Regents has authorized the assessment of a health insurance fee for each semester to each student who cannot provide evidence of continuing coverage under another approved plan by the 12th class day of the fall and spring semesters and the 4th class day of the summer semester. Students with coverage outside of the plan can contact Auxiliary Enterprises at 713/500-8400, ae.uth.tmc.edu or email: student-insurance@uth.tmc.edu to provide the information needed to waive the insurance fee.

In addition, the Board of Regents requires all international students holding non-immigrant visas and living in the United States to have coverage for repatriation and medical evacuation while enrolled at component institutions of The University of Texas System. The required health insurance fee assessed by the university includes coverage for repatriation and medical evacuation. International students with coverage outside of the plan can contact Auxiliary Enterprises at 713/500-8400, ae.uth.tmc.edu or email: student-insurance@uth.tmc.edu to provide the information needed to waive the insurance fee and, if needed, purchase coverage for repatriation and medical evacuation.

A student health insurance program is offered to registered students through a private company selected by The University of Texas System office. This plan is designed to supplement student health services. In addition, it also assists with expenses not covered by the student services fee and those incurred outside that setting such as prescriptions, hospitalization, etc. Students have the option of enrolling their families in this plan at an additional cost.

PLEASE NOTE THE FOLLOWING:

- If you do not take action by the 12th class day, you **MUST** pay the insurance assessed to you.
- It is **YOUR** responsibility to confirm that the insurance charge has been removed from your bill once you have provided proof of insurance. You may view your bill online at utlink.uth.tmc.edu.
- Please **DO NOT** resubmit proof of insurance if your insurance was waived in the Fall semester, unless you have changed insurance companies.

For further information, contact Auxiliary Enterprises
The University of Texas Health Science Center at Houston
7779 Knight Road
Houston, Texas 77054
(713) 500-8400 FAX (713) 500-8409
email: Ronda.A.Gillie@uth.tmc.edu
Website: ae.uth.tmc.edu/

UT Counseling & WorkLife Services

The University understands that balancing personal life with the demands of academia can be difficult. Therefore any concern that troubles a student or reduces his or her ability to concentrate can be brought to UT Counseling & WorkLife Services at no cost. Services offered include evaluation, short-term individual counseling or psychotherapy, marital/couples counseling, psychiatric consultation, legal and financial referrals, and identity theft counseling. In addition, to help students balance the competing demands of school and personal life, UT Counseling & WorkLife Services also offers resources and referrals in the areas of child/elder care, adoption, and daily living

Records are kept strictly confidential to the extent allowed by law, and there is no fee for service. Students who desire or who are in need of long-term therapy or of complicated medication management will be assisted with referrals. UT Counseling & Worklife also sponsor outreach and prevention programs, such as for managing stress or coping with test anxiety.

Referrals are not necessary and students are encouraged to call this office to make their own appointments. UT Counseling and WorkLife Services is located in Suite 1670, University Center Tower Building.

For further information or to make an appointment, contact:

UT Counseling & WorkLife Services

The University of Texas Health Science Center at Houston

University Center Tower, Suite 1670

7000 Fannin

Houston, Texas 77030

(713) 500-3327

email: uteapmgt@uth.tmc.edu

Website: uthouston.edu/utcounseling

Child Development Center

UTHSC-H operates a Child Development Center (UTCDC) for children ages six weeks through kindergarten, which is located within the University Housing complex at 7900 Cambridge. The Center is designed to create a safe, wholesome environment where children enjoy living and learning. The educational environment for infants is designed to provide visual and auditory stimulation in an atmosphere of warmth and nurturance. The program for toddlers and older children features open learning centers that provide for individual instructional activities with large and small group interaction. All children are encouraged to develop according to their own unique abilities, interests and growth rates.

In addition to being licensed by the State of Texas, the UTCDC is nationally accredited by the National Academy of Early Childhood Programs, a division of the National Association for the Education of Young Children. The UTCDC program was the first nationally accredited center in the Texas Medical Center. Each classroom has its own four-year degreed teacher and follows a developmentally appropriate curriculum. The UTCDC is open from 6:00 a.m. to 6:00 p.m. Monday through Friday and is closed on all holidays observed by UTHSC-H.

Parents are encouraged to participate in various projects involving their children and to serve as liaisons between their home and the UTCDC. Regularly scheduled parent/teacher conferences apprise parents of their child's growth and development. All parents are invited to

participate in the activities of the Building Blocks Committee, which acts as a support group for the UTCDC.

For a tour or further information, contact:

Child Development Center

The University of Texas Health Science Center at Houston

7900 Cambridge

Houston, Texas 77054

(713) 500-8454

Website: ae.uth.tmc.edu/cdc/cdc.html

University Housing

University Housing consists of two unique apartment communities. The 7900 Cambridge complex was built in 1982 and offers first and second floor units in one, two, and three bedroom floor plans. The 1885 El Paseo property, built in 2005, is a contemporary style living environment with four floors of one and two bedroom apartments with a four-story parking garage located in the middle of the complex. Each apartment is carpeted and comes equipped with an all-electric kitchen. The 1885 El Paseo property offers washers and dryers in each apartment. The 7900 Cambridge property offers coin-operated washers and dryers housed in three laundry rooms.

The entrance to both properties is controlled by a 24-hour guard. A shuttle to the Texas Medical Center is available to eligible residents.

Leasing office hours are from 8:00 a.m. to 6:00 p.m. Monday through Friday.

All TMC - affiliated students, faculty, and staff are encouraged to apply for a place on the waiting list for available vacancies.

Send inquiries to:

University Housing

The University of Texas Health Science Center at Houston

1885 El Paseo

Houston, Texas 77054

(713) 500-8444 FAX 500-8448

Website: ae.uth.tmc.edu/housing/index.html

Transportation

UTHSC-H provides a commuter/circulator shuttle operation for all Health Science Center students, faculty and staff. UTHSC-H identification badges are required for access onto the shuttle. The shuttle service is contracted through AFC Corporate Transportation and operates from 6:00 a.m. to 8:00 p.m. Monday through Friday excluding official University holidays. During peak operating hours (6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.) the shuttle runs every 10-15 minutes from University Housing. Key shuttle stop locations are: University Housing, Recreation Center, University Center Tower, School of Nursing, Graduate School of Biomedical Sciences, Medical School Building, Dental Branch Building, MD Anderson Braeswood Garage and the School of Public Health. For information regarding shuttle services or route information, please contact the Auxiliary Enterprises Parking/Shuttles at shuttle@uth.tmc.edu

or visit website at ae.uth.tmc.edu/parking/shuttle_route.htm In addition to the UTHSC-H Shuttle, the Texas Medical Center (TMC) operates a free METRO shuttle from its various locations. For more information about METRO/TMC shuttle service, call the TMC Parking Office at (713) 791-6161 or METRO for other route information at (713) 635-4000.

Streets and roadways adjacent to UTHSC-H facilities are public roadways and Vehicle Inspection practices are fully enforced. A peace officer who exhibits a badge or other sign of authority may stop and issue a citation for a vehicle not displaying an inspection certificate on the windshield.

General Parking Information for UTHSC-H Students

Due to traffic congestion and on-going construction in the Texas Medical Center (TMC), much of contract parking is limited to remote parking locations. A shuttle bus makes frequent stops at key locations throughout TMC from remote locations. Free parking areas for bicycles and motorcycles are located throughout the TMC.

Student contract parking is available from Texas Medical Center. Visit www.tmc.edu and click on "Parking Information" then click Contract Parking to download instructions and a contract form. Contracts are currently available in Garages 4, 6 and 10 and reduced rate parking is available remotely in South Extension Lot, Smith Lands and South Main Lot. The remote parking lots offer free shuttle service to the main campus and "after hours" privileges to park in the main campus garages after 6:00p.m. weekdays, although you must exit by 8:00a.m. After hours privileges are also extended 24/7 on Saturday and Sunday. For further information, please call TMC's Customer Service Helpline at 713/791-6161.

University Center Tower (UCT) Garage: Parking at the UCT garage located at 7000 Fannin (corner of Fannin & Pressler) is restricted to employees and students occupying the building. However, students are granted complimentary parking for one and a half hours with the student I.D. badge displaying a current sticker. The complimentary parking is for student-related business only (i.e., registrar, financial aid, Bursar's office, and counseling). Before exiting the parking facility, a valid student ID badge must be shown with the parking ticket to the attendant in the Parking Office on the first floor of the UCT building for validation. Parking in excess of the 1-1/2 hour complimentary parking is at the student's expense. This privilege is extended to enrolled/current students only. The UCT garage is open Monday through Saturday but collection of parking fees is Monday-Friday only. The garage security gates are usually open for parking access Monday through Friday 6:00 a.m. to 7:00 p.m..

University Professional Building (UPB) Garage: After hours (5:00p.m. to 8:00a.m.) and weekend parking is available at the University Professional Building Garage, 6414 Fannin for students at a rate of \$30 per semester. Parking contracts can be attained by visiting the UTPB Parking Office (G.25) and presenting a student ID. There is a one-time non-refundable parking card activation fee of \$10 upon contract completion. The UTPB Parking Office is open from 7:00 a.m. to 6:00 p.m. Monday through Thursday and 7:00 a.m. to 5:00 p.m. on Friday.

For more information about parking and UTHSC-H operated parking areas, please contact Auxiliary Enterprises Parking/Shuttle Services at parking@uth.tmc.edu. or visit website at ae.uth.tmc.edu/parking/index.html

Alternative Transportation Options

Van Pool Info: METRO offers a subsidy per month in the form of a voucher to METROVan participants. To form or join a van pool, please call METRO's Ride Share at (713) 224-RIDE or (713) 739-4981.

METRO RIDE SPONSOR for Bus Passes: The UTHSC-H Parking Services Office serves as the ride sponsor for the University and sells discounted METRO bus passes to employees and students. You can purchase these at local food stores, but you receive a 10% discount if purchased through the University. Please notify our office one month in advance if you desire to purchase a METRO pass. Call METRO Customer Service at (713) 658-0180 to verify your zone if you are not certain. Once ordered by our office, these can be paid for and picked up at the following locations: Bookstores in the Medical School, Dental Branch and School of Nursing and the UTHSC-H Parking Office in the University Center Tower building.

For additional information please contact UTHSC-H Parking/ Shuttle Services at (713) 500-3405
Website: ae.uth.tmc.edu/parking/index.html

BOOKSTORES

The UTHSC-H Bookstore operates three locations – Medical School, Dental Branch and School of Nursing.

Medical School Bookstore

The Medical School Bookstore carries required and recommended textbooks for the Medical School. Medical equipment is discounted in varying amounts. In addition to textbooks, the bookstore stocks a large number of reference books. Books that are not stocked may be special ordered at the cash registers. The hours of operation are 8:30 a.m. – 5:00 p.m. Monday – Friday.

Included among its services, the bookstore offers the sale of Metro bus passes. In addition, the bookstore orders graduation invitations and academic regalia. The bookstore also buys used books daily from 9:00 a.m. to 4:00 p.m.

For further information, contact:

University Bookstore

The University of Texas Health Science Center at Houston

6431 Fannin

Houston, TX 77030

(713) 500-5860 FAX (713) 500-0540

Website: books.uth.tmc.edu

Dental Branch Bookstore

The Dental Branch Bookstore carries required and recommended textbooks for the Dental School. Dental equipment is discounted in varying amounts. Books and equipment that are not stocked may be special ordered at the cash registers. The hours of operation are 8:00 a.m. – 4:00 p.m., Monday – Friday.

For further information, contact

Dental Branch Bookstore

The University of Texas Health Science Center at Houston

6516 M.D. Anderson Blvd, Room 8

Houston, TX 77030

(713) 500-4450

School of Nursing Bookstore

The School of Nursing Bookstore carries required and recommended textbooks for the School of Nursing and the School of Public Health. Medical equipment is discounted in varying amounts. In addition to textbooks, the bookstore stocks a large number of reference books. Books that are not stocked may be special ordered at the cash registers. The hours of operation are 8:30 a.m. – 5:00 p.m. Monday – Friday.

Included among its services, the bookstore also orders graduation invitations and academic regalia, as well as buys used books from 9:00 a.m. to 4:00 p.m. daily.

School of Nursing Bookstore
The University of Texas Health Science Center at Houston
6901 Bertner, Room 280
Houston, TX 77030
(713) 500-9561

Food Services/Catering

Food Service is provided at the School of Nursing and Medical School buildings through a contracted provider. Catering is available through the School of Nursing location. Vending is also contracted with machines located throughout the UTHSC-H campus.

Phone: 713-500-8405
Catering: 13-500-9103

Website: ae.uth.tmc.edu/foodserv/index.html

School of Nursing The cafeteria is located on the first floor of the School of Nursing Building at 6901 Bertner Avenue. A variety of dining choices are available for your convenience. Call for catering needs throughout the university. Phone: 713-500-9103

Medical School The grab-n-go is located on the ground floor of the Medical School Building at 6431 Fannin. A limited variety of dining choices are available along with a selection of specialty coffee drinks.

Hours of Operation (excluding University holidays): Monday - Friday 7:00 a.m. – 3:00 p.m.

Recreation Center Facilities and Programs

The Recreation Center is located at 7779 Knight Road, adjacent to the University Housing Complex. Operating hours of the facility are 6:00 a.m. to 10:00 p.m., Monday through Friday, 8:00 a.m. to 8:00 p.m., Saturday, and 10:00 a.m. to 8:00 p.m., Sunday. The facility will close during major University holidays, however, it will usually operate on holiday hours for some of the one-day holidays. These days and hours of operation are posted in advance.

Facilities consist of an outdoor olympic-size swimming pool (which is heated in the winter), weight room area, cardiovascular exercise area, aerobic studio, two outdoor tennis courts and jogging trail.

A wide variety of activities and programs are offered on a semester basis. These activities are designed for health and fitness, as well as for fun and relaxation. Students are encouraged

General Information

to participate in the Recreational Sports Program, Wellness Program, Instructional Program, Youth & Family Program, Aquatics and Aerobics Programs. Recreation Center membership is open to all UTHSC-H faculty, staff, students, families and affiliates, including Texas Medical Center employees. The recreation fee entitles a UTHSC-H student to use the Center. A valid UT ID is required for admittance and at time of purchase of any services offered. UTHSC-H employees and students have the option of having their spouse and or child(ren) join the facility and registration and payment for this is handled directly at the front desk of the facility. At that time Rec Center ID cards will be made for spouse or children who join.

There is no charge for children under six years of age, and the "Family" fee covers spouse and unlimited children between ages 6-20. UTHSC-H students do have the privilege of having "extended family" members (brother, sister, mother, father) join at the "UT Affiliate" rate and this must be handled directly at the facility. To get the best value, the Center encourages students with children under the age of 16 to handle their family membership fees directly at the facility. Children under the age of 16 must be accompanied and supervised by a parent or guardian at all times while in the facility. No one under 16 is allowed in the swimming pool or pool deck during the winter months, or at any time when the pool blankets are on the pool.

For further information, please contact:

UTHSC-H Recreation Center

The University of Texas Health Science Center at Houston

7779 Knight Road

Houston, Texas 77054

(713) 500-8420

Website: ae.uth.tmc.edu and click on Recreation Center

Houston Academy of Medicine-Texas Medical Center Library



The Houston Academy of Medicine-Texas Medical Center (HAM-TMC) Library serves as the accredited library for most Texas Medical Center institutions and is the primary library for The University of Texas Medical School at Houston. The Library is also home to the John P. McGovern Historical Research Collection, as well as the newly-acquired Menninger Collection on Psychiatry and Psychoanalysis, one of the world's most comprehensive collections of books, journals and archival materials in psychiatry, psychoanalysis and psychology.

Currently, the HAM-TMC Library contains 76,500 square feet of space and holds over 333,000 volumes, including books and journal volumes. Additionally, the Library has subscriptions to over 100 electronic databases and over 8,000 electronic journals. Over 50 public access computers are available to library users for Internet access and research, as well as word processing, database development and preparation of spreadsheets and public presentations through Microsoft® software applications. The Library also offers such classes as Navigating PubMed, Internet for Medical Research, and Navigating Full-Text Journals, in addition to instruction in Basic HTML, NLM Gateway, OVID, PowerPoint and Reference Manager.

Since 1991, the Library has served as the Regional Medical Library for the National Network of Libraries of Medicine, South Central Region, with responsibility for the library needs of health professionals in the five-state region of Arkansas, Louisiana, New Mexico, Oklahoma and Texas. Chosen by the National Library of Medicine, there are only eight Regional Medical Libraries in the nation.

Website: resource.library.tmc.edu/ 53

General Information

UTHSC-H Policy Information for Students

The following excerpts and policy descriptions from The University of Texas Health Science Center at Houston Handbook of Operating Procedures (HOOP) are from selected policies that relate to student life at UTHSC-H. Additional student policies can be found in the HOOP located at legal.hsc.uth.tmc.edu/hoop/complete_toc.html#chap6 or linked to the university's Home Page (www.uth.tmc.edu/).

In an educational community as large as The University of Texas System, formal policies and procedures must exist to facilitate the orderly conduct of affairs. The Regents' Rules and Regulations (utsystem.edu/bor/rules.htm) reflect the general policies and rules set forth by The University of Texas System Board of Regents and apply to all institutions within the UT System. All UTHSC-H policies must reflect the policies outlined in the Regents' Rules and Regulations. The HOOP implements the rules of governance and administrative procedures for UTHSC-H within the guidelines of the policies set forth by the Board of Regents.

STUDENTS ARE CHARGED WITH THE RESPONSIBILITY FOR KNOWLEDGE OF AND COMPLIANCE WITH ALL UTHSC-H POLICIES, REGULATIONS, AND PROCEDURES, INCLUDING, AS APPROPRIATE, POLICIES, REGULATIONS, AND PROCEDURES UNIQUE TO THE INDIVIDUAL SCHOOL IN WHICH THE STUDENT IS ENROLLED.

For additional information on policies specific to individual schools, contact the Student Affairs Office in your school and access the individual school website from the links provided on the UTHSC_H homepage at uth.tmc.edu

Academic Records and Family Educational Rights and Privacy Act (FERPA)

The University of Texas Health Science Center at Houston complies with the Family Educational Rights and Privacy Act of 1974 (FERPA), which protects the privacy of educational records and establishes the rights of students to access their educational records. The full policy can be found online at

legal.hsc.uth.tmc.edu/hoop/06/6_08.html

All research papers, thesis, and dissertations authored by degree candidates are available to interested members of the general public upon request.

The full text of FERPA may be located on the Registrar's Office website at registrar.uth.tmc.edu/Registration/FERPA.html

AIDS, HIV, HBV, and HCV Infection

The Health Science Center works to help safeguard the health and safety of students, employees, patients, and the general public against the contact and spread of infectious diseases. The UTHSC-H is also sensitive to the needs and rights of any of its employees or students who have contracted diseases that might be infectious. In recognition of Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), and Hepatitis C Virus (HCV) as serious public health threats, the UTHSC-H has adopted policy and procedural steps to both prevent the spread of HIV, HBV, and HCV infections and to protect the rights and well-being of those employees or students who may be infected with HIV and HBV. The full policy, which defines terms and addresses general

principles, voluntary counseling and testing, work-related exposure, and educational efforts, can be found online at

legal.hsc.uth.tmc.edu/hoop/18/18_07.html

Campus Security

UTHSC-H is committed to a safe and secure learning and working environment. To that end, the university strives to assure that its buildings and contents are secure and that members of the university community are properly identified and are given appropriate access to university facilities and amenities. Campus security policies can be found online at legal.hsc.uth.tmc.edu/hoop/01/1_06.html. In compliance with the Student Right-to-Know and Crime Awareness and Campus Security Act, UTHSC-H collects specified information on campus crime statistics and makes timely reports to the campus community on crimes considered to be a threat to students and employees. The University of Texas at Houston Police Department provides a link to crime statistics on its website at mdanderson.org/utpd/. Guidance on reporting criminal activity on campus can be found online at

legal.hsc.uth.tmc.edu/hoop/18/18_04.html

Conduct and Discipline

All UTHSC-H students are expected and required to obey federal, state, and local laws; comply with the Regents' Rules and Regulations; comply with UTHSC-H policies, rules and regulations; comply with directives issued by administrative officials of UTHSC-H or UT System in the course of their authorized duties; and observe standards of conduct appropriate for an academic institution. Any student who engages in conduct that violates the Regents' Rules and Regulations, UTHSC-H policies, rules and/or regulations or federal, state, or local laws is subject to discipline whether the conduct takes place on or off campus and whether or not civil or criminal penalties are imposed for such conduct. The full student conduct and discipline policy, can be found online at

legal.hsc.uth.tmc.edu/hoop/06/6_03.html

Criminal Background Checks - Students

The Health Science Center is committed to providing a safe environment for its students and employees. UTHSC-H obtains criminal background information regarding applicants for security sensitive positions as designated by the university president or designee. Increasingly, a criminal background check is being required by clinical facilities in which students enrolled in clinical programs receive education and training. Furthermore, some licensing boards in Texas require criminal background checks before issuing a license to practice. Individuals who are unable to meet the university's criminal history standards may be denied admission or continued enrollment in the program.

For the purposes of this policy, the university has determined that all students are in security sensitive positions and thus are subject to criminal background checks. A second background check may be required for clinical placement or other purposes at the discretion of the school and at the expense of the student. The full policy can be found online at legal.hsc.uth.tmc.edu/hoop/02/2_12_2.html

Disability Accommodation

The Health Science Center ensures equal educational opportunity for all individuals with disabilities.

If any student applicant has questions about a disability or accommodation, or feels that he or she has been discriminated against on the basis of a disability, he or she should contact the the Student Affairs office at the appropriate school, or the Disability Coordinator in the Office of Human Resources. The Disability Accommodation policy can be found online at legal.hsc.uth.tmc.edu/hoop/02/2_18C.html

Equal Educational Opportunity

The Health Science Center strives to maintain an educational environment that is free from impermissible discrimination. No person shall be excluded from participation in, denied the benefits of, or be subject to discrimination under any program or activity sponsored or conducted by UTHSC-H or any of its component academic entities on any basis prohibited by applicable law, including, but not limited to, race, color, national origin, religion, sex, sexual orientation, or disability.

Any student or potential student who has a complaint under this policy should contact the associate dean for student affairs in his or her school, the executive vice president for academic affairs, or the Office of Human Resources. The full policy can be found online at legal.hsc.uth.tmc.edu/hoop/02/2.04_equalopportunity.html Hazing

Hazing

Hazing is prohibited by both state law and by the Regents' Rules and Regulations. The term "hazing" is broadly defined by statute to mean any intentional, knowing, or reckless act, occurring on or off the UTHSC-H property that endangers the mental or physical health or safety of a student for the purpose of pledging, being initiated into, affiliating with, holding office in, or maintaining membership in any organization whose members are or include students at the university. Hazing with or without the consent of the student is prohibited and violations may render both the person inflicting the hazing and the person submitting to the hazing subject to criminal prosecution and student disciplinary action by UTHSC-H.

Immunization and Health Records

All students registering at The University of Texas Health Science Center at Houston (UTHSC-H) are required to furnish an immunization record signed by a health care provider. Certain exemptions are allowed from all immunization requirements. UT Student Health Services will place an immunization "hold" on each student's record at the time of admission if immunizations are incomplete. The hold blocks registration. All immunization holds will be released after proof of immunizations is provided.

Listed below are immunizations required by all UTHSC-H schools, with the exception of the School of Health Information Sciences that only requires only the PPD Skin Test (and Varicella if exposed to human blood/body fluids).

Tetanus/Diphtheria
Measles (Rubeola)
Mumps

German Measles (Rubella)
PPD (TB) Skin Test
Hepatitis B Series
Varicella (Chickenpox) Series

The Certification of Immunization form posted on the Registrar's website (med.uth.tmc.edu/administration/stud_health/immunizationformallschools.May09.pdf) includes the minimum requirement regarding each of the above immunizations as well as table listing the requirements of each of the schools.

Important information about bacterial meningitis can be found on the Registrar's website (registrar.uth.tmc.edu/Registration/bacmeningitis.html), and the Certification of Immunization form contains a place for acknowledging receipt of this information.

The full policy, which lists required immunizations and procedures for requesting exemptions from required immunizations, can be found online at legal.hsc.uth.tmc.edu/hoop/06/6_07.html

See Website: legal.hsc.uth.tmc.edu/hoop/06/6_03.html Immunizations and Health Records

Determination of Resident Status

Before an individual may register at The University of Texas Health Science Center at Houston (UTHSC-H) and pay tuition at the rate provided for residents of the State of Texas, the individual must provide required information regarding residency status. The Registrar is the Residency Determination Official for the university. The full policy can be found online at: legal.hsc.uth.tmc.edu/hoop/06/6_12.html

Information about the Petition for Resident Tuition and a link to the Residency Questionnaire can be found on the Registrar's Website at: registrar.uth.tmc.edu/Services/Student_Forms.html (Scroll down and click on "Residency Policy for Instate Tuition.")

Absences

Observance of a Religious Holy Day: Students who are absent from classes for the observance of a religious holy day may take an examination or complete an assignment scheduled for the religious holy day within a reasonable time before or after the absence, as long as the student informs the instructor of each class to be missed of the planned absence(s) not later than the fifteenth day of the semester. The notification must be in writing and may either be delivered by the student personally to each instructor, with receipt of the notification acknowledged and dated by each instructor, or mailed by certified mail, return receipt requested, to each instructor.

As noted, a student who follows these procedures and is excused from class for a religious holy day may not be penalized, but the instructor may respond appropriately if the student fails to satisfactorily complete the assignment or examination. The full policy can be found at legal.hsc.uth.tmc.edu/hoop/02/2_37A.html

Military Obligations: For any academic term that begins after the date a student is released from active military service but not later than the first anniversary of that date, a school shall readmit the student, without requiring reapplication or charging a fee for readmission, if the student is otherwise eligible to register for classes. On readmission of the student under these circumstances, the School shall provide to the student any financial assistance previously

provided by the institution to the student before the student's withdrawal if the student meets current eligibility requirements for the assistance, other than any requirement directly affected by the student's service, such as continuous enrollment or another similar timing requirement; and allow the student the same academic status that the student had before the student's withdrawal, including any course credit awarded to the student by the institution. The university may require reasonable proof from a student of the fact and duration of the student's active military service.

Similarly, if a student enrolled in a school fails to attend classes or engage in other required activities because the student is called to active military service that is of a reasonably brief duration and the student chooses not to withdraw from school, the school shall excuse a student from attending classes or engaging in other required activities, including examinations, in order for the student to participate in active military service to which the student is called, including travel associated with the service. A student whose absence is excused under this provision may not be penalized for that absence and shall be allowed to complete an assignment or take an examination from which the student is excused within a reasonable time after the absence. An instructor may appropriately respond if the student fails to satisfactorily complete the assignment or examination with a reasonable time after the absence.

The full policy can be found online at legal.hsc.uth.tmc.edu/hoop/02/2_65.htm

Sexual Assault

The Health Science Center seeks to provide a campus environment free from inappropriate conduct of a sexual nature including sexual assault. In accordance with this commitment, and in accordance with the requirements of the Higher Education Reauthorization Act of 1992, the UTHSC-H has created a policy specifically to address this important issue. The full policy can be found online at legal.hsc.uth.tmc.edu/hoop/06/6_14.html

Sexual Harassment

The Health Science Center has different procedures for dealing with allegations of sex discrimination and sexual harassment. Any student who feels that he or she has been discriminated against on the basis of his or her sex should use the appropriate grievance process outlined in the online policy. This policy applies to the conduct of all members of the UTHSC-H community, including, but not limited to administrators, faculty, staff, students, residents, fellows and other trainees, volunteers, vendors, consultants, observers, and visitors. The full policy can be found online at legal.hsc.uth.tmc.edu/hoop/02/2_04.html

Substance Abuse - Students

The Health Science Center is committed to maintaining an environment that is free from substance abuse; its primary concern related to substance abuse among students is prevention and treatment. The Health Science Center provides educational programs to inform its community about the physical and psychological problems associated with substance abuse, as well as pertinent state and federal laws. UTHSC-H recognizes that substance abuse is a treatable condition and, as an institution dedicated to health, facilitates the treatment and rehabilitation of this condition. The full policy can be found online at legal.hsc.uth.tmc.edu/hoop/18/18_05.html

Student Travel

The Health Science Center supports the educational, research and service activities of its students by sponsoring and reimbursing certain approved travel activities expenditures. The university, however, has special concerns as to how students are asked or permitted to travel on official university business. This policy includes special rules outlined by the The University of Texas System Board of Regents to ensure that students who are asked or authorized to travel are aware of university rules on travel, how to seek and obtain approval for travel, how to be reimbursed for travel expenditures, and safety rules that apply to student travel. The full policy can be found at legal.hsc.uth.tmc.edu/hoop/06/6_18.html

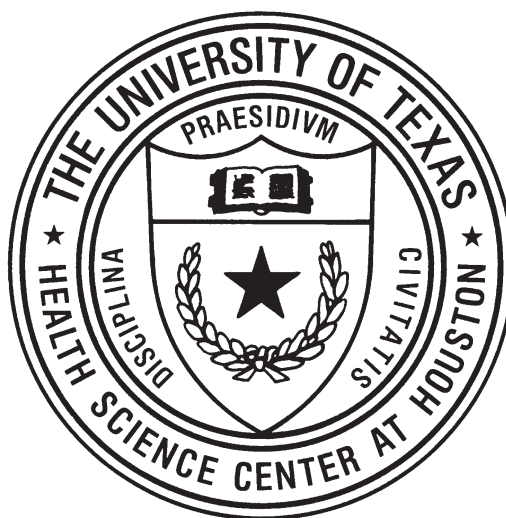
Other Important Policies Affecting Students

Other important policies affecting students are included in the HOOP (legal.hsc.uth.tmc.edu/hoop/index.html); e.g., Chapter 2 University Citizenship and Chapter 18 Safety and Health. Additional student policies are listed below. **Students are expected to read and familiarize themselves with university policies and procedures.**

- 1.18 Employee or Student Organizations (tax-free sales and publication information)
- 2.0 General Standards of Conduct
- 2.02 Alcoholic Beverages
- 2.09 Use of University Facilities
- 6.09 Student Employment Appointments
- 6.10 Financial Aid
- 6.10A Student Loan Collections
- 6.11 Tuition, and Fees Payment, Refunds and Student Debt
- 6.13 Governance
- 6.14 Sexual Assault - Students
- 6.16 Student Services
- 6.18 Student Travel

THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON

SCHOOL OF HEALTH INFORMATION SCIENCES 2009 – 2011 CATALOG



This catalog is a general information publication only. It is not intended to nor does it contain all regulations that relate to students. The contents of this catalog do not constitute a contract, expressed or implied, between any applicant, student or faculty member and The University of Texas Health Science Center at Houston or The University of Texas M. D. Anderson Cancer Center. UTHSC-H and UTMACC reserves the right to withdraw courses at any time, to change fees or tuition, calendar, curriculum, degree requirements, graduation procedures, and any other requirement affecting students. If such changes occur, they will become effective as determined by the appropriate UTHSC-H, UTMACC or System officials and will apply to both prospective students and those already enrolled.

"The University of Texas Health Science Center at Houston is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award certificate, undergraduate, masters, doctoral, and professional degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of The University of Texas Health Science Center at Houston."

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THE SCHOOL OF HEALTH INFORMATION SCIENCES 2009–2011 CATALOG

Message From The Dean

The School of Health Information Sciences is a non-traditional place where excellence in research, education and service is pursued and the future leaders of Health Informatics are trained. This is the first program of its kind in the State of Texas and one of the few found the in the Western hemisphere. The varied and talented cadre of professionals at our School represents expertise both in the theory and practice of informatics applied to biomedical science and health care, as well as pursuing cutting edge research with a focus on translational informatics moving research from the lab to the bedside. Students find our performance based, highly interdisciplinary, team-oriented education and research programs stimulating, challenging and career enhancing.

Both the Masters and Doctoral degree programs are offered in the unique environment of the Texas Medical Center, the most concentrated area of biomedical and healthcare expertise, knowledge and skills on the planet. There are outstanding opportunities for students to be involved in informatics applied to health care and biomedical research in the many clinical and research components of The University of Texas Health Science Center at Houston and the more than forty other healthcare related entities in the surrounding Texas Medical Center. Students interact with highly qualified and experienced faculty active in research and developing solutions for a wide array of Health Informatics problems. Through such research consortia and centers as: the Gulf Coast Consortia for Structural and Computational Biology, Center for Computational Biomedicine, Center for Biosecurity and Public Health Informatics Research, Institute for Molecular Medicine for the Prevention of Human Diseases, and NASA/Johnson Space Center you will interact with the best and brightest on the frontiers of human experience. As a Masters degree student you will learn to apply our most advanced understanding of healthcare and biomedical knowledge to improve biomedical discovery and the delivery of healthcare. As a Doctoral student you will work with leading researchers in a broad array of Health and Biomedical Informatics areas to advance the state-of-the-art and open up new areas such as translational informatics inquiry for future generations.

Students and faculty in our programs come from numerous health professions, basic sciences, biomedical sciences, social sciences, cognitive sciences, engineering, bioengineering, and computer science backgrounds. The “transdisciplinary” nature of our educational and research programs makes them unique, rewarding and resulting in breakthrough discoveries. Our faculty and students are involved in making groundbreaking contributions to healthcare, biomedical discovery and educational research. This includes inventing and evaluating new ways to capture, store, access, and evaluate healthcare and biomedical research knowledge and information. Advances in computational biomedicine, pioneered at our school, are revolutionizing the study of the molecular basis of normal and abnormal biological processes as well as discovering the meaning of genomic and proteomics data, the structural and functional basis of the molecular machinery of the cell. We are exploring the relationships between brain function and structure, improving biosecurity, understanding human-computer interaction, inventing new nanotechnology, and changing space medicine. We are also innovative in the use of educational research and technology, revolutionizing how we design and implement online educational and learning environments for both biomedical scientists and healthcare professionals. If this is the kind of challenge and learning environment you are looking for, then join us and become part of the informatics leaders of tomorrow. Help us invent the future of health care and biomedical discovery.

Jack W. Smith, MD, PhD
Dean

ACADEMIC CALENDAR 2009-2011

FALL TERM 2009	August 1-25	Orientation - Entering Students Registration
	August 31	Classes Begin
	December 11	Classes End
	December 14-18	Final Examinations
SPRING TERM 2010	December 15 - January 7	Orientation - Entering Students Registration
	January 11	Classes Begin
	March 8-12	Spring Break
	April 30	Classes End
	April 28 - May 3-7	Final Examinations
SUMMER TERM 2010 (12-WEEK SESSION)	May 24	Summer Term Begins
	May 24, 2010	Classes Begin
	August 13	Classes End
	August 16-17	Final Examinations

Note: At the discretion of the Dean, the attendance of certain individuals (students/faculty) may be required on a scheduled university holiday and on other than the usual scheduled class dates because of practicum/preceptorship requirements. Holidays will be announced in the class schedule each semester/session. See registrar.uth.tmc.edu

ACADEMIC CALENDAR 2010-2011

FALL TERM 2010	August 1-25	Orientation - Entering Students Registration
	August 30	Classes Begin
	December 10	Classes End
	December 13-17	Final Examinations
SPRING TERM 2011	December 15 - January 7	Orientation - Entering Students Registration
	January 10	Classes Begin
	March 7-11	Spring Break
	April 29	Classes End
	May 2-6	Final Examinations
SUMMER TERM 2011 (12-WEEK SESSION)	May 1-20	Orientation - Entering Students Registration
	May 23, 2010	Classes Begin
	August 12	Classes End
	August 15-16	Final Examinations

Note: At the discretion of the Dean, the attendance of certain individuals (students/faculty) may be required on a scheduled university holiday and on other than the usual scheduled class dates because of practicum/preceptorship requirements. Holidays will be announced in the class schedule each semester/session. See registrar.uth.tmc.edu

ADMINISTRATION

Jack W. Smith, M.D., Ph.D.
Professor and Dean

Randolph H. Scott, Ph.D., M.B.A.
Associate Dean for Management

Kelly Polk, J.D.
Assistant Director of Admissions

Jiajie Zhang, Ph.D.
Professor and Associate Dean for Research

Robert W. Vogler, D.S.N., M. Ed.
Associate Professor and Associate Dean for Academic Affairs

FACULTY

Ananth Annapragada, Ph.D.
Associate Professor

Noriaki Aoki, M.D., Ph.D.
Assistant Professor

Elmer V. Bernstam, M.D., M.S.E., M.S.
Associate Professor

Stefan Birmanns, Ph.D.
Assistant Professor

Claudio Cavaotto, Ph.D.
Assistant Professor

Trevor Cohen, M.D.
Assistant Professor

Vittorio Cristini, Ph.D.
Associate Professor

Kim Dunn, M.D., Ph.D.
Assistant Professor

Amy Franklin, Ph.D.
Assistant Professor

Lex Frieden, MA., LL.D. (hon.)
Professor

Chiehwen Ed Hsu, M.P.H., Ph.D.
Associate Professor

M. Sriram Iyengar, Ph.D.
Assistant Professor

Craig W. Johnson, Ph.D.
Associate Professor

Todd R. Johnson, Ph.D.
Associate Professor and

Angel Lee, M.D., Ph.D.
Assistant Professor

Paul Macklin, Ph.D.
Assistant Professor

Parsa Mirhaji, M.D., Ph.D.
Assistant Professor

Kevin Montgomery, Ph.D.
Assistant Professor

Vimla L. Patel, Ph.D., D. Sc.
Professor

Doris L. Ross, Ph.D.
Dean Emeritus

FACULTY

Edward Shortliffe, M.D., Ph.D.

Professor

Jack W. Smith, M.D., Ph.D.

Professor and Dean

David J. States, M.D., Ph.D.

Professor

James P. Turley, R.N., Ph.D.

Associate Professor

Robert W. Vogler, D.S.N., M. Ed.

Associate Professor

Hongbin Wang, Ph.D.

Associate Professor

Irmgard Willcockson, Ph.D.

Assistant Professor

Jiajie Zhang, Ph.D.

Professor and Associate Dean for Research

Adjunct Faculty

Alemayehu Abebe, Ph.D.
Adjunct Assistant Professor

Allan Abedor, Ph.D.
Professor Emerita

Jonas Almeida, Ph.D.
Adjunct Professor

J. Robert Beck, MD
Adjunct Professor

Eric Boerwinkle, PhD
Adjunct Professor

Juliana J. Brixey, Ph.D., R.N.
Adjunct Assistant Professor

Jung-Wei Chen, D.D.S., M.S., Ph.D.
Adjunct Assistant Professor

Wah Chiu, PhD
Adjunct Professor

Mary Edgerton, M.D., Ph.D.
Adjunct Professor

Oliver Esch, M.D.
Adjunct Associate Professor

Mauro Ferrari, Ph.D.
Adjunct Professor

Yuriy Fofanov, PhD
Adjunct Assistant Professor

John Frenzel, MD, MS
Adjunct Associate Professor

Tsuguya Fukui, MD, MPH, PhD
Adjunct Professor

David Gorenstein, Ph.D.
Professor

James Griffiths, M.D.
Adjunct Assistant Professor

Robert Hunter, MD, PhD
Professor

John C. Joe, MD, MPH
Adjunct Assistant Professor

Constance M. Johnson, PhD
Adjunct Assistant Professor

Shigekoto Kaihara, MD, PhD
Adjunct Professor

Ioannis Kakadiaris, PhD
Adjunct Professor

Sadahiko Kano, PhD
Adjunct Professor

Nobutaka Kikuchi, M.D., M.S., Ph.D.
Adjunct Assistant Professor

Terri M. King, PhD
Adjunct Assistant Professor

Helen Li, MD
Adjunct Associate Professor

Yin Liu, Ph.D.
Adjunct Assistant Professor

Jianpeng Ma, PhD
Adjunct Associate Professor

Roger Marion, Ph.D.
Adjunct Professor

Patrick McGinnis, MD, MS
Adjunct Assistant Professor

Dianna Milewicz, M.D., PhD
Adjunct Professor

Aleksander Milosavljeic, PhD
Adjunct Associate Professor

Robert E. Murphy, MD
Adjunct Assistant Professor

Adjunct Faculty Continued

Koichi Nobutomo, MD, PhD
Adjunct Professor

Sachiko Ohta, M.D., M.S., Ph.D.
Adjunct Associate Professor

Paula N. O'Neill, Ed.D
Adjunct Professor

John Riggs, MD, MS
Adjunct Associate Professor

Pamela Salyer, PhD
Adjunct Assistant Professor

Mano Selvan, Ph.D.
Adjunct Assistant Professor

Michael Shabot, M.D.
Adjunct Professor

Ross Shegog, Ph.D.
Adjunct Assistant Professor

Elizabeth Souther, RN, PhD
Adjunct Assistant Professor

Ignacio H. Valdes, MD, MS
Adjunct Assistant Professor

Muhammad Walji, Ph.D.
Adjunct Associate Professor

William Weems, PhD
Adjunct Associate Professor

Olivier Wenker, MD
Adjunct Professor

Steven Wong, Ph.D.
Adjunct Professor

Kevin C. Wooten, PhD
Adjunct Associate Professor

MISSION OF THE SCHOOL OF HEALTH INFORMATION SCIENCES

The Mission of the School of Health Information Sciences is to improve healthcare and biomedical research by developing, refining and advancing the field of Biomedical Informatics through research, curriculum development, service, and by training professionals in all areas of the discipline including bioinformatics, clinical informatics, computational biomedicine, and public health informatics. This mission is consistent with the mission of the University of Texas Health Science Center at Houston as a comprehensive health science university that educates health science professionals, discovers and translates advances in the biomedical and social sciences and models best practices in clinical care and public health.

THE SCHOOL OF HEALTH INFORMATION SCIENCES

The School of Health Information Sciences (SHIS) was originally founded in 1973 as the School of Allied Health Sciences. The School is the youngest of the six schools at The University of Texas Health Science Center at Houston (UTHSC-H). UTHSC-H is located in the world-renowned Texas Medical Center (TMC), the largest medical center in the world.

In 1992, UTHSC-H determined it would focus on graduate education in the health sciences. At that time the School began the shift from traditional allied health baccalaureate programs toward the development of graduate programs to join the other professional and graduate schools in the university. In 1998 the School created the Department of Health Informatics and began to offer an MS in Health Informatics. In 2001, the name of the School was changed to the School of Health Information Sciences which also subsumed all faculty and students in the Department. The school now offers a Master of Science in Health Informatics, and a Doctor of Philosophy in Health Informatics and has recently developed Certificate Programs in Health Informatics for non degree seeking students. The school will continue to develop other additional programs to meet future informatics needs.

The School of Health Information Sciences is located in the University Center Tower, 7000 Fannin Street, Suite 600, Houston, TX, 77030. shis.uth.tmc.edu/

APPLICATION INFORMATION

Applications for the programs in the School of Health Information Sciences may be obtained online at registrar.uth.tmc.edu.

Additional information may be obtained by contacting the office of the Registrar at:

The University of Texas Health Science Center at Houston (UTHSCH)
Office of the Registrar
7000 Fannin, Ste 2250
Houston, TX 77030
Telephone: (713) 500-3361

Email address: registrar@uth.tmc.edu

Specific requirements for admission to the certificate and degree programs are given in the program section of this catalog. Subject to approval of the Dean, each program's faculty has the responsibility to select applicants for admission.. Admission of applicants is made without regard to, race, gender, national origin, religion, sex, sexual orientation, age, veteran status or disability.

All official transcripts of all previous academic credit must be submitted to the Office of the Registrar. Courses with grades of "D" are not transferable for admission or graduation credit.

Waiver or alteration of any course or credit-hour requirements, other than those mandated by statute, for admission to the School or of courses offered by the School, must be based upon a review of the circumstances, a justification and review by the faculty, and final written approval by the Dean. Requirements mandated by statute will not be waived or altered.

A Texas resident may apply for admission to and enroll as an undergraduate student who has applied under Texas Education Code 51.931, "Right to an Academic Fresh Start". If an applicant elects to seek admission under this section, SHIS shall not consider academic course credits or grades earned by the applicant 10 or more years prior to the starting date of the semester in which the applicant seeks to enroll. An applicant who applies under this section and is admitted as a student may not receive any course credit for courses undertaken 10 or more years prior to enrollment.

If a student who enrolls under this section completes a prescribed course of study, earns a baccalaureate degree, and applies for admission to SHIS, the School, in considering the applicant for admission into the postgraduate or professional program, shall consider only the grade point average of the applicant established by the course work completed after enrollment under this section, along with any other criteria the School uses in evaluating applicants for admission.

In order to register, a student must have on file in the Office of the Registrar all official transcripts and documents of all previous academic work, as well as having met all admission requirements.

A student who knowingly falsifies or is a party to the falsification of any official University record (including transcripts, application for admission) will be subject to disciplinary action, which may include dismissal from the University.

IMMUNIZATION POLICY AND PROCEDURE

Student Immunizations and Health Records Policy in the Handbook of Operating Procedures (HOOP 6.07)

All students registering at The University of Texas Health Science Center at Houston ("university") are required to furnish an immunization record signed by a health care provider. Contact the Student Health Clinic, 713-500-5171, for more information or on the web at med.uth.tmc.edu/administration/stud_health/index.html.

The School of Health Information Sciences requires the Tuberculin Skin test or chest x-ray.

ENROLLMENT STATUS

A student is considered officially enrolled if tuition and fees are paid by the twentieth class day of the fall and spring semesters and by the fourth class day of a summer session. Students that matriculate in the School of Health Information Sciences fall into one of the following categories.

- **Program Student:** a student admitted to an academic program that is following a set curriculum and pursuing a degree without an interruption of more than two semesters in enrollment.
- **Full-time Student:** a graduate student enrolled in at least nine semester credit hours each during the fall semester and spring semester, or six credit hours in the 12-week summer session. Only those credit hours for UTHSC-H courses taken for credit are counted in the calculation of credits designating a full-time student.
- **Part-time Student:** a graduate student enrolled in a program for fewer than nine semester credit hours in the Fall, Spring semester, or fewer than six credit hours in the 12-week Summer session.
- **Certificate student:** a student admitted to the certificate program seeking a certificate of completion of 15 semester credit hours.
- **Non-degree Student:** a student who is admitted to the School for one or more courses but not admitted to a degree program or certificate program. Enrollment as a non-degree student does not in any way entitle a student to admission to a program. A non-degree student is not eligible to receive a degree and is allowed to register only with the permission of the course instructor. Non-degree students will not be allowed to register for practicum/doctoral courses. Non-degree students may complete a MAXIMUM of (12) semester credit hours maintaining a 3.0/4.0 grade point average.
- **Transfer Student:** a student who brings graduate level credits from another institution and who applies for admission to a degree program at the UTHSC-H School of Health Information Sciences. This student must be in good standing at the institution last attended.
- **Concurrent/Interinstitutional Student:** Concurrent and Interinstitutional students may complete a MAXIMUM of twelve (12) semester credit hours maintaining a 3.0/4.0 grade point average.
- **Any UTHSC-H student not admitted to a degree program or certificate program in the School of Health Information Sciences may complete a MAXIMUM of twelve (12) semester credit hours maintaining a 3.0/4.0 grade point average. If a student takes more than (12) semester credit hours, only (12) semester credit hours can be counted toward any degree in the School of Health Information Sciences.**

International Student: a student who is not a citizen or permanent resident of the U.S. All non-U.S. citizens must have a hold removed by the International Office prior to processing registration. An international applicant seeking admission to the School must submit the following:

- 1 TOEFL (Test of English as a Foreign Language) score Brochures and application material for the TOEFL may be obtained from the Office of the Registrar (applicants should use an institution code of 6906 or 6907). The scores for the TOEFL test must be submitted directly to The University of Texas Health Science Center at Houston, Office of the Registrar, from the TOEFL test centers. The minimum acceptable score is 550 on the paper test, , and on the internet based test a score of writing 26, speaking 23, reading 21, listening 17 and a total score of 87. Upon recommendation of the Associate Dean for Academic Affairs and approval by the Dean, requirements for the TOEFL may be waived for applicants whose native language is English or if applicant has graduated from a high school or university in the United States. See toefl.org for test sites and testing information. The applicant must pay for the evaluation report.
- 2 International applicants must submit official transcripts and a professional course-by-course evaluation of all transcripts from all universities outside the United States. The application forms (Educational Credential Evaluators, Inc., ece.org) for such an evaluation may be obtained from the Office of the Registrar. The results of the evaluation must be submitted directly to the UTHSC-H Office of the Registrar by the agency. The applicant must pay for the evaluation report.
- 3 The I-20 form, required by the Department of Homeland Security (DHS) and the United States Citizenship and Immigration Services (USCIS), is prepared by the University and issued to qualified non-immigrant applicants who have been admitted and who have demonstrated financial ability to support their education. Upon acceptance, the nonimmigrant student will be asked to provide financial and visa information so that the I-20 form may be completed. The student must submit the completed form to the American Embassy in his/her country of origin in order to receive a student visa, or must otherwise be eligible for F-1 status in the U.S. Please contact the Office of International Affairs for information on I-20 forms by calling 713-500-3176.
- 4 International Students are required to show proof of health insurance, including hospitalization or proof of purchase of health insurance. The policy must include repatriation coverage. The student may purchase health insurance including repatriation coverage, offered by The University of Texas System, and available through Auxiliary Enterprises at 713-500-8400.

Student Enrollment

Students enroll each semester by using UTLINK on the web at UTLINK.uth.tmc.edu. There is no on-site enrollment. Enrollment dates are announced in the online Schedule of Classes. registrar.uth.tmc.edu.

CERTIFICATE AND GENERAL ADMISSION PROCESS

Certificate Admission Process

Completed applications are reviewed by the Director of Certificate programs. Recommendations are made to the Associate Dean for Academic Affairs for or against admission. The Director of Certificate programs advises all certificate students.

General Admission Process for Degree Programs

The School admissions committee reviews completed applications to graduate degree programs. The committee makes recommendation for or against an interview with an admissions advising committee. The committee makes recommendations to the Associate Dean for Academic Affairs. All applicants are required to discuss their interests and enrollment plans with a faculty member of the focus area of study and/or the Associate Dean of Academic Affairs of the School prior to an admission decision being rendered.

In assessing the academic success of the student and his/her potential contributions to the knowledge base and practice in the field of study, the following criteria, and material reviewed in evaluating each, will be utilized in making admission decisions.

Each focus area may also identify additional factors that will be considered by the School's admissions committee. Additional focus area criteria are set forth in the program section of the catalog. The admission criteria include, but are not limited to:

- Prior academic preparation (depth, breadth, and performance): application, college transcripts, and letters of recommendation;
- Relevant work experience (particularly practice in the field of study): application, goal statement, cv or resume, and letters of recommendation;
- Career goals: application, goal statement, and letters of recommendation;
- Motivation: goal statement, letters of recommendation, and college transcripts;
- Integrity: goal statement, and letters of recommendation;
- Standardized tests: scores on GRE or MAT and TOEFL (if required);
- Thesis, publications and other scholarly works: supplemental documents provided by applicant;
- Non-degree seeking status: grade performance;
- Success in overcoming social, economic or educational disadvantages: curriculum vitae or resume

Additionally, a personal interview is required when initiated by invitation from the departmental admission committee. Applicants who meet the listed criteria will be invited to interview. The Director of Admissions will schedule personal interviews. In addition to the listed criteria, the applicant's communication skills and understanding of the program may be evaluated based on the personal interview. Admissions decisions will be made after all interviews are completed. Completed applications

with all supporting documentation must be received July 1 for fall admission, March 15 for summer admissions, and November 1 for spring admissions to the certificate and masters program and February 1 for the doctoral program.

Masters of Science in Health Informatics and Certificate of Health Informatics application deadlines

fall admission	July 1
summer admissions	March 15
spring admissions	November 1

Doctor of Philosophy in Health Informatics application deadlines

Fall admission	February 1
Spring admission	November 1

Address application inquiries to:

Assistant Director of Admissions, Kelly Polk, J.D. Office of Academic Affairs
7000 Fannin, Ste 800
Houston, TX 77030
(713) 500-3476
Kelly.Polk@uth.tmc.edu

Address personal interview inquiries to:

Assistant Director of Admissions
School of Health Information Sciences
7000 Fannin, Ste 800
Houston, TX 77030
(713) 500-3476

FINANCIAL INFORMATION

Financial Aid Policy in the Handbook of Operating Procedures (HOOP 6.10)

UTHSC-H assists eligible students in locating financial assistance in a manner consistent with appropriate regulations and guidelines.

The Office of Student Financial Aid will endeavor to comply with all applicable federal regulations and program guidelines that specifically relate to the subject program.

All students will complete required applications prior to consideration for any financial aid program administered through the Office of Student Financial Aid. Failure of an applicant to disclose all pertinent information or misrepresentation of facts may disqualify an applicant for any type of financial aid.

All loans, scholarship, grant, or other aid funds will be awarded based on the most current regulations or guidelines in effect at the time of award. Disbursement of awards will be contingent upon the continuing availability of funds. Awards may be revised based on changes in sources of funds, availability of funds, student enrollment, or student resources.

Foreign students who are attending classes on a student visa are only eligible for the Texas Public Education Grant (TPEG) Program administered by the UTHSC-H Office of Student Financial Aid.

Students who are known to be in default on a student loan from this or any other institution of higher education will be ineligible for any federal, state, or institutional student aid program administered by the UTHSC-H.

All financial aid recipients will be required to complete an exit interview with the Office of Student Financial Aid prior to permanent or temporary departure from the UTHSC-H for any reasons. Exit interviews will also be required on all students dropping to less than half time enrollment. Exit interviews will be handled in compliance with regulations and guidelines in effect at the time of the exit interview.

Procedure

All enrolled students or those new students who have been accepted for enrollment will be made aware of the availability of financial assistance and the types of assistance for which they may qualify. This information will be furnished to prospective applicants upon request. Application packets will be furnished to all enrolled students and those accepted for enrollment upon request.

School-related expenses are documented in school expense budgets prepared annually by the Office of Student Financial Aid.

Forms, information, or documentation that may be required by the Office of Student Financial Aid include but are not limited to the following:

- Health Science Center General Application
- Financial Aid Form
- Financial Aid Transcripts
- Stafford Loan Application
- Certified copy of Income Tax returns of applicant and/or parents
- Social Security Card
- Copy of birth certificate, permanent resident card, or certificate of naturalization
- Pell Grant Student Aid Report--Instructions for completion of applications will be included in all application packets. Incomplete applications will be delayed, as properly completed applications will always receive priority.

Applicants are strongly encouraged to read all instructions disseminated by the Office of Student Financial Aid. Financial aid specialists are available to provide assistance Monday through Friday between the hours of 8 a.m. and 5 p.m.

Applications received before the “on-time” deadline date will receive priority consideration on available funds. The on-time applications will be processed, as they are completed, in the sequence determined by the student’s first class day for the award year. Applications received after the “on time” deadline date will be considered late and are processed on a first-come, first-served basis. Late applications are processed after all on-time applications have been processed.

The director of student financial aid or his or her designee will be the final authority for approval or disapproval of all applications.

After applications are processed, applicants will be advised of eligibility and the amounts and types of assistance offered and the time schedule for disbursement of aid. Applicants are required to either accept or reject the aid offer in writing, according to prescribed procedure, prior to disbursement of any funds to the applicant.

After the applicant has accepted aid offers, he or she may request revisions to the award only when extenuating circumstances exist. The director of student financial aid or his or her designee must approve all revisions.

Exit interviews will include but not be limited to:

- completion of the personal information sheet;
- accepting and signing a repayment schedule for each type of loan involved;
- signing truth-in-lending statement for each loan received;
- completion of financial aid summary sheet; and
- completion of other documents as required by the Office of Student Financial Aid.

Fees

Optional and Mandatory Fees

Certain mandatory and optional fees should be anticipated at the School of Health Information Sciences. Mandatory fees are required of all students. Optional fees are not required, but the student may elect to subscribe to any of the services listed under optional fees. All fees are subject to change without notice.

The Texas Legislature does not set the specific amount for any particular student fee. The student fees assessed above are authorized by state statute; however, the specific fee amounts and the determination to increase fees are made by the University administration and The University of Texas System Board of Regents and become effective on the date enacted and apply to all current and future students.

Mandatory Fees

Application fee:

Any prospective student submitting an application to the school for consideration must also submit a non-refundable \$30.00 application fee. This fee is assessed to cover the cost of processing the application.

Registration fee:

Accepted students must submit a deposit of \$50.00 to ensure a place in the entering class. The \$50.00 is applicable to the tuition and fees at the time of registration. All but \$15.00 of this deposit is refundable should the student not register for the semester in which he/she is accepted.

Tuition

Beginning 2009-2011, Texas resident tuition is \$146 per semester credit hour. Non-resident tuition is \$573 per semester credit hour. Pursuant to the state statute, a portion of tuition is now designated for capital renewal, deferred maintenance, and bond retirement for the construction of new buildings. Tuition and fees are subject to change according to the actions of the Texas Legislature or The University of Texas System Board of Regents and become effective on the date enacted.

Tuition for each semester is due at the time of registration. Payment of tuition and fees may be made using one of the following alternatives: (1) full payment of tuition and fees in advance of the beginning of the semester, or (2) one-half payment of tuition and fees in advance of the beginning of the semester and separate one-fourth payments prior to the start of the sixth and eleventh class weeks. A \$15 installment use fee will be assessed each semester a student utilizes payment alternative. A late payment fee of \$15 will be applicable to initial payments. A \$10 charge will be assessed for any subsequent late installment payment and a student may be withdrawn from the School if appropriate (see below).

A student who fails to provide full payment of tuition and fees, including any incidental fees, by the due date may be prohibited from continuing enrollment and subsequent registration for classes until full payment is made. A student who fails to make payment prior to the end of the semester may be denied credit for the work done during the semester. University records may be adjusted to reflect the failure of the student to have properly enrolled for that semester. UTHSC-H will not release grades, grant any degree, or issue an official transcript for any student who fails to pay tuition and fees or other debts owed to UTHSC-H.

Based on state law, a resident doctoral student will be charged nonresident tuition rates for all attempted hours beyond a total of 100 or more semester credit hours of doctoral work. Contact the Registrar's Office for more information.

In general, residence in Texas for tuition purposes for an individual over 18 years of age is established if the individual has been gainfully employed within the state for a 12-month period immediately preceding registration in the University. An individual who registers before having resided in Texas for 12 months will be classified as a nonresident, and an individual who has come to the state primarily for the purpose of education will be classified as a nonresident even if the 12-month period has passed.

Although classified as a nonresident, students falling within certain categories may be permitted to pay resident tuition. These categories include: (1) students employed at least half-time in a degree related position as a teaching or graduate research assistant in a Texas public institution of higher education; (2) the dependent of a spouse or parent employed in a Texas public institute of higher education in a faculty position which is at least half-time on a regular monthly salary basis; and (3) recipients of a competitive scholarship (based on GPA performance only) in the amount of \$1000 or more per academic year (September through August and which is awarded by a scholarship committee officially recognized by UTHSC-H. Contact the Registrar's Office for information regarding these criteria.

Further information on residency is available in the Office of the Registrar. See registrar.uth.tmc.edu. Students may consult the Texas Education Code and the "Rules and Regulations for Determining Residency Status" published by the Texas Higher Education Coordinating Board.

Students applying for veteran's benefits may contact the Office of the Registrar for information and certification of enrollment. Students who have exhausted VA benefits may qualify for Hazelwood benefits, which includes exemption of tuition and fees. Under certain conditions benefits may be transferred to dependents and spouses. Please go to the Office of the Registrar for additional information.

Texas law provides for the waiver of tuition and/or fees for students under certain conditions, such as certain veterans, certain deaf and blind students, students in foster or other residential care, eligible educational aides, and certain high school graduates on Aid to Families with Dependent Children (AFDC). For specific information, contact the Office of the Registrar.

Differential Tuition

Graduate differential tuition will be \$50/semester credit hour for residents and \$ 200/semester credit hour for non-residents. Professional Liability Insurance

Fees and Charges

Application Fee (non-refundable) \$30.00

Audit Fee per Course \$25.00

Graduation Fee (see below) \$75.00

Installment Payment Fee \$15.00/term

Installment Tuition Delinquency Fee \$10.00

Late Registration/Payment Fee \$15.00

Returned Check Fee \$25.00

Transcript Fee per Transcript \$5.00

Student Liability Insurance Fee \$14.50

Student Health Insurance Fee \$ 1110.00

Laboratory Fee (see below) per Laboratory Course \$ 10.00-30.00

Student Services Fee (see below)

Information Technology Access Fee \$20.00/semester

Computer Resource Fee \$ 70.00/semester

Alternative Instruction Delivery Fee for

Web Courses delivered within Texas \$100.00/semester credit hour

Out of State Instruction

Delivery Fee for web courses delivered out of Texas \$750.00/semester credit hour

Laboratory Fees

Laboratory fees are assessed in an amount to cover the cost of laboratory materials and supplies used by the student. These fees range from the minimum of \$ 10 per laboratory course to a maximum of \$30 per laboratory course. Each didactic course has a lab fee of \$10. The practicum and Preceptorship courses have a lab fee of \$30. Laboratory fees are subject to change without prior notice. A listing of current fees may be obtained by contacting the:

Director of Admissions 713-500-3476,

shis.uth.tmc.edu/

Student Services Fee

The Student Services fee, required of all students, is assessed per semester credit hour with a maximum charge of \$ 183.84 per Fall or Spring semester or \$ 105.86 per Summer session. If a student enrolls in more than one summer session, the maximum fee will be \$ 105.86. The fee provides for student activities, outpatient care by Student Health Services, counseling, shuttle bus service, and recreational facilities. Optional family coverage for most student services is available. The schedule of fees is as follows:

Number of Semester Hours Taken	Semester Fall/Spring	Summer
1	\$ 85.52	\$ 41.47
2	\$ 97.79	\$ 49.40
3	\$ 110.11	\$ 57.47
4	\$ 122.41	\$ 65.56
5	\$ 134.69	\$ 73.59
6	\$ 146.99	\$ 81.67
7	\$ 159.27	\$ 89.71
8	\$ 171.54	\$ 97.78
9 or more	\$ 183.84	\$ 105.86

Graduation Fee

A graduation fee of \$75, payable at registration for the student's final academic term, is required of all students. This fee covers expenses associated with graduation but does not cover rental

of the cap and gown. This fee is charged whether or not the student participates in graduation.

Tuition and Fees Payment Policy

- 1 Payment of tuition and fees are due no later than the end of the registration period.
- 2 Tuition and fees payment must be made in full or according to the installment agreement due dates.
- 3 A late fee (\$15.00) is charged to students who pay after the payment due date listed in the class schedule.
- 4 Students who have a check returned for insufficient funds will be charged a fee of \$25.00. If no valid payment is made prior to the established deadline for tuition and fee payment, the Registrar will recommend to the Dean that the student be dropped from enrollment.
- 5 Students who have tuition or fees billed to a sponsor are financially responsible for any fees determined to be uncollectible by the Accounting Office from that sponsor. Furthermore, extended delays in collection of receivables from sponsors will require the student to make the uncollected payment. Student payments will be refunded upon receipt of payment from the sponsor.

Methods of Payment

Payment for tuition and fees should be made at the Bursar's Office, which is located in the University Center Tower building, 22nd floor located at 7000 Fannin. Student can make payment by cash, money order, personal check, financial aid (loans and/or scholarships) or credit card. The credit cards accepted are MasterCard and Visa. The Bursar's Office can be reached at (713) 500-3088. Students may also pay using Mastercard, Visa, American Express, or Discover on the web at [UTLINK.uth.tmc.edu/Academic Standards, Policies, and Procedures](http://UTLINK.uth.tmc.edu/AcademicStandards/PoliciesandProcedures)

Refund Policy

- 1 Refunds shall be made of applicable tuition and student service fees collected for courses from which students drop within the first 12 class days of a Fall or Spring semester or within the first four class days of a Summer sub-term, providing the student remains enrolled at the institution. Refunds for fall and spring semesters will be prepared prior to the close of the semester. Refunds for summer sessions will be prepared within 30 days of the close of the second summer session.
- 2 Refund of tuition and fees paid by a sponsor, donor, or scholarship will be made to the payor rather than directly to the withdrawing student. Students who withdraw before graduation are entitled to a full refund of the graduation fee if a diploma has not been ordered.
- 3 The University shall terminate student services and privileges, such as health services, library privileges, and facilities usage when a student withdraws from the institution.

4 Refunds of tuition and mandatory fees shall be made to students who withdraw from the institution during the fall, spring, or summer 12 week semester according to the following withdrawal schedule:

a prior to the first class day of the term from which a \$15 matriculation fee shall be assessed	100%
b during first 5 class days of the term	80%
c during second 5 class days of the term	70%
d during third 5 class days of the term	50%
e during fourth 5 class days of the term	25%
f after fourth 5 class days of the term	none

5 Refunds of tuition and mandatory fees shall be made to students withdrawing from the institution during a summer 6 week term according to the following withdrawal schedule:

a prior to first class day of the term from which a \$15 matriculation fee shall be assessed	100%
b during the first, second, or third class day of the term	80%
c during the fourth, fifth, or sixth class day of the term	50%
d seventh class day of the term and thereafter	none

Refunds Under Installment Payment Plans

Dropping courses or withdrawing from the University does not relieve a student of the responsibility for unpaid financial obligations to the University. Students enrolled in an installment payment plan will be required to continue making payments until the non-refundable portion of their accounts is paid in full. Refunds or credits are based on percentage of tuition and fees charged, not on the percentage of tuition and fees paid. Contact the Registrar's Office for more information.

All policies regarding the payment or refunding of tuition, fees, and charges are approved by The University of Texas System Board of Regents and comply with applicable state statutes. If a person desires clarification of any matter relating to payment or refund or such charges, he or she should contact the Office of the Registrar.

Optional Fees

- **Transcript Fee:** A transcript of academic credits received at this University may be obtained upon written request to the Office of the Registrar, and submission of \$5 for each transcript requested.
- **Audit Fee:** For a fee of \$25 per course, a student may elect to audit a course, i.e., attend the course without receiving academic credit. SHIS does not allow auditing of classes.
- **Transportation Expenses:** Students are required to provide their own transportation to clinical sites.

- Academic Regalia Rental: The charge for rental of the cap and gown is approximately \$ 100. Information on ordering academic regalia is sent to students several months before annual commencement exercises.

Professional Liability Insurance

Every student enrolled in the School of Health Information Sciences must have professional liability insurance coverage in force throughout each semester enrolled in the minimum policy amount of \$100,000 per claim. The professional liability insurance must cover students for breach of confidentiality in dealing with the confidential information in the electronic patient record. Advance written notice or posting may change the minimum amount required by the Office of the Dean. The premium for this insurance is due at the time of initial registration and each Fall Semester. The annual premium is prorated based on the student's date of entry. The annual premium is approximately \$14.50 per year.

Student Health Insurance

Documentation of health insurance, including hospitalization coverage, or proof of purchase of such insurance is required. Proof of insurance is required by many clinical affiliates prior to entry to the clinical practicum sites.

International students must include repatriation insurance coverage; the student can purchase repatriation insurance offered by The University of Texas System.

Students may purchase hospitalization insurance from the group plan offered through The University of Texas, or an equivalent policy. Information on the plan available through The University of Texas System may be obtained by calling Auxiliary Enterprises, (713) 500-8400 or web.hsc.uth.tmc.edu/ae1/health/index.html.

Financial Aid

Financial aid for students is available through the UTHSC-H Office of Student Financial Aid, which has limited loan and scholarship funds. The granting of these funds is based on proven financial need and/or academic excellence. Applications for federal and state financial aid programs should be made at the time of application to the program by contacting:

Office of Student Financial Aid
The University of Texas Health Science Center at Houston
7000 Fannin, Ste 2240
Houston TX 77030
Phone: 713-500-3860
Email: sfaregis@uth.tmc.edu
Web address: sfs.uth.tmc.edu

Students who are receiving financial assistance must continue at a minimum of one-half time enrollment and maintain satisfactory academic progress as defined for financial aid eligibility. Contact the Office of Student Financial Services for information regarding enrollment and satisfactory academic progress requirements.

A student subject to selective service registration will be required to file a statement that the student has registered or is exempt from selective service registration in order to be eligible to receive financial assistance funded by State revenue.

Competitive Academic Scholarship Awards

Competitive Academic Scholarship awards are designed to facilitate the scholastic development of students who are in high academic standing. The benefits of this award are two-fold; (1) a direct financial award, and (2) if the recipient is not a resident of Texas, the change in status to resident tuition for that academic school year (September through August). All SHIS degree-seeking program are eligible to compete for these scholarships. Competitive Academic Scholarships are dependent on the availability of funds each year.

The criteria for selection are:

- Grade point average documented by the Director of Admissions from the Student Information System in the Registrar's Office.
- Pattern of Academic Achievement
- Recommendation of the Students Advising Committee members
- Success in overcoming socioeconomic or educational disadvantages

The SHIS Student Affairs Committee considers all submissions. The SHIS Student Affairs Committee is composed of UTHSC-H faculty and student representation. The recommendations of the SHIS Student Affairs Committee are passed through the Associate Dean for Academic Affairs for submission to the Dean. Notification of awards will be made by mail.

Applications for the limited scholarships in the School of Health Information Sciences are available in the Office of the Dean, University Center Tower, Suite 600, located at 7000 Fannin.

SUMMARY OF ESTIMATED ANNUAL FEES AND EXPENSES INCLUDING PROGRAM EXPENSES

Program Expenses

Application Fee (one-time only) \$30.00

Immunization (approximate cost, one time only) \$175.00

Student Criminal Background Check \$39.00

Tuition (based on 24 hours annually),

Resident \$3504.00

Non-Resident \$11376.00

Student Service Fee \$ 473.54

Information Technology Fee \$60.00

Computer Resource Fee \$150.00

Liability Insurance \$14.50

Laboratory Fees \$80-\$90

Graduation Fee \$75.00

Transportation (Student's responsibility)₂ varies

Books, Supplies, Miscellaneous Program

Expenses (see Program section) varies

Personal Anticipated Expenses (approximations)

Apartment Rent₃

One Bedroom (UT Housing) \$ 648.00

Daycare varies

Health/Medical Insurance₄

Basic coverage for student only \$1100.00

Basic for student and spouse \$3203.00

Basic for each child (additional) \$1730.00

- 1 based on 9 semester hours Fall and Spring and 6 semester credit hours for Summer; \$146 is resident cost per semester credit hour/\$474 is non-resident cost per semester credit hour.
- 2 the student is responsible for personal transportation and parking fees to and from the clinical practicum sites
- 3 does not include utilities or food costs
- 4 Student Health Insurance -- Current information available from Auxiliary Enterprises, (713) 500-8400. All students are required to show proof of coverage or proof of purchase of health insurance. International students also must provide proof of repatriation coverage, or the student can purchase repatriation insurance for a cost of \$41.00.

Note: All of the estimates above are subject to change without prior notification.

Estimated Program Expenses for Health Informatics per year

The expenses, which are specific to Health Informatics, are:

Item	Estimated Expenses
Textbooks, computer* (required), software	\$3300.00
Lab Fees	\$10 per course
	\$30 per practicum/preceptor course

* Computer (\$2500 first year only) requirements based on the annual recommendation of the Office of Academic Computing.

** Practicum/Preceptor site may require additional requirements, e.g., immunizations, insurance.

In addition, students must pay required school expenses (tuition, fee, etc.). See the Expense Table summarizing expenses.

ACADEMIC STANDARDS, POLICIES, AND PROCEDURES

In order for students to maintain good standing and receive appropriate grades and credits for their work, they must adhere to academic policies, procedures and standards. Each SHIS student is under the jurisdiction of the Dean. Students taking courses in the School are subject to the regulations of the School.

The School of Health Information Sciences requires a high level of academic achievement from its students. In line with this requirement, the School has defined criteria for a student in good standing, a student worthy of academic recognition, and a student in academic jeopardy. A letter grading system is used to assess the student's level of achievement.

Grading System

Graduate

"A" indicates excellent; "B" indicates good; "C" indicates unsatisfactory; "NC" would not affect the GPA calculation or status of the visiting graduate student and "F" indicates failing; "P" indicates passing; "WP" or "WF" indicates that the student has withdrawn passing or failing, respectively; "I" indicates an incomplete grade, meaning that course requirements have not been satisfied. All letter grades are reported without modification of plus (+) or minus (-). Grades recorded for courses dropped after the deadline for WP or WF will be recorded as "F".

Grade point averages (GPA) are computed at the end of each semester using the following academic standard:

A = 4 points

B = 3 points

C = 2 points

NC = not counted

P = not counted

F = 0 points

WF = 0 points

WP = 0 points

Graduate level courses in which a grade of "B" or better has been earned may not be repeated for credit. Graduate level courses in which a grade of "NC" is given do not count toward degree plan requirements. Courses taken at the School in which a grade of "F", or "WF" has been earned may be repeated for credit within the School with the permission of the Dean and as course sequencing allows. Courses taken at the UTHSC-H School of Health Information Sciences in which an "F" has been earned may not be taken at another institution for credit or to raise the grade point average (GPA).

If a course is repeated where the initial grade of “F” was earned, the student must earn a grade of A or B in that course; a grade of “C” or “F” will result in automatic dismissal.

No graduate student may earn more than 2 grades of “C”, “WF”, or “F” including courses taken as concurrent enrollment even though the courses are remediated; the result will be automatic dismissal. All enrollments in courses, including repeated courses, will be reflected on the student’s transcript.

An incomplete “I” grade may be given when course requirements have not been satisfied. A student must remove a grade of “I” within one academic semester or summer session following receipt of such a grade, or the incomplete grade will be converted to the grade of “F”. Grades of “I” will not be used in calculating the grade point average. All “I” grades must be removed from a student’s record before the student is eligible for graduation.

A pass/fail grading system is used in some courses. The courses that are graded on a pass/fail basis are described in the course description section of the catalog. In these instances a symbol of “P” is used to designate “pass” and an “F” to designate “fail.” Hours for courses taken pass/fail that are passed are not entered in the grade point calculation; however, hours for courses taken pass/fail and failed are included in the grade point calculation.

Each program establishes the maximum number of semester credits allowed for a student may take on a Pass/Fail basis during his or her study in that program. Not all courses are available on a pass/ fail basis.

Grade point averages are calculated using grades and credit hours for courses that are taken in Schools except for those courses in which a grade of “I”, “WP” or “P” is recorded. Also, courses in which an “F” was made are not included in the grade point average if these courses have been repeated and passing grades obtained. The grade achieved in the repeated course is included in the calculation. Those courses taken through concurrent registration are not used in calculating the grade point average. They will be calculated as transferred courses. Courses obtained by Petition for Equivalency and by transfer from other institutions are not used in the calculation of the grade point average.

Student in Good Standing

To be considered in “good standing” and making “satisfactory academic progress”, a graduate student, admitted to a graduate degree program, must be following the degree plan; must maintain a cumulative grade point average of 3.0 or above following the degree plan and must not be on academic probation, or suspension as determined by the Associate Dean for Academic Affairs. A SHIS graduate student is allowed one grade of “C” during their program.

Academic Probation

Probation is an official warning status for a defined period of time, which informs the student of unsatisfactory academic, and/or professional performance, and provides the student an opportunity to improve. Any student who does not adhere to the scholastic and professional standards of the School is subject to probation, suspension, and/or dismissal by the Associate Dean for Academic Affairs. Academic Probation will be noted on your official transcript. When you have achieved the required cumulative grade point average 3.0 minimum, following the degree plan, off academic probation will be noted on your official transcript.

Criteria upon which grades are based are given at the beginning of each course in the course syllabus. Professional standards include appropriate dress, attendance, conduct code of ethics, and any particular standards required by the program. If the student has questions regarding academic and professional requirements or if assistance is needed in meeting the standards, he or she should consult with the course instructor, his or her advising committee. Program standards are to be in conformance with the policies of the School and UTHSC-H.

Following the completion of the semester in which any of the following occur, the Associate Dean for Academic Affairs will place a graduate student on academic probation. He or she receives 1) a second grade of less than "B" in a graduate course while at SHIS, 2) the calculated grade point average (GPA) is less than 3.0, 3) a grade of less than "B" ("C", "WF," or "F") is earned in a required course, or 4) the student fails to make satisfactory progress toward the degree. The graduate student is removed from academic probation at the end of the following registration period when no grade below "B" is assigned in a graduate course and a cumulative grade point average of 3.0 is achieved and any other cause for probation is removed or remedied.

A SHIS graduate student will be dismissed if a third grade of "C," "WF," or "F" is earned in any graduate level courses. If a grade of "C" is earned while the student is enrolled in a concurrent or Interinstitutional course, the student will be placed on probation. If it is the third grade of "C," the student will be dismissed.

A graduate-level course is a course, which has HI as prefix letters and an initial number not less than 5 in the catalog number or is any graduate level at another institution.

Student Conduct and Discipline in the Handbook of Operating Procedures (HOOP 6.03)

All students are expected and required to obey federal, state, and local laws, to comply with the Regents' Rules and Regulations, the rules and regulations of The University of Texas Health Science Center at Houston ("university") and The University of Texas System ("UT System"), and directives issued by administrative officials of the university or UT System in the course of their authorized duties, and to obey standards of conduct appropriate for an academic institution.

Any student who engages in conduct that violates the Regents' Rules and Regulations, university or UT System rules, or federal, state, or local laws is subject to discipline whether the conduct takes place on or off campus and whether civil or criminal penalties may be imposed for such conduct. A student is also subject to discipline for prohibited conduct that occurs while participating in off-campus activities sponsored by the university or UT System, including field trips, rotations or clinical assignments.

A student who receives a period of suspension as a disciplinary penalty is subject to further disciplinary action for prohibited conduct that occurs during the period of suspension. A former student expelled or suspended for disciplinary reasons is prohibited from being on any UT campus during the period of expulsion or suspension without prior written approval of the chief student affairs officer of the institution at which the suspended student wishes to be present.

A former student expelled or suspended for disciplinary reasons is prohibited from being on any UT campus during the period of expulsion or suspension without written approval of the chief student affairs officer of the institution at which the suspended or expelled students wishes to be present.

Grade Grievance Procedure

In attempting to resolve any student grievance regarding grades or evaluations, it is the obligation of the student first to make a serious effort to resolve the matter with the faculty member with whom the grievance originated. Individual faculty members retain primary responsibility for assigning grades and evaluations. The faculty member's judgment is final unless compelling evidence suggests discrimination, differential treatment or mistake. If the evidence warrants appeal, the student must submit a request in writing within 12 months of the date of the evaluation in question and, in the case of a grade for a course, within 12 months of the date the Registrar recorded the grade of the course in question. The request for the appeal with supporting evidence is to be submitted to the Associate Dean for Academic Affairs in the Dean's Office. Upon receipt of the request, the Associate Dean for Academic Affairs will review the case and with advice from the SHIS Student Affairs Committee of the Faculty Governance Organization will submit a written recommendation to the Dean within ten working days. The determination of the Dean is final, and there is no further appeal.

Academic Dismissal and Appeal

If a student who is on academic probation for one semester does not achieve the GPA and the individual course grades necessary to be removed from probation or remove the cause of probationary status, that student will be dismissed by the Associate Dean for Academic Affairs and will not be allowed to continue in a program.

If the student wishes to request a reconsideration of the dismissal, a written request must be submitted within five working days of receipt of the dismissal letter to the Dean with a copy sent to the Chair of the Admissions, Progression and Graduation Committee of the Faculty Governance Organization stating evidence in support of the request. The Admissions, Progression and Graduation Committee will review the request and render its recommendation in writing to the Dean. The student will be notified in writing of the Dean's decision within five working days of the Committee's recommendation. The determination of the Dean is final, and there is no further appeal.

Reapplication Following Dismissal

If a student should reapply and be readmitted to the program from which he or she was dismissed, he or she will be considered to be on scholastic probation for one semester. If the student fails to raise his or her cumulative GPA within that semester to 3.0 for the graduate program, or if the student makes a course grade below that required to be removed from probation, or fails to meet standards to be off probation, he or she will be dismissed from the School and may not be readmitted.

Grade Reports

Students may access their term grade reports by web at UTLINK.uth.tmc.edu.

Change of Name, Address or Marital Status

The student's full legal name is the name recorded on the application at the time of admission. The student must report any changes in name, address or marital status to the Office of the Registrar, and to the program office. Official documents verifying a name change are required.

The student's full legal name is used on the permanent academic record, certificates, and diplomas.

Transcripts

A student may, by written request or via UTLINK, secure a transcript of his or her official record from the UTHSC-H Registrar's Office at a cost of \$5 per transcript. The official transcript is a comprehensive record of the student's total academic progress at UTHSC-H. No transcripts will be issued showing only a portion of the student's academic record. A student who owes debts to the University will have his or her official transcript withheld until the debts are paid.

Transfer Credit

Transfer credit for equivalent courses taken elsewhere may be awarded and used to meet degree requirements if their equivalency to a SHIS degree program course is approved through a Petition for Equivalency (see Page X). The maximum number of transferable semester credit hours is 3 for the certificate program, 12 for the masters program, and 36 for the doctoral program.. Some School degree programs require a certain number of credits for support courses, which are courses, possibly taken elsewhere, that enhance a student's degree plan as determined by agreement with their advising committee. Credit for support courses taken elsewhere is approved by the students' advising committee—a Petition for Equivalency is not required. Contact the Director of Admissions for information.

Applicants who are presenting course work from universities or colleges outside the United States to meet admission or graduation requirements are referred to the section on International Applicants in this catalog for a listing of additional requirements.

Reentry After Non-Attendance

A Program Student who misses enrollment in two registration periods must have written approval from the student's Advising Committee or Director of Certificate programs, (see program section for details,) and the Associate Dean for Academic Affairs in advance of registration for any subsequent semester. A Program Student who does not have written approval and has not enrolled for two registration periods shall no longer be considered a Program Student and must reapply for admission to the Program and the School.

Withdrawal from the University

A student who wishes to withdraw from the School at the end of, or prior to, completing a scheduled semester, should advise his or her Advising Committee and the Associate Dean for Academic Affairs in writing. The letter should include the date of intended withdrawal and the specific reason(s) for withdrawal. The student should state if it is his or her intention to seek readmission to the course of study at a later date and, if so, the specific date he or she would wish to be readmitted. The letter should include a permanent mailing address to which any communications may be sent. In addition to the letter, the student must complete forms that are available in the office of Student Affairs. The grade for all courses in which the student was enrolled is submitted at the time of withdrawal.

Clearance for Withdrawal, Graduation, or Dismissal

Any student who departs from the School of Health Information Sciences, whether withdrawing, completing a program, or upon being dismissed, must complete the official student clearance process. Such clearance is necessary to insure that the student has met all obligations to specified offices in the School, UTHSC-H, and the Texas Medical Center. A student clearance form and

instructions for completing the clearance process may be obtained from the Director of Admissions. If necessary, transcript and or academic credit will be withheld until the clearance process is completed.

Explanation of Course Numbers

Courses are numbered by a letter prefix, which designates the program and or division in which the course is taught, followed by a four-digit number. In all program courses, the first digit indicates the year beyond high school; the second digit is the number of semester credits given for the course, except for courses with variable credit or when credit is "10" or more, the second digit is a zero; and the last digits indicate the number the program uses to identify the course. An example of a course number is HI 5301. In this case the "HI" stands for Health Informatics; the "5" stands for fifth year; the "3" stands for three semester credits given for the course; and the "01" is the program identification number for the course. The Pre-foundations courses do not conform to this standard.

The program/division prefixes used are:

HI Health Informatics

Adding a Course

To register for a course, the student must first obtain approval from the students' advising committee and the course instructor. The student must then contact either the Director of Certificate programs or the Director of Admissions to get the call number and an approval number. Following this the student must use UTLINK at UTLINK.uth.tmc.edu to add the course to their schedule. Refer to the Schedule of Classes for the deadline for adding a course for any semester or session. A student will be unable to add a course after the official reporting date.

Dropping or Withdrawing from a Course

To drop a course before the official reporting date the student must use the web at UTLINK.uth.tmc.edu. The student must have the call number to drop the class.

After the official reporting date and before the last date to withdraw listed in the Schedule of Classes for that semester or session, the student must obtain a withdrawal slip from the Office of the Registrar or the Office of Student Affairs. Signatures of the course instructor, and the Director of Admissions must be obtained by the student prior to dropping a course. The student must return the completed form to the Office of the Registrar before the deadline for dropping a course, which is stated in the Registrar's Schedule of Classes for that semester or session. The entry on the transcript will be a "WP" (withdrawal passing) or "WF" (withdrawal failing). The instructor must assign a grade of "WP" or "WF". A "WP" is indicated on the transcript if a student has no grades recorded or has a passing grade in the course at the time the course is dropped. The "WP" will not be calculated as part of the GPA. A "WF" is recorded if the student has a failing grade at the time the course is dropped. A record of "WF" on the transcript will be calculated as an "F" in determining the GPA.

If a student does not officially withdraw from the course, a grade of "F" will be assigned. A grade of "F" is recorded if course is dropped after the deadline stated in the Registrar's Schedule of Classes for that semester or session.

Auditing a Course

An individual may audit a course with the written permission of the instructor. Auditing is defined as attending a course without receiving academic credit. Practicum/doctoral courses may not be audited. The instructor will not accept papers, tests, or examinations from an auditor. In no case may the auditor request credit for the course on the basis of having audited it. SHIS does not allow auditing.

Petitioning for Course Equivalency

A student who wishes to receive credit for a course which he or she has taken at another institution and which is similar in content to any course offered at the School is to submit required documentation for a Petition for Equivalency to the Director of Admissions. Courses for which grades of less than “B” were achieved will not be accepted for equivalency. For specific details see the student handbook on the school web site.

Concurrent/Interinstitutional Enrollment

A SHIS student may take courses for credit at area state colleges and universities through concurrent enrollment. Courses taken by concurrent enrollment will not be counted toward full-time status of a student and will not be calculated into the student’s GPA. The universities that are available for concurrent enrollment are Texas Woman’s University (Texas Medical Center), University of Houston (main campus), and University of Texas Medical Branch at Galveston. Concurrent students may complete a MAXIMUM 12 semester credit hours maintaining a 3.0/4.0 grade point average.

Enrollment in courses offered by private universities is made through interinstitutional enrollment. Courses taken through interinstitutional enrollment will be counted toward full-time status of a student and will be calculated into the student’s grade point average. Rice University and Baylor College of Medicine are available for Interinstitutional enrollment. Interinstitutional students may complete a MAXIMUM of 12 semester credit hours maintaining a 3.0/4.0 grade point average. Information about participating institutions and procedures for concurrent/interinstitutional enrollment may be obtained from the Office of the Registrar.

Absences

Absences include short-term military obligations, and students who withdraw from school for longer military obligations. These provisions apply only to a student who withdraws from the School to perform active military service as a member of the US armed forces or Texas National Guard, but does not apply to a student who withdraws from the School solely to perform one or more training exercises as a member of the National Guard.

For any academic term that begins after the date a student is released from active military service but not later than the first anniversary of that date, the School shall readmit the student, without requiring reapplication or charging a fee for readmission, if the student is otherwise eligible to register for classes. On readmission of the student under this subsection, the School shall 1) provide to the student any financial assistance previously provided by the institution to the student before the student’s withdrawal if the student meets current eligibility requirements for the assistance, other than any requirement directly affected by the student’s service, such as continuous enrollment or another similar timing requirement; and 2) allow the student the same academic status that the student had before the student’s withdrawal, including any course credit awarded to the student by

the institution. The School may require reasonable proof from a student of the fact and duration of the student's active military service.

Similarly, if a student enrolled in the School fails to attend classes or engage in other required activities because the student is called to active military service that is of a reasonably brief duration, as determined by the Higher Education Coordinating Board and the student chooses not to withdraw from School, the School shall excuse a student attending classes or engaging in other required activities, including examinations, in order for the student to participate in active military service to which the student called, including travel associated with the service. A student whose absence is excused under this provision may not be penalized for that absence and shall be allowed to complete an assignment or take an examination from which the student is excused within a reasonable time after the absence.

Holiday Policy: Federal, Religious

Policy Overview in the Handbook of Operating Procedures 2.37A

Students are excused from attending classes or other required activities, including examinations, for the observance of a religious holy day (as defined by state law), including travel for that purpose. A student absent under these circumstances may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which that student is excused within a reasonable time after the absence. An absence for religious holy days which may interfere with patient care is excluded from this policy, and shall not be excused.

The full policy can be found online at legal.hsc.uth.tmc.edu/hoop/02/2_65.htm

General Degree Requirements

In order to receive a degree or a certificate from the School of Health Information Sciences the student is required to fulfill certain academic, in residence, and degree candidacy requirements. A student must be a Program Student and have completed all the curricular requirements of that program before being eligible for a degree or certificate.

In Residence Requirement

The term "in residence" refers to the minimum number of semester credit hours that must be taken at UTHSC-H. A student must fulfill his or her in residence requirement in order to receive any academic degree or a certificate from the School. Refer to each degree section for specific semester credit hour minimum requirements.

STUDENT ORGANIZATIONS

The Student Government

The Student Government Organization is made up of the SHIS students. Both masters and doctoral students are represented in the Student Government Organization. Any degree program Student enrolled in the School is eligible to become the elected representative of his or her program.

The purpose of the Student Government is:

- 1 to provide students of the School an organized feedback and advisory mechanism to the administration and faculty;
- 2 to provide students a mechanism by which they may have an impact on the decision-making process;
- 3 to provide social, cultural and recreational activities for students of the School; and,
- 4 to provide representation to the UTHSC-H Student InterCouncil (SIC).

Student Membership in Professional Organizations

Professional organizations promote interest in the profession with specific aims toward service and fellowship for the social, intellectual and professional benefits of each member. Membership generally entitles one to the publications of the profession and the right to attend its meetings.

Students in the School of Health Information Sciences may obtain student memberships in discipline-specific organizations. Organizations representing discipline specific organizations are AMIA (American Medical Informatics Association), ACM (Association for Computing Machinery), IEEE (The Institute of Electrical and Electronics Engineers, Inc.), HANIA (Houston Area Nursing Informatics Association), HIMSS (Hospital Information and Management Systems Society), and UTHSC-H Bio Engineering Group. The Associate Dean for Academic Affairs can provide information about student memberships available in these organizations and further information may be found at shis.uth.tmc.edu/.

EDUCATIONAL PROGRAMS

Health Informatics

Health Informatics is the study of how health data are collected, stored, and communicated; how these data are processed into health information suitable for scientific, administrative and clinical decision making; and how computers and telecommunications technology can be applied to support these processes. Health informaticians are in great demand and may work in various clinical, research and educational environments.

Essential Skills for Health Informaticians

Doctor of Philosophy in Health Informatics

Health Informatics is a collaborative discipline that builds on several other fields such as information sciences, biomedicine, computer science, and mathematics. Proficiency in each of these areas is necessary to work in health informatics. Courses are available to assist students with gaining competencies in these foundation areas, since solid background knowledge in these support areas is consistent with student success in the study of Health Informatics.

Communication skills are very important to the field of informatics. If your verbal GRE score is below 640, you must take HI 5000 Technical Writing in Healthcare. If your MAT score is below 432, you must take a technical writing course.

To successfully perform the duties of a health informatician, an individual must be able to think critically and analytically, must demonstrate motivation and have a technical understanding of the computing environment that is the basis for informatics work. Students must be able to address problems in a clear and innovative manner. Other requirements include the ability to communicate in English both orally and verbally at the college level and to work in interdisciplinary teams. Depending on their application area, students must have demonstrable competence with a programming language, college algebra, computer literacy skills, anatomy, physiology, health language, clinical care, and operational characteristics of healthcare.

Program Philosophy

The ultimate goal of the program is to use informatics to improve the health of the people of Texas. The School of Health Information Sciences at Houston strongly believes that healthcare will increasingly require a cooperative interaction among the health disciplines. The result will be practitioners who understand the technology, data, information, knowledge, assumptions and decision making of others as they attempt to design, provide and evaluate health care in the 21st century.

To that end, the Health Informatics Program stresses the development of interdisciplinary teams to evaluate and address the complex informatics issues that will face health care in the next century. Students will enter the Health Informatics Program with a strong base from their previous undergraduate or graduate studies. They will study how to communicate knowledge across traditional, professional, and organizational barriers. As they progress, students will acquire the principles and knowledge needed to organize, store, display, communicate and evaluate that knowledge across a variety of systems: electronic, social, and political. The ultimate goal of the program is to use informatics to improve the health of the people of Texas.

The Health Informatics Program will start from a strong scientific base and move to the application of informatics to a variety of areas related to the interests of students and faculty. These areas of interest may include, but are not limited to: computational knowledge, electronic record system, telehealth, patient focused information systems, and computational biomedicine.

Health Informatics is always undergoing rapid change. New technologies, conceptual understandings and computational processes ensure that the future will bring increasing rates of change and development. Students will have the knowledge and skills to address present issues and the adaptability to address future ones. The Health Informatics Program will strive to meet the needs of stu-

dents, develop new research to advance the frontiers of the science, and be an active participant in the development and application of Informatics initiatives in the community.

Program Description

The Program in Health Informatics is designed to be trans-disciplinary in its focus. In the United States, this is the first program in Informatics that does not reside in a discipline-specific professional school. Students come from a variety of disciplines. They work in interdisciplinary teams to better understand the knowledge unique to each discipline and how that knowledge must be translated for use by other disciplines. In developing this program, the School of Health Information Sciences has worked with representatives from Texas A&M University, Baylor College of Medicine, Rice University, the University of Houston, The University of Texas Medical Branch at Galveston, The University of Texas Health Science Center at San Antonio, and Texas Woman's University to improve opportunities for students entering the Health Informatics Program and to create new electives available to the other schools.

The certificate, masters and doctoral degree programs incorporate an interdisciplinary and integrative design that is believed to be unique to the field of health informatics in the United States. Many existing informatics masters and doctoral programs are organized around a specific discipline in which applications of informatics within that discipline are emphasized; e.g., medical informatics, nursing informatics, dental informatics. The Health Informatics Program, on the other hand, is designed to be inherently transdisciplinary and integrative. This means that the fundamental informatics concepts that transcend and apply to all traditional healthcare disciplines will be emphasized. Moreover, these programs will identify and teach the major informatics concepts that integrate and link diverse health disciplines creating focus on patient healthcare.

Individuals holding a baccalaureate or higher degree in a health-related discipline, computer science, engineering, or management information systems can apply for the graduate Health Informatics program. To complete the program full-time students usually spend a year (three semesters) for the certificate program, two years (five semesters) for the masters program and four years (12 semesters) for the doctoral program in health informatics studies. Part-time enrollment is available for certificate and masters students. The course of study is initiated in the fall, spring or summer semesters. The priority deadline for completed applications is the 15th of March for the summer semester, July 1 for the fall semester and November 1 for the spring semester. Applications may be submitted at other times with prior consent of the School.

The certificate program is a certificate of completion of 15 semester credit hours of graduate level credit.

UTHSC-H awards a Master of Science degree or a Doctor of Philosophy degree to students who successfully complete the Program in Health Informatics.

CERTIFICATE PROGRAM

Goals and Program Description

SHIS is pleased to offer the Certificate of Health Information Science designed for self-motivated professionals working in the health care and information technology fields.

The certificate provides professionals with an increased understanding of the opportunities and challenges involved in technology integration into healthcare. They will be able to participate in designing, planning, implementing and evaluating new software and hardware solutions at their institutions.

SHIS is experienced in providing education to working professionals. The certificate program is designed to provide quality education to professionals on their schedule. The courses are offered online for convenience of working professionals.

Upon completion of the certificate, students will be awarded a certificate of completion from the University of Texas. A transcript showing graduate credits may be obtained from the Registrar's Office.

Admission to the Health Informatics Certificate Program

The admission process to the HI certificate program is designed to get the professional working applicant into the system by meeting minimal requirements. Each applicant must submit to the Registrar's Office the following:

1. A completed certificate application online
2. \$30 application fee
3. An official transcript with the minimum of a baccalaureate or higher degree in an appropriate area, e.g., science, medicine, dentistry, MIS, or computer science. All foreign college transcripts must have been evaluated on a course-by-course basis by an independent organization such as Educators Credential Evaluators or World Evaluation Services prior to application.
4. Satisfy a criminal background check if offered admission

Certificate of Completion in Health Informatics application deadlines:

fall admission	July 1
summer admissions	March 15
spring admissions	November 1

Successful completion of the program requires passing each course with a grade no lower than a "C". Students may not earn more than two grades of "C", earning a third grade of "C" results in automatic dismissal from the certificate program. Professionals who complete the course of study will receive a certificate of completion. The coursework that is earned is at the graduate level. This coursework can be transferred into a degree-seeking program. No grade lower than a "B" will be accepted to transfer into the Masters or doctoral program.

Course of Study

The certificate program offers two different options. Option 1 is a set of five predetermined classes with an emphasis in Clinical Informatics:

HI 5310 Foundations of Health Information Sciences I

HI 5006 Information Technology for Biomedicine

HI 5001 Introduction to Electronic Health Records

HI 6312 Project Management in Health Care

HI 6309 Healthcare Interface Design

Foundations of Health Informatics I should be taken in the first semester. The other four classes can be taken in any order. Each class will be offered no less than twice in each academic year.

Option 2 is your choice of five classes from our catalog. This option allows professionals interested in biomedicine or learning and technology to customize their certificate to meet their needs.

A certificate focusing on designing and developing learning environments in health science education could include:

HI 5310 Foundations of Health Information Sciences I

HI 6309 Healthcare Interface Design

HI 6312 Project Management in Health Care

HI 5340 Introduction to Learning Environments in Health Science

HI 5341 Learning Development in the Health Sciences

Address application inquiries to:

Irmgard Willcockson, Ph.D.

Director of Certificate Programs

7000 Fannin

UCT 600

Houston, TX 77030

(713) 500-3627

Irmgard.Willcockson@uth.tmc.edu

MASTER OF SCIENCE IN HEALTH INFORMATICS PROGRAM

Goals and Program Description

Formal study of informatics at the master's level is designed as a multi-disciplinary approach to accomplish these major goals:

- 1 Understand the scope of the discipline of health informatics;
- 2 Demonstrate knowledge of the literature of health informatics;
- 2 Demonstrate skills in knowledge engineering and knowledge structuring;
- 3 Apply the acquired skills set in a selected domain of health informatics;
- 4 Develop informatics solutions to biomedical problems based on current research; and,
- 5 Understand opportunities and limitations of current technologies used in health informatics.

To accomplish the trans-disciplinary and integrative structure and to allow students to select courses appropriate to their backgrounds and professional goals, the Health Informatics curriculum has been conceptualized as a matrix. Each cell of the matrix represents a learning experience in three areas: basic informatics, research, and advanced informatics. Within the curriculum, each student, in cooperation with the student's Advising Committee, will select the combination of courses and experiences that most directly meet the student's educational needs

Master of Science in Health Informatics Admission Process

Presentation of Qualifications

The applicant should present to the Registrar's Office the following:

1. a baccalaureate or higher degree in an appropriate area, e.g., science, medicine, dentistry, MIS, engineering, or computer science
2. a personal statement detailing his or her interest in the program
3. A resume or curriculum vitae (as appropriate)
4. a Graduate Record Exam (GRE) or Millers Analogy Test (MAT) score
5. Grade Point Average (GPA) in previous degrees
6. A minimum TOEFL score of 550 on the paper test, a score of 87, writing 26, speaking 23, reading 21, listening 17 on the internet based test, or a minimum score of 213 on the computer test is required for international students
7. Satisfy a criminal background check if offered admission

Applicants are to submit relevant materials in a portfolio manner. The portfolios are then forwarded to an admission subcommittee, which will then review the materials. Applicants are required to take

either the GRE exam or the MAT exam for admission. The admission subcommittee will consider such areas as:

- Health, MIS, Computer, or Engineering related degree
- Health-care work experience
- Database work experience
- Informatics work experience
- Demonstrated expertise in programming
- GRE or MAT score
- GPA in previous degree
- Success in overcoming social, economic or educational disadvantages, race and ethnicity.

Masters of Science in Health Informatics application deadlines:

fall admission	July 1
summer admissions	March 15
spring admissions	November 1

Interview

The second component for admission is a personal interview. Applicants who have been recommended by the admissions committee will interview with two faculty members. Faculty members are either requested by the applicant or assigned by the admissions committee. If offered admission, these faculty members will become the students' advising committee. Separate interviews may be conducted due to scheduling. The interview is expected to focus on the applicant's goals and how they can be achieved in the master's program, communication skills, and understanding of the program.

Transfer Credit

Transfer credit for equivalent courses taken elsewhere may be awarded and used to meet degree requirements if their equivalency to a SHIS degree program course is approved through a Petition for Equivalency (see Page X). The maximum number of transferable semester credit hours is 12 for the masters program. Support courses, which are courses, possibly taken elsewhere, that enhance a student's degree plan as determined by agreement with their advising committee. Credit for support courses taken elsewhere is approved by the students' advising committee—a Petition for Equivalency is not required. Contact the Director of Admissions for information.

Applicants who are presenting course work from universities or colleges outside the United States to meet admission or graduation requirements are referred to the section on International Applicants in this catalog for a listing of additional requirements.

Master of Science in Health Informatics Core Competencies

Health Informatics has three areas of competencies. They are biomedicine, computer science, and mathematics. Proficiency in each of these areas is required to successfully work in health informatics. If skill sets from one or two of these competencies are missing, courses are available to help meet each competency. If any of the three, careful consideration should be given that your background knowledge might not help to succeed in informatics.

Communication skills are very important to the field of informatics. If your verbal GRE score is below 640, you must take HI 5000 Technical Writing in Healthcare. If your MAT score is below 432, you must take a technical writing course.

Requirements for the Master of Science in Health Informatics Degree

Academic Requirements

Credit hours must total at least 42 semester hours for all courses in the degree plan. Six of those semester credit hours will be in support courses, which might not be offered by the school. Support courses could include areas such as cognitive sciences from Texas A&M University, computer science from Rice University, mathematics from the University of Houston, measurement courses from The University of Texas School of Nursing at Houston or courses studying healthcare outcomes from The University of Texas School of Public Health at Houston. Each student follows a degree plan developed with an Advising Committee. A total of 42 semester credit hours listed in the sample curriculum matrix in this catalog for Health Informatics must be completed prior to graduation.

A full-time student in the Program in Health Informatics has up to four years (12 semesters) from the time of entry to complete the required course work. A part-time student has up to eight years (24 semesters) from the time of entry to complete the required course work. Continued enrollment is required unless approval from the advising committee is obtained. A maximum of one year of approved leave will allow for continuance in the program. If more than one year of leave occurs, the student must be readmitted to the program.

Each course with a HI prefix in the Health Informatics degree plan is a graduate level professional course and must be passed with a grade of “B” or better. The minimum grade point average (GPA) required for graduation is 3.0 on all HI courses.

If a student in the Health Informatics program fails a course in the curriculum, the student may enroll in that particular course one more time (a total of two enrollments for the same course). If the student makes lower than a B in that particular course the second time, the student cannot continue in the program. If a student fails two academic courses in one semester or three or more courses during enrollment in the degree program, the student will be dismissed from the program for academic reasons

Other Requirements

In Residence Requirement- the term “in residence” refers to a total of 30 semester credit hours, which must be taken at UTHSC-H. A student must fulfill his or her in residence requirement in order to receive any academic degree from the School.

Computer Requirement

Each student is required to have access to a computer. The computer minimum requirements will be updated each academic year. The student should verify the requirements prior to registration. See shis.uth.tmc.edu/students/prospective-students/computer-requirement/ for current specifications. A portable computer that is easily used at clinical sites and in student work groups is recommended.

The Professional Course of Study Master of Science in Health Informatics

The curriculum of the Master of Science degree in Health Informatics includes required didactic courses and a practicum. Didactic courses (lecture/discussion, demonstration and student laboratories) are presented to provide facts, concepts, and theories related to the techniques and procedures of health informatics. The courses include instruction in basic informatics, research, advanced informatics and support courses. The Practicum is designed to give the students the opportunity to apply theory and techniques in the hospital, research or private laboratory setting. A full-time student in the Program in Health Informatics has up to four years (12 semesters) from the time of entry to complete the required course work.

Each student will develop a degree plan with written approval of their advising committee. A degree plan will be filed that includes a minimum of 6 semester credit hours in foundation courses, 3-9 semester credit hours in basic informatics, 3-9 semester credit hours in research, 3-9 semester credit hours in advanced courses, six semester credit hours in support courses and six semester credit hours in practicum courses. Changes to the degree plan must have the written approval of the advising committee.

Pre-Foundations to meet Core Competencies

- Information Technology for Biomedicine
- Introduction to Clinical Healthcare
- Molecules to Man in Health Informatics
- Data Structures and Algorithms in Biomedicine
- Essential Mathematics for Health Informatics
- Technical Writing for Health Informatics

Foundation Courses

- Foundations of Health Information Science I
- Foundations of Health Information Science II
- Foundations of Health Information Science III

Basic Courses

- Information Systems in the Delivery of Health Care
- Decision Making in Health Care
- Cognitive Science in Health Informatics
- Legal Ethical Aspects of Health Informatics

Health Information Systems Security

Systems Analysis for Health Informatics

Introduction to Object-Oriented Systems Development in Health Informatics

Introduction to Learning Environment in the Health Sciences

Cognitive Engineering in Health Informatics I

Biomedical Signal Processing

Image Processing

Introduction to Health Data and Electronic Health Records

Principles and Foundations of Public Health Informatics

Methods in Public Health Informatics

Synthesis Project of Public Health Informatics

Technology Assessment in Healthcare

Quality and Outcome Improvement in Healthcare

Emerging Technologies for Teaching, Learning, and Research

Nanomedicine in Healthcare

Introduction to Telehealth

Research courses

Evaluation of Health Care Systems

Research Design and Evaluation in Health Informatics

Statistical Methods in Health Informatics

Health Informatics Data Analysis

Triangulation Methods in HI Research

Learning Environment Development in the Health Sciences

Methods in Computational Biomedicine

Cognitive Engineering in Health Informatics II

Consumer Informatics

Knowledge Modeling II

Grant Writing

Advanced courses

Advanced Database Concepts in Health Informatics

Advanced Health Information Systems

Health Data Display

Consultation in Health Informatics
Social Dynamics and Health Information
Information and Knowledge Representation in Health Informatics
Knowledge Modeling and Engineering in Health Informatics I
Healthcare Interface Design
Advanced Decision Analysis I
Introduction to Computational Aspects of Bioinformatics
Project Management in Healthcare
Applied Computational Biomedicine
Advanced Topics in Computational Medicine
Datamining in Bioinformatics
Computational Cognitive Neuroscience
Scientific Writing for Healthcare
Reasoning and Decision Making in Medicine

Support courses may include:

Cognitive Science
Mathematics
Measurement
Computer science
Healthcare outcomes
Public Health

The Advising Committee must approve support courses before being taken unless they are transferred in at the time of admission. Approval of the transferred courses must be completed at the time of transfer to the program. Only six semester credit hours of support courses will be accepted toward the degree requirements.

As part of the practicum, students will be expected to prepare a 'state of the science' paper based on research in the student's area of interest. The 'state of the science' paper will be submitted to a refereed journal for publication. The 'state of the science' paper will be developed in cooperation with the student's Advising Committee. Students will have the experience of disseminating the knowledge they have gained by sharing it with the larger community. It will not be a requirement that the paper actually be published due to the inability to predict journal-publishing times. However, the paper must be of sufficient quality to be accepted for publication in the selected journal. The Advising Committee will be responsible for monitoring the quality of this paper, as well as the practicum. The 'state of the science' paper approach has been chosen because it gives more flexibility to

conduct different kinds of research such as concept analysis, discussion of implementation issues or investigation of new data in Health Informatics. All research papers, theses, and dissertations authored by degree candidates are available to interested members of the general public upon request.

Sample Curriculum: Masters of Science Student entering in the Fall Semester

Course No.	Course Title	Semester Credits
<i>Fall Semester</i>		
HI 5310	Foundations of Health Information Sciences I	3
HI 5352	Statistical Methods for Health Informatics	3
HI 5354	Cognitive Engineering in Health Informatics I	3
	Total	9
<i>Spring Semester</i>		
HI 5351	Research Design and Evaluation in Health Informatics	3
HI 5304	Advanced Database Concepts	3
HI 5307	Foundations of Health Information Sciences II	3
	Total	9
<i>Summer</i>		
HI 5308	Introduction to Object-Oriented Systems Development in Health Informatics	3
HI 6307	Cognitive Engineering in Health Informatics II	3
	Total	6
<i>Fall Semester</i>		
HI 6301	Health Data Display	3
HI 6308	Consumer Informatics	3
	Support Course 1	3
	Total	9
<i>Spring Semester</i>		
HI 6000	Practicum in Health Informatics	6
	Support Course 2	3
	Total	9
	Grand Total	42

For further curriculum information, please contact:

Robert Vogler, D.S.N., M. Ed, Associate Dean for Academic Affairs
 7000 Fannin, Ste 800
 Houston, Texas 77030
 Telephone: (713) 500-3591
 Email: Robert.W.Vogler@uth.tmc.edu

MASTERS DUAL DEGREE PROGRAM

Goals and Program Descriptions

Master of Public Health and Master of Science in Health Informatics

The MS/MPH dual degree program combines the M.P.H. from The University of Texas School of Public Health at Houston with the M.S. degree from The University of Texas School of Health Information Sciences at Houston. The training and curriculum in the dual degree program will provide students and future leaders in public health the necessary skills to be leaders in the field of Public Health Informatics. The dual degree program provides an integrated curriculum that includes a number of shared courses as well as a practicum experience and/or the thesis topic in the area of public health informatics. The selection of specific academic programs, and scheduling of specific courses, fieldwork, and practica for individual students is guided by an Advising Committee satisfy admission requirements of and that includes faculty from both institutions.

Students in the dual degree program must be admitted separately to each institution. Students must meet the requirements of each institution for its respective degree. Admission to one program does not assure admission to the other. Students in the dual degree program will receive a diploma from each degree program after meeting the individual requirements of each program.

For Public Health Information, contact:

Keith Burau, Ph.D.

1200 Herman Pressler Dr., RAS-W1042

Houston, TX 77030

(713) 500-9472

Keith.E.Burau@uth.tmc.edu

Ed Hsu, Ph.D.

7000 Fannin, Ste 865

Houston, TX 77030

(713) 500-3969

Chiehwen.E.Hsu@uth.tmc.edu

Public Health Informatics Competencies:

The curriculum is designed to deliver training and improve skills in the following informatics competency domains.

- The ability to determine and operationalize the existence, structure, and utility of the public health and health data standards, databases and networks within a specific domain area.
- The ability to determine, translate and operationalize the functions and operations of information technologies that have significant application to public health practice (such as graphical information systems and the web-based information dissemination) in daily public health practice.
- The ability to specify the requirements for the development and adaptation of information systems to address informational needs and requirements of a real world public health setting.

- The ability to plan, analyze, evaluate and manage implementation of public health information system projects in their organization within a specific domain area, within the core competency areas of public health practice and in accordance with national, academic, and industrial frameworks and standards governing the design, implementation and evaluation of public health information systems and health data definitions and standards
- The ability and skill in information technology planning and procurement related to public health information systems.

The applicant should present to the Registrar's Office for fall, July 1, spring, November 1, and summer, March 15, a completed application and official documentation of the following:

1. a baccalaureate or higher degree in an appropriate area, e.g., science, medicine, dentistry, MIS, engineering, or computer science
2. a personal statement detailing his or her interest in the program
3. A resume or curriculum vitae (as appropriate)
4. a Graduate Record Exam (GRE) or Millers Analogy Test (MAT) score
5. Grade Point Average (GPA) in previous degrees
6. A minimum TOEFL score of 550 on the paper test, a score of 87, writing 26, speaking 23, reading 21, listening 17 on the internet based test, or a minimum score of 213 on the computer test is required for international students
7. Satisfy a criminal background check if offered admission

Applicants are to submit relevant materials in a portfolio manner. The portfolios are then forwarded to an admission subcommittee, which will then review the materials. Applicants are required to take either the GRE exam or the MAT exam for admission. The admission subcommittee will consider such areas as:

Health, MIS, Computer, or Engineering related degree

Health-care work experience

Database work experience

Informatics work experience

Demonstrated expertise in programming

GRE or MAT score

GPA in previous degree

Success in overcoming social, economic or educational disadvantages, race and ethnicity.

Interview

The second component for admission is a personal interview. Applicants who have been recommended by the admissions committee will interview with two faculty members. Faculty members are either requested by the applicant or assigned by the admissions committee. If offered admission, these faculty members will become the students' advising committee. Separate interviews may be conducted due to scheduling. The interview is expected to focus on the applicant's goals and how they can be achieved in the master's program, communication skills, and understanding of the program.

Sample Curriculum: Full-Time MPH / MS Student

Basic courses

- Foundations of Health Information Science I
- Principles of Public Health Informatics
- Social and Behavioral Aspects of Community Health
- Research courses
- Introduction to Biostatistics
- Cognitive Engineering I

Advanced courses

- Health Data Display
- Datamining in Bioinformatics
- Health Services Delivery and Performance

Support courses

- Introduction to Epidemiology
- Introduction to Population and Environment Assessment
- Combined Practicum in Health Informatics and Public Health

Requirements for MPH/MS

Shared courses

- 6 hours must be in basic HI courses
- 3 hours must be in research HI courses
- 9 hours must be in advanced HI courses

MPH courses 27 hours

MS 42 hours

MPH 45 hours

Total 87 hours

-18 shared hours

Grand Total 67 hours for the combined degrees

Practicum must produce a paper to be submitted to a peer-reviewed journal for publication. 15 hours must satisfy the core courses in the Public Health Discipline. Public Health core courses must be a letter grade. Specified HI courses may be substituted with other HI courses with the approval of their advising committee.

DOCTOR OF PHILOSOPHY IN HEALTH INFORMATICS

Goals and Program Description

This program is designed to be a research based trans-disciplinary program involving students with a variety of backgrounds. Students will work together in teams to research real clinical and biomedical health problems. They will gain both the scientific background for such research and also skills needed to address the problems. The program is designed to meet the unique needs of each student by using a matrix curriculum plan with an Advising Committee to guide them from their admission in the program through graduation. Each student must have a faculty research mentor to guide the student through participation in research projects.

The Health Informatics doctoral program is conceptualized and designed to be inherently trans-disciplinary and integrative. This means that the fundamental informatics concepts that transcend and apply to all traditional healthcare disciplines will be emphasized in the doctoral program. This program will identify and teach the major informatics concepts that integrate and link diverse health disciplines.

The doctoral program in Health Informatics is constructed as a post-baccalaureate degree. The post baccalaureate approach simplifies the construction of a matrix for the student which both addresses the knowledge and skills that the student brings at admission, but also allows the student to build on previous knowledge and skills to attain the research focus needed for the completion of the doctoral program in Health Informatics.

Students admitted to the masters program can apply to the doctoral tract by meeting the same admission requirements as those who apply directly to the doctoral program. Full admission to the doctoral program occurs only after admission to candidacy.

Admission will be limited to students who are matched with faculty members' area of research, scholarship, and teaching expertise.

Formal study of informatics at the doctoral level at UTHSC-H is designed to be a trans-disciplinary approach to accomplish these major goals:

- Expand the scope of the discipline of Health Informatics
- * Demonstrate familiarity with the health informatics research literature, including in-depth knowledge of a selected health informatics research area.
- Research and evaluate new regions or domains in Health Informatics

- Lead interdisciplinary teams in the search for solutions to Health Informatics problems
- Effectively communicate research findings to peers and to practitioners who can use the research findings.

The curriculum is conceptualized as a matrix. Each doctoral student will take basic, research and advanced informatics courses in Health Informatics. Each student must have a mentor who is a full-time SHIS faculty member and an Advising Committee that will oversee that student's progress from admission to graduation. . The advising committee must be composed of the student's mentor, at least one other full-time SHIS faculty member and a third faculty member who represents the student's interest or discipline area. The student's mentor will chair the Advising Committee. The Advising Committee will guide the student in the selection of courses, designation of a preceptorship site and the development of the student's research interests. This continuity between the student and the Advising Committee will allow the faculty to understand each student's strengths and allow the student to explore areas which need to be strengthened while allowing the student to meet the student's individual goals for graduate research education. Students will be encouraged to work cooperatively with faculty at other institutions.

The doctoral program is a 93-semester credit hour program developed as a post baccalaureate program. Each cell of the matrix represents a learning experience in each of the four areas: basic informatics, research informatics, advanced informatics, and area of research interest. The program allows full-time and part-time enrollment. Part-time enrollment requires approval of the mentor and advising committee.

Financial Assistance

Substantial financial packages and research assistantships will be available to all students to facilitate full-time doctoral education. Part-time students may also be eligible for some assistance.

PHD Admission Process

Presentation of Qualifications

The applicant should present a completed application and official documentation of the following to the Registrar's Office:

1. a baccalaureate or higher degree in an appropriate area, e.g., science, medicine, dentistry, MIS, engineering, or computer science
- 2 . a Graduate Record Exam (GRE) score or Millers Analogy Test (MAT) score (required)
- 3 . Grade Point Average (GPA) in previous degrees
- 4 a minimum TOEFL score of 550 on the paper test, on the internet based test writing 26, speaking 23, reading 21, listening 17, total 87 or a minimum score of 213 on the computer test is required for international students

- 5 . Submit a brief (no more than three pages single-spaced, 12 point font size) personal statement that addresses the following items:
 - a) A brief summary of your background in all relevant fields, such as biomedicine, mathematics, and computer science, describing research experience and any results that were generated in research work. Provide dates, research advisors, project titles, and references to publications.
 - b) A statement of educational goals and how these goals would be advanced through the PhD program.
 - c) A statement of short- and long-term career objectives, including specific information regarding short-term objectives, (any projects you may have in mind for your PhD work). Be sure to include how those objectives fit the opportunities provided by the SHIS educational and research environments.
- 6 . Satisfy a criminal background checks if offered admission.
- 7 All foreign transcripts must be evaluated by a professional agency on a course-by-course basis. This is at the applicants' expense.

Review by the Admission, Progression, and Graduation Committee

As part of the admission process, applicants are to submit relevant materials in a portfolio manner. Once complete, the portfolios are then forwarded to the admission progression and graduation committee, which reviews the materials and recommends which applicants will not be granted admission and which are recommended for an interview—the next step in the admissions process. The criteria that the committee considers are the same as for the MS program with the addition of prior research experience. Students who are recommended for an interview will be contacted by the Director of Admissions and asked to form their advising committee.

Interview

Applicants granted an interview will be interviewed by all members of their advising committee. Separate interviews may be conducted due to scheduling issues. The interview will focus on the applicant's research goals and how they can be achieved in the SHIS doctoral program.

Final Doctoral Admissions Committee Review and Recommendation

The application packages of all applicants who complete an interview are reviewed by the SHIS faculty as a whole who then make an admission recommendation to the Associate Dean for Academic Affairs.

Doctor of Philosophy in Health Informatics application deadlines:

Fall admission	February 1
Spring admission	November 1

Transfer Credit

Transfer credit for courses taken elsewhere, submitted to meet part of the degree requirements, may be awarded following review and written approval by the Associate Dean for Academic Affairs. The maximum number of transferable credit hours for the doctoral program is 36 semester credit hours. Credit for courses taken elsewhere and which are offered in this School is granted only through Petition for Equivalency. Credit for support courses taken elsewhere is approved by the students' advising committee. Contact the Director of Admissions for information.

Applicants who are presenting course work from universities or colleges outside the United States to meet admission or graduation requirements should see the section on International Applicants in this catalog for a listing of additional requirements.

Requirements for the Doctor of Philosophy in Health Informatics Degree

Academic Requirements:

Credit hours must total at least 93 semester hours for all courses in the degree plan. Six of those semester credit hours will be in support courses not offered by the School. The support courses could include areas such as cognitive sciences from Texas A & M University, computer science from Rice University, mathematics from the University of Houston, measurement courses from the University of Texas School of Nursing at Houston or courses studying healthcare outcomes from The University of School of Public Health at Houston.

A total of 93 semester credit hours listed in the sample curriculum matrix for Health Informatics must be completed prior to graduation.

A full-time student in the Program in Health Informatics has up to ten years from the time of entry to complete the required course work. Continuous enrollment is required unless approval from the Advising Committee is obtained. A maximum of one year of approved leave will allow for continuance in the program. If more than one year occurs, the student must seek readmission to the program.

Each course with a HI prefix in the Health Informatics degree plan is a graduate level professional course and must be passed with a grade of "B" or better. The minimum GPA required for graduation is 3.0 on all HI courses.

If a student in the Health Informatics program fails a course in the curriculum, the student may enroll in that particular course one more time (a total of two enrollments for the same course). If the student's grade is lower than a B in that particular course the second time, the student cannot continue in the program. If a student fails two academic courses in one semester, the student will be dismissed from the program for academic reasons. If a student fails an overall total of three courses (i.e., any three courses), the student will be dismissed from the program for academic reasons.

Other requirements

In Residence Requirement: The term "in residence" refers to a total of 57 semester credit hours that must be taken at The University of Texas School of Health Information Sciences at Houston. A student must fulfill his or her in residence requirement in order to receive a doctoral degree from the School.

The Professional Course of Study of the Doctor of Philosophy in Health Informatics Program

The doctor of philosophy degree is a post baccalaureate program. The curriculum of the doctor of philosophy degree in Health Informatics includes required didactic courses and preceptorship courses. Didactic courses (lecture/discussion, demonstration and student laboratories) are presented to provide facts, concepts, and theories related to the techniques and procedures of health informatics. They include instruction in basic informatics, research, and advanced informatics and support courses. The preceptorship courses are designed to give the students the opportunity to apply theory and techniques in the hospital, research or private laboratory setting. For a full-time student, the Program in Health Informatics is four years (12 semesters). For a part-time student, the length of the program varies.

Each student will develop his or her curriculum with approval of his or her Advising Committee. A degree plan will be filed with the approval of his or her Advising Committee that includes a minimum of:

- 9 semester credit hours in foundational courses
 - 6 semester credit hours in basic informatics,
 - 12 semester credit hours in research,
 - 6 semester credit hours in advanced courses,
 - 6 semester credit hours in support courses,
 - 9 semester credit hours in preceptorship courses,
 - 21 semester credit hours in a specific research area approved by the mentor,
 - 3 semester credit hours of research seminar, and
 - 9 semester credit hours of dissertation.
- Changes to the degree plan must have the written approval of the Advising Committee.

Pre-Foundations to meet Core Competencies

- Information Technology for Biomedicine
- Introduction to Clinical Healthcare
- Molecules to Man in Health Informatics
- Data Structures and Algorithms in Biomedicine
- Essential Mathematics for Health Informatics
- Technical Writing for Health Informatics

Foundation Courses

- Foundations of Health Information Science I
- Foundations of Health Information Science II
- Foundations of Health Information Science III

Basic Informatics courses include:

- Information Systems in the Delivery of Health Care

Decision Making in Health Care
Cognitive Science in Health Informatics
Advanced Database Concepts in Health Informatics
Legal Ethical Aspects of Health Informatics
Health Information Systems Security
Systems Analysis for Health Informatics
Introduction to Object-Oriented Systems Development in Health Informatics
Cognitive Engineering in Health Informatics I
Introduction to Learning Environments in the Health Sciences
Biomedical Signal Processing
Image Processing
Introduction to Health Data and Electronic Health Records
Principles and Foundations of Public Health Informatics
Methods in Public Health Informatics
Synthesis Project of Public Health Informatics
Technology Assessment in Healthcare
Quality and Outcome Improvement in Healthcare
Emerging Technologies for Teaching, Learning, and Research
Nanomedicine in Healthcare
Introduction to Telehealth

Research courses include:

Evaluation of Health Care Systems
Research Design and Evaluation in Health Informatics
Statistical Methods in Health Informatics
Health Informatics Data Analysis
Triangulation Methods in Health Informatics
Learning Environment Development in the Health Sciences
Methods in Computational Biomedicine
Grant Writing
Cognitive Engineering in Health Informatics II
Consumer Informatics
Knowledge Modeling II

Advanced informatics courses include:

Advanced Health Information Systems

Health Data Display
Consultation in Health Informatics
Social Dynamics and Health Information
Information and Knowledge Representation in Health Informatics
Knowledge Modeling and Engineering in Health Informatics I
Healthcare Interface Design
Advanced Decision Analysis I
Introduction to Computational Aspects of Bioinformatics
Applied Computational Biomedicine
Project Management in Healthcare
Advanced Topics in Computational Biomedicine
Datamining in Bioinformatics
Computational Cognitive Neuroscience
Reasoning and Decision Making in Medicine
Scientific Writing in Healthcare

Support courses may include topics in:

Cognitive science
Mathematics
Measurement
Computer science
Healthcare outcomes
Public Health

The Advising Committee must approve all courses as part of the degree plan.

Advance to Candidacy

The student must have completed 36 semester credit hours before taking the exam. The exam must be completed before the student takes more than 58 semester credit hours. The candidacy exam will consist of a written and oral presentation of the student's proposed research topic. The student will submit the written proposal to all Health Informatics Faculty at least 10 working days prior to the oral presentation. The oral presentation will be open to all students, faculty, adjunct faculty and interested parties. The exam must be completed at the 58th hour limit or a defense will be scheduled the morning of the posters session following the semester in which the student earned the 58th hour.

All Faculty present at the oral presentation cast a vote to pass or fail the student. A student passes if the majority of the faculty present vote to pass and the student's mentor votes to pass. The students

mentor is included in the number of faculty present when calculating the number of votes needed to achieve a majority, but the student's mentor must. If the student passes, he or she is admitted to candidacy. If the student fails, the faculty can recommend failure without another attempt, or failure with the opportunity to redefend within 30 days. If the student again fails the exam, he or she will be given the option of completing a Masters of Science in Health Informatics degree.

Advanced Preceptorship

As part of the preceptorship, students will be expected to apply theoretic knowledge to research Health Informatics problems in the student's area of interest. The student's faculty mentor and Advising Committee must approve the focus of the research. See Student Handbook for details.

Research in Health Informatics

The research in Health Informatics will be based upon the proposal that the student submitted for the advance to candidacy exam. The student will obtain a clear understanding of the domain of knowledge and research methods needed to complete the dissertation research. The student will use this time to develop a unique research focus under the mentor's guidance.

Dissertation

The Health Informatics faculty believes that communication and dissemination is a critical aspect of the research process. The student will have two options available for the dissertation. The first option will consist of three articles that are submitted for publication. Publication must be in journals or proceedings, which are both, peer reviewed and indexed for academic retrieval. The three papers are combined with an introduction and summary and bound as a dissertation. The second option requires the student to write a monograph or dissertation. The monograph will review the literature, research approaches and options, the data design and gathering processes. The findings and data will be discussed in the context of the published literature. The monograph will be bound

The dissertation must be presented at an oral defense, which is open to the public. All research papers, theses, and dissertations authored by degree candidates are available to interested members of the general public upon request. After the presentation, the students' Advising Committee votes to pass or fail the student. If the student passes, the Advising Committee recommends awarding of the degree to the Associate Dean for Academic Affairs. The degree requirements have been met.

Sample Curriculum: Doctoral Student in Health Informatics entering in the Fall Semester

Course No.	Course Title	Semester Credits
<i>Fall Semester</i>		
HI 5310	Foundations of Health Information Sciences I	3
HI 5352	Statistical Methods for Health Informatics	3
HI 5354	Cognitive Engineering in Health Informatics I	3
	Total	9
<i>Spring Semester</i>		
HI 5351	Research Design and Evaluation in Health Informatics	3
HI 5304	Advanced Database Concepts	3
HI 5307	Systems Analysis	3
	Total	9

Summer Semester

HI 5308	Introduction to Object-Oriented Systems Development in Health Informatics	3
HI 6307	Cognitive Engineering in Health Informatics II	3
Total		6

Fall Semester

HI 6301	Health Data Display	3
HI 6308	Consumer Informatics	3
	Support Course 1	3
Total		9

Spring Semester

HI 7000	Preceptorship in Health Informatics	6
	Support Course 2	3
Total		9

Summer

HI 6311	Advanced Decision Analysis I	3
HI 6309	Healthcare Interface Design	3
Total		6

Fall Semester

HI 7301	Grant Writing	3
HI 6350	Triangulation Methods in HI Research	3
HI 6302	Knowledge Modeling I	3
Total		9

Advance to Candidacy Exam

Spring Semester

HI 7050	Research in Health Informatics	6
HI 9999	Dissertation	3
HI 7150	Research Seminar	1
Total		10

Summer

HI 9999	Dissertation	6
Total		6

Fall Semester

HI 7050	Research in Health Informatics	9
HI 7150	Research Seminar	1
Total		10

Spring Semester

HI7050	Research in Health Informatics	9
HI7150	Research Seminar	1
Total		10

Grand Total 93

Application Information for Health Informatics Degree

Applications are accessible at registrar.uth.tmc.edu. If further assistance is needed contact:

Office of the Registrar
The University of Texas
Health Science Center at Houston
7000 Fannin, Ste 2250
Houston, Texas 77030
Telephone: (713) 500-3361
Email address: registrar@uth.tmc.edu

For further curriculum information, contact:

School of Health Information Sciences
Attn: Robert W. Vogler, Associate Dean for Academic Affairs
7000 Fannin, Ste 800
Houston, Texas 77030
Telephone: (713) 500-3591
Email: Robert.W.Vogler@uth.tmc.edu
Web address: shis.uth.tmc.edu/

MASTER OF PUBLIC HEALTH AND DOCTOR OF PHILOSOPHY IN HEALTH INFORMATICS DUAL DEGREE PROGRAM

Goals and Program Descriptions

The MPH/PhD dual degree programs combine the M.P.H. from The University of Texas School of Public Health at Houston with the Ph.D. degree from The University of Texas School of Health Information Sciences at Houston. The training and curriculum in the dual degree program will provide students and future leaders in public health the necessary skills to be leaders in the field of Public Health Informatics. The dual degree program provides an integrated curriculum that includes a number of shared courses as well as a practicum experience and/or the thesis topic in the area of public health informatics. The selection of specific academic programs, and scheduling of specific courses, fieldwork, and practica for individual students is guided by an Advising Committee, which includes faculty from both institutions.

Students in the dual degree program must satisfy admission requirements of and be admitted separately to each program. Students must meet the requirements of each program for its respective degree. Admission to one program does not assure admission to the other. Students in the dual degree program will receive a diploma from each degree program after meeting the individual requirements of each program.

Contact

Keith Burau, Ph.D.
1200 Herman Pressler Dr., RAS-W1042
Houston, TX 77030
(713) 500-9472

Keith.Burau@uth.tmc.edu

Ed Hsu, Ph.D.
7000 Fannin, Ste 600
Houston, TX 77030
(713) 500-3969

Chiehwen.E.Hsu@uth.tmc.edu

Dual Degree Application Process

The application process is the same for the Doctor of Philosophy in Health Informatics. The application process for the Master of Public Health is determined by the School of Public Health.

Sample Curriculum: Full-time MPH / Ph.D. Student

Basic courses

- Foundations of Health Information Sciences I
- Principles of Public Health Informatics
- Social and behavioral Aspects of Community Health

Research courses

- Introduction to Biostatistics
- Grant Writing
- Cognitive Engineering I
- 6 hours from the list of approved courses

Advanced courses

- Health Data Display
- Knowledge Acquisition
- Datamining in Bioinformatics
- Health Services Delivery and Performance
- 6 hours from the list of approved courses

Support courses

- Introduction to Epidemiology
- Introduction to Population and Environment Assessment
- Practicum in Public Health
- Preceptorship in HI
- Research in HI
- Research Seminar
- Dissertation

Requirements for MPH/PhD in informatics

- 6 hours must be in basic HI courses
- 6 hours must be in research HI courses
- 12 hours must be in advanced HI courses
- 15 hours must satisfy the core courses in the MPH Discipline requirement. MPH Core courses must be a letter grade.
- Specified HI courses may be substituted with other HI courses with the approval of their advising committee.

For Public Health Information, contact:

Keith Burau, Ph.D.

1200 Herman Pressler Dr., RAS-W1042

Houston, TX 77030

(713) 500-9472

Keith.Burau@uth.tmc.edu

Ed Hsu, Ph.D.

7000 Fannin, Ste 840

Houston, TX 77030

(713) 500-3969

Chiehwen.E.Hsu@uth.tmc.edu

COURSE DESCRIPTIONS

(Course descriptions are not intended as an assurance or warranty of achievement of specific skills or knowledge.)

HI 5000 Fundamentals of Technical Writing(web-based instruction)
3 semesters hours of credit/meets part of the core competencies

This course is required if the GRE submitted for admission verbal score is below 640 or if the MAT score is below

432. If your test scores are above these two thresholds, this course can be waived with approval.

This course

will not be used as credit for your degree plan.

Prerequisite: Consent of the instructor

This course assists the student in the area of professional writing, the development of scholarly and academic writing abilities. Each student will complete the process of generating a written document from topic selection through outlining and drafting. Writing in the field of Health Informatics will be addressed and the student will explore the genre of written discourse in informatics.

HI 5001 Special Topics: Health Informatics (Variable hours/week)1-10 Semester Credits

Prerequisite: Consent of the instructor

This course provides a timely way to examine cutting edge topics of interest to students and Faculty. The varying content may include topics such as: technical writing in Health Informatics comparing knowledge use across disciplines, computational knowledge methods in Health Informatics for example. This course may be repeated as topics vary.

HI 5002 Directed Study: Health Informatics (Variable hours/week)

1-10 Semester Credits

Prerequisite: Consent of the instructor

This course provides a mechanism for students to explore issues of personal interest in the field of Health Informatics. The varying content may include topics such as: display of large scale nursing data, mapping issues for dentistry, linking public health knowledge to clinical medicine. This course may be graded on a letter grade or pass/fail basis and may be repeated as topics vary.

HI 5003 Molecules to Man for Health Informatics (3 hours lecture/week lecture/demonstration/discussion)

3 Semester Credits/ meets part of the Health Informatics Core Competencies

Prerequisites: consent of the instructor

This course provides an overview of human biology required to understand health informatics. It is designed for anyone without a modern biology background. The first part of the course introduces biological molecules and molecular interactions. The majority of the course surveys the anatomy and physiology of major body systems, in both health and disease.

HI 5004 Introduction to Clinical Healthcare (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets of the Health Informatics Core Competencies

Prerequisites: Access to the Internet, personal computer, and consent of instructor

The course starts at the individual practitioner level with attention to physician, nurse and allied health. Since administration is a critical component of modern health care. At this level, the skills, duties and training requirements for various occupations are covered. (formerly HI 5309)

HI 5005 Essential Mathematics for Biomedicine (3 hours lecture/week lecture/demonstration/discussion)

3 Semester Credits/ meets part of the Health Informatics Core Competencies

Prerequisites: consent of the instructor

The student will learn at the conceptual and operational levels the basic mathematical principles which are needed for Computational Biomedicine and Health informatics. It will cover Calculus in one variable, elements of Linear Algebra and Probability. In addition the course will cover the application of mathematics to Computational Biomedicine and Health Informatics problems. This course will serve as a foundation for the math used in more advanced courses.

HI 5006 Information Technology for Biomedicine (web-based instruction)

3 Semester Credits/ meets part of the Health Informatics Core Competencies

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course is intended to provide an overview of principles and concepts of information technology with a focus on biomedical applications. The first portion of the course will be an introduction to computing hardware and software including architecture, distributed and parallel computing, operating systems, database concepts, data communications & networking. The rest of the course will

focus on applications of IT in biomedicine such as electronic health records, biomedical imaging, and bioinformatics. (formerly HI 5312)

HI 5007 Data Structures and Algorithms in Biomedicine (web-based instruction)

3 Semester Credits/ meets part of the Health Informatics Core Competencies

Prerequisites: Access to the Internet, personal computer, and consent of instructor

The course is a one-semester graduate level course that examines the process of using an object-oriented programming (OOP) language to building computer applications in support of health care and/or life science practice or research. Students learn modern principles of program design and implementation that enable rapid application development through reusable code modules. Students are exposed to fundamental data structures used to implement algorithms as computer programs. The course examines the structure of well-known algorithms, paying careful attention to differentiate between algorithms and programs that implement algorithms. A brief overview of the analysis of algorithms for computability is undertaken. Students develop applications of limited scope to implement algorithms in support of health care or life science processes that arise from practice and/or research. The applications will illustrate the OOP principles of encapsulation, inheritance, and polymorphism. Python (2.4.3) is the current course programming language. It was chosen because of its prevalence of use in the bioinformatics community and because it is open source software.

HI 5300 Introduction to Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer and consent of instructor.

This introductory graduate level course covers the discipline of informatics in health care delivery and is designed to be multi-disciplinary in nature. The course will focus on the clinical aspects of information technology and provides a broad overview to the nature of information technology, focusing on hardware, software and conceptual models of information. Students will explore different data types and data models, which are specific to their discipline and those, which can be shared across disciplines. The focus will be on comparing and contrasting the data types and data models of the different disciplines.

HI 5301 Information Systems in the Delivery of Health Care (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course will focus on the design, implementation and components of Health Care Information Systems. The course will include a history of Health Care Information Systems. This will examine

the changing uses and expectations of Health Care Information Systems and the expected usage of Health Care Information Systems at each level of development. The course will explore new options in technology and design, which will allow for the clinically driven Information Systems of the future. The needs of multiple disciplines will be explored to understand how they can share and communicate patient information using Information Systems.

HI 5302 Cognitive Science in Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course is an introduction to cognitive science--the interdisciplinary study of mind and behavior from an information processing perspective--and its application to health informatics. The course begins with a basic introduction to human cognition and information processing (both symbolic and connectionist). It then presents a broad survey of the health informatics areas to which cognitive science has been applied. These areas include health problem solving and education, decision support systems, user-centered interfaces, and the design and use of controlled medical terminologies.

HI 5303 Decision Making in Health Care (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course will survey the methods of decision-making as applied to health care situations. The course will focus on the major theories of decision-making. In addition to the theories, techniques for the application of the theories will be presented. Decision-making will be discussed in terms of data, which is necessary for informed decision-making and the types of data structures necessary. The relationship between decision-making and the development of Health Care Information Systems will be investigated. The course will investigate some of the legal and ethical aspects of decision-making, related to the decision making by health professionals and the decision making of clients.

HI 5304 Advanced Database Concepts in Health Informatics (2 hours lectures/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet, personal computer, consent of instructor.

In this course, students will use both relational and object-oriented databases to model aspects of health care delivery. Working in teams, students will analyze a practical problem related to a clinical health care situation and model the necessary information into a data model. Development of the data model will include the use of CASE tools. The data model then will be discussed with health

professionals in clinical practice for relevance and accuracy. The feedback from the clinical area will be used to revise both models and to evaluate the development process.

HI 5305 Legal Ethical Aspects of Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor.

Health Informatics involves rapidly changing technology, which impacts the way in which legal and ethical considerations are understood in our culture. This course will examine the relationships between law and ethics. Particular considerations will be given to the concepts of privacy, autonomy, responsibility and decision-making. These concepts will be discussed from both legal and ethical perspectives. The impact of current and future technology will be discussed as it relates to these concepts and the impact on Health Informatics.

HI 5306 Health Information Systems Security (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course will address security issues as they impact health information systems. Physical security of the hardware and software including redundancy, back up and restricted access will be discussed. Security and appropriateness of access will be addressed in terms of both hardware and software solutions. Data integrity, audit ability and system integrity will be considered along with the unique problems, which result from network access. Solutions to these concerns will be discussed in terms of industry standards, those, which already exist, and those, which are still evolving.

HI 5307 Systems Analysis for Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

The purpose of this course is to assist the student in understanding the components, process and tools used in the necessary components of a health information system. The course will focus on the variety of approaches and tools available for systems analysis. Students will have experience with modeling tools and rapid prototyping tools.

HI 5308 Introduction to Object-Oriented Systems Development in Health Informatics
(2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course enables students to develop competencies in the object-oriented approach to the design and development of computer applications in health informatics. Students will have the opportunity to apply object-oriented methods in the design, development, production and evaluation of health informatics systems applications. Students will develop object-oriented design documents and complete a course project involving development and production of a prototype computer-based health informatics application.

HI 5309 Introduction to Health Data and Electronic Health Record (web-based instruction)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course will focus on Health Information and Electronic Health Records. Health Information is collected and entered by a wide variety of professionals and in some cases by the patient or client. This information is captured in a variety of formats, from pre-structured lists to narrative paragraphs. The data is used in a variety of different ways by a wide variety of users. In many cases the person who enters the data is the prime user of the data. In other cases one person enters the data, which in turn is used by others, e.g. the clinician may enter a diagnosis which is then interpreted by a coder for use in billing.

Different elements of health data have different legal status. These differences are observed within a country and are more evident when comparing the legal status across countries.

This course will examine how health data are collected, how they are used and the impact of electronic records on the health data. The course will review standards, and standards development, languages used, and issues related to information processing in healthcare. The course will review the impact of electronic records on health and healthcare including, legal, financial and clinical design issues

HI 5310 Foundations of Health Information Science I (web-based instruction) 3 Semester Credits/meets part of foundation informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course provides an overview of topics, concepts, theories and methods that form the foundations of health information sciences. It gives students the fundamental knowledge and skills to pursue further study in health informatics. Foundations I presents a general framework for health information science as the construction and use of symbolic, mathematical, and computational models for solving problems throughout the range of biomedical science, from genetics, to clinical care, to public health. It covers concepts, theories and methods that deal with how biomedical information is acquired, discovered, represented, managed, organized, communicated, retrieved, and processed. It also provides an overview of the primary research and application areas in health information science.

HI 5311 Foundations of Health Information Science II

(2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of foundation informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course provides an overview of theories and methods that are broadly applicable to all health informaticians. It gives students the theoretical and methodological background needed to pursue study in health informatics. The course begins with theories of information from computational, philosophical, mathematical, logical, and biomedical perspectives.

HI 5312 Foundations of Health Information Science III (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of foundation informatics component

Prerequisites: Access to the Internet, personal computer, Foundations II or consent of instructor

This course provides a broad and practical introduction to the major information processing techniques employed in all areas of health informatics: fundamentals of signals and system, frequency domain and spectral analysis, digital signal processing, pattern classification/recognition, neural networks, cluster analysis, machine learning, graphics and scientific visualization, data filtering, image processing, and linear/nonlinear modeling. The course will be useful for graduate students in health informatics who wish to obtain a broad overview of both quantitative and qualitative algorithms useful in the acquisition, management, processing, and display of health informatics and biomedical data.

HI 5314 Technology Assessment in Healthcare (web-based instruction)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Basic statistics knowledge, HI-5315, HI-5303, HI-6311 and Consent of the instructor

This course will focus on methods and processes to evaluate positive and negative impacts of various techniques, technologies and interventions in healthcare. The focus will be standard approaches for measuring various outcomes, and development and evaluation of technology assessment models. We also focus on merging multiple measures outcomes measurement to conduct unified approach to evaluate effectiveness of planned / implemented technologies, or to compare different options. Finally, we will try to explore tool / software for the technology assessment.

In this course, "Technology in Healthcare" will be used in a very broad sense, encompassing all interventions, equipment, treatment, etc., that are used in the health care field to care for consumers.

HI 5315 Quality and Outcome Improvement in Healthcare (web-based instruction)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Basic statistics knowledge and consent of the instructor

This graduate level introductory course provides an overview to healthcare quality from the view of information science and the discipline of informatics. It takes a patient centered approach that covers the complexities of quality and the scientific basis for understanding the measurement and improvement of quality, considers the macro- and micro- levels of systems involved in quality measurement and improvement, as well as the organizational environments that are used to deliver care. It provides the learner with a framework for key theories and concepts, and models of quality improvement.

HI 5316 Emerging Technologies for Teaching, Learning and Research (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Consent of the instructor

Participants in this course will use emerging technologies to address challenges in teaching, learning and research. The focus is on using theory to drive the incorporation of technology for educators, informaticists and researchers. Participants will combine theories, selected technologies, appropriate pedagogy, instructional design and usability. The process will follow a model developed by the instructors to apply emerging technologies to solve problems.

HI 5321 Biomedical Signal Processing (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the basic informatics component

Prerequisites: Background in at least one quantitative discipline (physics, chemistry, mathematics, computer science) at college level. Knowledge of at least one programming language. Scientific curiosity and imagination. Good writing skills. Interest in the crossing of boundaries between traditional scientific disciplines.

This course is aimed at the applications of modern signal processing techniques in biomedicine. This course covers the basics of biomedical signals including EEG, ECG, EMG and medical imaging, and introduces various widely used signal-processing techniques. This course is for graduate students who are interested in quantitative studies of biological systems.

HI 5323 Image Processing (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the basic informatics component

Prerequisites: The instructor will cater both to biological/clinical and quantitatively trained students. A background in at least one quantitative discipline (physics, chemistry, mathematics, computer science) at college level with solid background in geometry (ideally: vector calculus) is desirable. Knowledge of at least one programming language (ideally: C or C++) and UNIX, or willingness to acquire necessary skills.

This course provides a broad and practical introduction to the major techniques employed in image processing and pattern recognition: dilation and erosion, segmentation and thresholding, denoising, direct space filter kernels, Fourier-based filters, matching and morphing, artificial neural networks, self-organizing maps, principal component analysis. The course will be useful for graduate students in biomedical computing who wish to learn state of the art data in mining and image vision techniques.

HI 5324 Nanomedicine in Healthcare (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the basic informatics component

Prerequisites: Graduate Standing in UT-Houston, or UT-Austin or consent of the instructor

Nanomedicine is the science of the nanoscale applied to the theory and practice of medicine. This course will examine the fundamentals of nanostructured materials currently studied for medical applications. In-depth analyses of Liposomes, Dendrimers, Carbon nanotubes, Fullerenes, and Silicon nanostructures will be presented. Applications of each of these technologies in medical fields ranging from DNA chips to injected therapeutic and diagnostic agents to implanted nanodevices will be examined. Relevant characterization techniques, and Ethical, and Regulatory issues in the exciting application of Nanotechnology to Healthcare will be discussed.

HI 5340 Introduction to Learning Environments in the Health Sciences

3-semester credits/meets part of the basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of course instructor

This course will provide an overview of learning research from the fields of cognitive science, education, psychology and neuroscience, and how this information can be applied to develop learning environments for the health sciences using current and emerging technologies. The focus of the course will be on the process of applying learning theory and pedagogy to produce targeted learning environments for populations in the health sciences, which may include health professionals, technicians/staff, the general public or patients. Following completion of the course, students will have the opportunity to obtain knowledge and resources to begin designing learning environments that are based on scientific, instructional, and technological research findings.

HI 5341 Learning Environment Development in the Health Sciences

3 semester credits/meets part of the research informatics component

Prerequisites: Access to the Internet, personal computer, consent of course instructor

In this course students will be responsible for choosing a health sciences content area around which to build a novel learning environment. Students will work in teams to design, develop, and create a novel learning environment, employing expertise and resources in the UTHSC-H and greater Houston community. The course grading and objectives focus on the group project, its design development, and the design and planning of the learning environment evaluation. Students will have the opportunity to obtain hands-on experience in creating learning environments, including the problem solving skills to be successful at this type of interdisciplinary project.

HI 5350 Evaluation of Health Care Systems (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of research informatics component

Prerequisites: personal computer, and consent of instructor

This multi-disciplinary course will focus on the process of evaluating and choosing a health information system. The course will assist the student in identifying the critical needs, which the health information system is to address. Different methods of evaluation will be presented and discussed in terms of how they would apply to health information systems. The evaluation process will begin with identifying the needs of the organization, and presenting them in an organized manner so the vendors can address the needs followed by mechanisms for evaluation.

HI 5351 Research Design and Evaluation in Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion/laboratory)

3 Semester Credits/meets part of research informatics component

Prerequisites: consent of instructor

This course provides the student the opportunity to develop more advanced competencies in the design, analysis, interpretation and critical evaluation of experimental, quasi-experimental, pre-experimental and qualitative health informatics research and evaluation studies. The student will identify flaws or weaknesses in research and evaluation designs, choose which of several designs most appropriately tests a stated hypothesis or controls variables potentially jeopardizing validity, and analyze and interpret research and evaluation results. Through exposure to the basic 'building block' designs, students will have the opportunity to develop the competence to appropriately choose and to use the most important and frequently used design procedures for single or multifactor research or evaluation studies.

HI 5352 Statistical Methods in Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion/laboratory)

3 Semester Credits/meets part of research informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course provides the student the opportunity to develop basic competencies in the measurement, design, analysis, interpretation and critical evaluation of health information research and evaluation studies. Students will have the opportunity to learn and apply the most important and most frequently used statistical measures and methods, as well as to critically evaluate their appropriate use in health informatics research and evaluation. Topics include the study of frequency distributions, measures of central tendency, variance, hypothesis testing, correlation and both parametric and non-parametric inferential methods including t-tests, analysis of variance, chi-square tests of significance, and tests of measures of association.

HI 5353 Health Informatics Data Analysis (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of research informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course provides the student the opportunity to know when and how to use state of the art data analysis computer software to perform each of a comprehensive set of the most important and frequently used data analysis techniques for research and evaluation in health informatics. The student will choose the most appropriate data analysis tools, to perform qualitative, descriptive, inferential, parametric, non-parametric, multifactor and multivariate techniques as well as graphical data modeling analytic techniques using the computer. Qualitative data analysis and related software will demonstrate alternate methods for data collection and reduction.

HI 5354 Cognitive Engineering in Health Informatics I (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of research component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course focuses on cognitive engineering techniques for designing user-centered health information systems. Such systems provide appropriate functionality to the user, are easy to use and learn, reduce the chance of user error, and increase user efficiency. The course emphasizes how human cognitive abilities and limitations impose requirements on the design of effective interfaces. It covers the theory and practical application of several cognitive engineering techniques, including cognitive task analysis, verbal protocol analysis, propositional analysis, and cognitive walkthroughs

HI 5370 Methods in Computational Biomedicine (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the research informatics component

Prerequisites: Access to the Internet, personal computer and consent of instructor.

This course is a comprehensive introduction to the methods and tools in computational biomedicine. The course covers the topics including basic statistics (probability, correlation and regression, statistical inference), linear algebra (vectors and matrices, eigenvectors and eigenvalues, determinants), multivariate statistics and information theory. It emphasizes the conceptual understanding and ability to apply these methods and tools to solve biomedical problems.

HI 5380 Principles and Foundation of Public Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3-semester credits/meets part of the basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of course instructor

This course will introduce foundation knowledge of Public Health Informatics. In this course students will explore how information sciences, and computer sciences can be applied to enhance public health practice, research and education. Content will include current standards, databases, networks, information systems and technologies applied to public health. In addition, this course will cover national and regional initiative and legal aspect of public health informatics. Students will gain hands-on experience by involvement in team projects. The projects will explore a specific problem domain seeking to critically analyze and propose practical solutions.

HI 5381 Methods in Public Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3-semester credits/meets part of the basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of course instructor

This course introduces practical methods and techniques used in Public Health Informatics (PHI). The course will focus on methods for evaluation of the effectiveness and efficiency of public health protection and delivery. The course modules are organized into three domain knowledge of PHI methods: 1) Legal and Policy Framework of Public Health Informatics, 2) GIS and Spatial Analysis, and 3) Evaluation and Knowledge Management of Public Health Informatics. The course is designed to familiarize students with methods for addressing the core concepts & issues confronting public health practitioners and researchers in planning, implementation and evaluation of information systems.

HI 5382 Synthesis Project of Public Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3-semester credits/meets part of the basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of course instructor

The Public Health Informatics Synthesis Course provides an opportunity for students to practical, hands-on cumulating knowledge and experiences in Public Health Informatics. This project should reflect a substantial effort and competency of synthesis in informatics developed through the course training that address core competencies of public health informatics system by working through the problem of students' choice. The selected problem should be discussed and approved by a faculty mentor. This should be tied to research/practice of your interest that includes one or more didactic modules covered in the prior courses. The synthesis project should be based upon the combined efforts of (online) library database search, fieldwork, and mentored research approved by mentor(s). Expectations of the class should include the presentation of the conclusions from the project in a written manner for academic dissemination as a conference abstract, poster

HI 6000 Practicum in Health Informatics (Variable hours/week)

1-10 Semester Credits

Prerequisites: Access to the Internet, personal computer, and consent of instructor

During the practicum, each student will select an area of interest in which to apply the knowledge and skill gained during the didactic courses. Students will become active participants in the work of developing informatics-based applications. Each student will develop a specific set of goals to be accomplished. The student's advising committee and practicum supervisor must accept these goals. These goals will reflect the student's area of interest and the needs of the precepting organization. This course is graded on a pass/fail basis and is repeated for a maximum of 6 semester credit hours to meet degree requirements.

HI 6001 Special Topics: Health Informatics (Variable hours/week)

1-10 Semester Credits

Prerequisite: Consent of the instructor

This course provides a timely way to examine cutting edge topics of interest to students and faculty. The varying content may include topics such as: technical writing in health informatics comparing knowledge use across disciplines, computational knowledge methods in health informatics. May be repeated as topics vary.

HI 6002 Directed Study: Health Informatics (Variable hours/week)

1-10 Semester Credits

Prerequisite: Consent of the instructor

This course provides a mechanism for students to explore issues of personal interest in the field of Health Informatics. The varying content may include topics such as: display of large scale nursing data, mapping issues for dentistry, linking public health knowledge to clinical medicine. This course may be graded on a letter grade or pass/fail basis. May be repeated as topics vary.

HI 6300 Advanced Health Information Systems (2 hours lecture /3 hours laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course will examine advanced concepts in health informatics systems, including mechanisms for linking current information systems with legacy systems; network based information systems, community health information systems (CHINs) and communication among disparate information systems. Topics will include identifiers; electronic data interchange systems and new models of information systems. Emphasis will be given to issues of how computational knowledge techniques affect the kind and type of knowledge displayed. Automation of knowledge reorganization as it is transferred among disciplines and settings will be discussed.

HI 6301 Health Data Display (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course will examine the evaluation and design of information displays for healthcare. The course will focus on three areas: (1) theories and methodologies for the evaluation of information displays, (2) techniques and tools for generating effective information displays through visualization, and (3) how the formats of information displays affect decision making in healthcare.

HI 6302 Knowledge Modeling and Engineering in Health Informatics I (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion/laboratory)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course first covers in depth the methods and techniques for knowledge modeling and engineering in healthcare. This includes an introduction on how to conduct a task analysis, and how to

collect and analyze domain knowledge gathered from reference sources or expert behavior. The course will cover how these methods and techniques are used to construct health informatics systems that are more robust, more helpful, and easier to use than systems engineered without these techniques. Also covered are various techniques for evaluating the accuracy and effectiveness of the constructed systems from experimental data. The students also have an opportunity to engineer knowledge models using connectionist representations. Throughout the course, emphasis is placed on how knowledge engineering is used to design decision support tools, tutoring systems, and educational improvements for health informatics. In the second part of the course, students are given a knowledge engineering task in a healthcare area for which they must develop a knowledge model and then construct and evaluate a knowledge-based system.

HI 6303 Introduction to Telehealth (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basicinformatics component

Prerequisites: Access to the Internet, personal computer, consent of instructor

The course will provide an overview of telehealth in the context of the general health care system. It will survey the application of telehealth in various medical specialties and different settings, e.g., rural, military/aerospace and corrections. The course will identify key issues in implementing and operating a telehealth program including technology, economics, legal/ethical, training, protocol development, and evaluation.

HI 6304 Consultation in Health Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

Health Informatics requires that practitioner's work closely with others in developing health informatics based interventions. The interventions can include determining the nature and type of system that needs to be developed, an understanding of what is involved in the delivery of care and understanding the social and political aspects of change within an organization. This course will describe the nature of the consultation role; explore the options and strategies available to consultant that can make the consultant role more efficient.

HI 6305 Social Dynamics and Health Information (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

The implementation of information systems will not only greatly enhance the quality of healthcare but also radically change the nature of healthcare. This course will look at healthcare as a dis-

tributed system composed of groups of people interacting with each other and with information technology. Two major areas will be covered in the course. The first area is computer-supported cooperative work (CSCW), which is defined as computer-assisted coordinated activity such as reasoning, problem solving, decision-making, routine tasks, and communication carried out by a group of collaborating individuals who interact with complex information technology. Most health information systems (such as EMR) are large groupwares that support large numbers of synchronous and asynchronous users with diverse background in the executions of many different types of tasks. The second area is the social impact of information technology. This area will focus on the impact of Internet on healthcare, such as the functions and impacts of virtual communities, online health groups, and tele-healthcare through the web.

HI 6306 Information and Knowledge Representation in Health Informatics

(2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: HI 5310 Foundations of Health Information Sciences I Access to the Internet, personal computer, and consent of instructor

The purpose of this course is to examine the role of information representation, controlled vocabularies and knowledge engineering constructs such as ontologies in conceptualization, design and implementation of modern health information systems. The course will introduce approaches for representing information and knowledge in a distributed network of health information systems. Moving beyond a general understanding of taxonomies, students will gain an understanding of the conceptual foundations of ontologies including the limitations of the modern systems. Knowledge modeling and engineering principals will be introduced through lectures, hands on practice and the class project. This will include the design, construction and use of ontologies in health care applications. Through hands on experience, students will gain insight into the strengths and limitations of the existing resources, approaches and systems as well as point to directions where future work needs to be done.

HI 6307 Cognitive Engineering in Health Informatics II (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of research informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

In this course, students identify a real-world medical or health-related task or problem that might be improved through the use of cognitive engineering techniques. Once identified, students will have the opportunity to apply the techniques and then use the results to outline appropriate ways to improve behavior on the task or to rectify the problem. The course is designed to permit an in-depth study of cognitive engineering techniques through their application to real-world health informatics problems.

HI 6308 Consumer Informatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of research informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

Current technology is giving the consumer greater access to health information than at any time in the past. Information is available from federal agencies, volunteer organizations, consumer services and direct consumer-to-consumer communications. The availability of information with varying degrees of quality is changing the way consumers think about their own health as well as changing the relationship between consumers and providers. Students will explore the impact of this technology, consider the directions which the current technology might head and explore the potentials of future technology on the delivery of healthcare. This is a research course and students will be expected to complete a research project that contributes to our understanding of consumer health informatics.

HI 6309 Healthcare Interface Design (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet personal computer, and consent of instructor

This course covers topics of user interface design for health information systems, medical devices, consumer health web sites, and other healthcare related systems. Students will have the opportunity to learn the fundamental principles of human-computer interaction and human factors and learn how to apply them to real world problems through class projects. The focus is on learning why user-friendly interfaces can greatly improve work productivity and enhance the quality of healthcare without radically changing the underlying technology.

HI 6310 Knowledge Modeling II (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of research informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

In this course, students identify a medical or health-related task that might be improved through the use of a decision-support system, intelligent tutoring system, or educational intervention. Once identified, students conduct a task analysis and design an appropriate knowledge engineering project plan to develop and implement a knowledge-based system for this task. They then have the opportunity to evaluate the resulting system and outline appropriate ways to improve human performance on the task through the use of the system.

HI 6311 Advanced Decision Analysis I (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course will focus on decisions made with high degrees of uncertainty. The focus will be on modeling the decisions and the types of uncertainty which are present in the decision making process. The focus will be on developing ways to reduce the amount and types of uncertainty while still maintaining the key elements of the decision making process. In addition, the course will focus on ways to automate the decision making process in terms of the way in which data, information and knowledge is aggregated, the modeling of the decision data against existing standards or protocols and presenting alternative display approaches to the understanding of the data, information and knowledge employed in the decision making process.

HI 6312 Project Management in Healthcare (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the advanced informatics component

Prerequisites: Access to the Internet, personal computer and consent of instructor.

This is an introduction to Project management that is structured for students who have begun to run their own projects. This is project based to develop managers for large healthcare projects. These projects can include a system implementation, evaluation of an existing system, or other large project.

HI 6313 Scientific Writing in Healthcare (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of basic informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course provides the advanced skills necessary to write a full range of scientific manuscripts in health informatics. It begins with the philosophy of science, types of scientific research, and types of scientific manuscripts (including review, applied, and research articles). The course then examines each component of a scientific manuscript in detail, including the title, abstract, introduction, literature review, method, discussion, conclusion, and appendices. The course covers the purpose of each of these components, discusses properties that distinguish good components from bad, and presents techniques for producing high quality scientific writing. Students will apply these techniques by examining selected published papers, producing their own scientific writing, and critiquing the writing of others in the class. Students are expected to enter the class with a draft scientific paper that they have written and a high degree of general writing skill.

HI 6321 Applied Computational Biomedicine (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Access to the Internet, personal computer, consent of instructor, and admission to the doctoral program

Application of computational theories, algorithms and methods to issues and problems of the student's choice under the guidance of the faculty. This course focuses on the solution of biomedical problems using computational approaches and methods. Students will select appropriate methodology to solve their assigned problem(s), apply them and if applicable compare results between different methods. Evaluation of success will include determining applicability to similar classes of problems and how to address the solution in a practical setting.

HI 6322 Advanced Topics in Computational Biomedicine (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the advanced informatics component

Prerequisites: Access to the Internet, personal computer and consent of instructor.

In this course selected topics in computational biomedicine, based on students' interests, will be studied in depth. The focus will be on how different computational approaches can be applied to study any single biomedical problem. Among the topics covered will include machine learning, pattern learning, data mining and computational modeling, in biomedicine and bioinformatics.

HI 6323 Datamining in Bioinformatics (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the advanced informatics component

Prerequisites: Access to the Internet, personal computer and consent of instructor.

Recent advances in genomic technologies, especially the microarray/gene chips technology enable biologists to generate large amount of complex data. To explore the meaning of the data, one needs sophisticated data mining algorithms and tools. This course is intended to explore different problems and methods in bioinformatics with focus on the computational and data mining methods for complex data such as microarray data. A set of basic computational methods and models for analyzing genomic and structural biological data from high throughput technologies will be introduced. Students will be required to complete mini projects on some of the methods.

HI 6324 Computational Cognitive Neuroscience (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the advanced informatics component

Prerequisites: Access to the Internet, personal computer and consent of instructor.

This course introduces the ideas and methods used in simulating cognitive and perceptual processes using computational models based on the neural networks of the brain. In other words, this course teaches cognitive neuroscience (understanding how the brain gives rise to thought) using computer models as a tool. These models provide a computational bridge between behavioral and biological levels of analysis. A range of cognitive phenomena, including perception, attention, memory, priming, language, and higher-level cognition ("executive" control, planning, etc) will be examined. Students are required to develop a non-trivial computational model of a cognitive process they select.

HI 6325 Reasoning and Decision Making in Medicine (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the advanced informatics component

Prerequisites: Access to the Internet, personal computer Cognitive Science in Health Informatics or consent of instructor.

This course teaches students advanced theories and methods in human reasoning and decision-making. The course emphasizes important empirical and theoretical findings about human reasoning and decision-making in the broad area of biomedicine, with an attempt to reach a comprehensive understanding on why people reason and decide the way they do. Important issues including normative models VS descriptive models, rationality, heuristics and bias, will be discussed.

HI 6351 Triangulation Methods in Health Informatics Research (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of research informatics component

Prerequisites: Access to the Internet, personal computer, and consent of instructor

This course will combine quantitative and qualitative methods into an integrated research approach. Much of the innovative research in Health Informatics requires that students be involved in the design and measurement of studies where reliable and valid measures do not exist for all concepts and constructs. Both methodological approaches can be combined to give insights that would not be possible from either method alone. The course will explore the methodological assumptions, the applications and the software, which can support triangulation methods.

HI 7000 Advanced Preceptorship (Variable hours /week)

1-9 Semester Credits

Required for doctoral students

Prerequisites: Admission to the doctoral program

The student will use this course to develop a pilot study to design the instrument that will be used in the data collection for the dissertation. The student must complete 9 semester credit hours with the supervision of the mentor or primary advisor. The study with the data will be used to prepare the advance to candidacy proposal.

HI 7050 Research in Health Informatics (Variable hours/week)

1-21 Semester Credits

Required for doctoral students

Prerequisites: Advanced to candidacy exam successfully completed.

The doctoral candidate must complete 21 hours of research in health informatics. The mentor or primary advisor will supervise the advancement of the candidate's progress.

HI 7100 Career Development in Health Informatics (1-hour lecture/discussion)

Post Doctoral Students will explore various mechanisms and processes that will enhance their development to become a faculty member at an institution of higher education. The topics will include but not limited to: salary negotiation, start up package negotiation, grant preparation, promotion and tenure expectations, and publication expectations. This course is required for the Post Doctoral Certificate program.

HI 7150 Research Seminar (1 hour lecture/demonstration/discussion)

Required for doctoral program. May be repeated for 3 hours to meet the degree requirement.

HI 7200 Supervised Research (2 hour discussion)

Post Doctoral Fellows will work with their mentor to learn the process of managing and conducting a research project. This may include project management skills, proposal writing, and specific professional or scientific skills needed for a particular research project. This course is required for the Post Doctoral Certificate program. This course may be repeated each semester that the Post Doc is in the certificate program.

HI 7301 Grant Writing (2 hours lecture/3 hours' laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets required course for the doctoral degree.

Prerequisites: Access to the Internet, personal computer, and consent of instructor

Students will develop skills in the planning and execution of grant development. The focus will be on NIH and NSF grants forms, but students will also be exposed to grant applications from private organizations. The focus of the course will be to develop a draft, which can be used for the funding of dissertation work, or to develop a grant, which would allow them to continue their dissertation work in a post-dissertation award. Students will learn how to write the narrative, project time lines, include appropriate evaluation and draft budgets.

HI 9999 Dissertation in Health Informatics (Variable hours)

Required for the doctoral program. May be repeated for 9 hours to meet the degree requirement.

GRADUATE FACULTY

Alemayehu Abebe, PhD, Adjunct Assistant Professor, Health Information Sciences UTHSC-H, Ph.D., University of Zurich, 2003.

Research Interest

- * Computer Simulations
- * Signaling Complexes
- * Membrane-protein Interaction
- * Structure and Dynamics of Interfaces
- * Allostery in Supramolecular Assemblies

A major interest of our laboratory is to understand the thermodynamic principles of specificity in cell signaling and molecular transport by means of computational and theoretical techniques. The advent of petaflop computational resources and the fast-paced progress in coarse-grained modeling create unprecedented opportunities for simulating processes that span a vast range of time and length scales, such as cell signaling and molecular transport. These computational studies will allow us to investigate normal and aberrant properties of protein-protein and protein-membrane complexes in atomic detail. Other areas of interest include the basis of allosteric communication in signaling complexes, enzyme catalysis, molecular recognition and drug design. We develop and apply a variety of computational techniques, including classical and advanced molecular and Brownian dynamics simulations, structural bioinformatics, binding free energy calculations and related methods. Results from these studies will be the engines of new concepts and hypotheses to drive discovery efforts and experimental work.

For more information, contact Dr. Abebe at:

Email: Alemayehu.G.Abebe@uth.tmc.edu or uth.tmc.edu/agorfe_lab/

Ananth Annapragada, PhD, Associate Professor, Health Information Sciences, UTHSC-H. B.Tech, A.C. College of Technology, 1985; Ph.D., University of Michigan, 1989.

Ananth Annapragada is Associate Professor in the School of Health Information Sciences at UTHSC-H. He holds a PhD in Chemical Engineering from the University of Michigan (1984-89) in the Gulati group, did post-doctoral work first at the University of Minnesota and then at MIT from 1989-1991, in the laboratory of Klavs Jensen. He then joined Abbott Laboratories as a Research Scientist and worked in 3 different divisions of the company (Bulk Drugs, Pharmaceuticals and Diagnostics). In 1996, he left Abbott to work at SEQUUS, (Menlo Park CA) where the Stealth liposome was invented, and remained there as a Product Development Manager through their acquisition by ALZA and the subsequent acquisition of ALZA by J&J. In 2000 he moved to Cleveland OH as Associate Professor of Chemical and Biomedical Engineering at Cleveland State University and the Cleveland Clinic Foundation, and was named Director of the Applied Biomedical Engineering program shortly afterwards. In 2003, he moved to UTHSC-H, to his current position. He also holds positions in the Graduate School of Biomedical Sciences, the Keck Institute for Computational and Structural

Biology, and at the University of Houston Department of Chemical Engineering. Professionally, he continues to bridge the worlds of Mathematics, Engineering, and Biology, His group, the Laboratory for Computational Biology and Delivery Systems is accessible on the web. For the last 3 years, he has been an active member of the MABS (Mathematical Analysis of Biological Systems) study section at NIH. Recent honors he has received include the Chandran Lectureship in Neuro Oncology at Duke University, and an invitation to the National Academy of Sciences/Keck Futures Initiative conference on Nanotechnology in Biology and Medicine. He is also a co-founder of Marval Therapeutics Inc., a company that seeks to commercialize some of the technologies developed in his laboratory. For more information, contact Dr. Annapragada at:
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Noriaki Aoki, MD, PhD, MS; MBA Assistant Professor, Health Information Sciences, UT-Houston. Adjunct Assistant Professor, Division of International Health, Tohoku University School of Medicine, Japan, Adjunct Assistant Professor, Department of Emergency and Critical Care Medicine, Showa University School of Medicine, Japan, President, Center for Health Outcomes Research and Development, Japan. M.D., Sapporo Medical University, 1991; Ph.D., Kyoto University Faculty of Medicine, 2002; M.S., The University of Texas Health Science Center at Houston, 2001, MBA, University of Massachusetts, 2007.

Dr. Aoki is a board certified physician in Internal Medicine and Emergency and Critical Care Medicine in Japan, and a fellow member of the Japanese Society of Internal Medicine. He has a PhD in clinical epidemiology and decision science from the Kyoto University Faculty of Medicine and Master of Science in Health Informatics from the School of Health Information Science, University of Texas Health Science Center at Houston. He also completed his post-doctoral research in decision science and medical informatics at the Baylor College of Medicine, Houston, TX.

Dr. Aoki has conducted wide-ranging collaborative researches locally, nationally and internationally. Dr. Aoki has major interests in clinical data analysis to improve process and outcomes of clinical care, which includes data mining, text mining, decision analysis, cost-effectiveness analysis, geographic information systems, and various simulations. He has also done extensive research in decision-making /decision support system, especially in extreme environment, such as disasters, trauma care and space medicine. He has also started projects related to knowledge management & edutainment system development utilizing small handheld devices.

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Jonas Almeida, PhD; Adjunct Professor, Health Information Sciences, UTHSC-H, Professor, Bioinformatics and Computational Biology, UT MD Anderson, B.S., University of Lisbon, Portugal, 1989; Ph.D., University Nova of Lisbon, Portugal.

Dr. Almeida is a professor of Bioinformatics and Computations Biology at UT MD Anderson, and he completed his postdoctoral training in microbial ecology at the University of Tennessee. His research encompasses cardiovascular proteomics, and various other areas of bioinformatics. He has numerous publications and was awarded a science award of the Gulbenkian Institute for science in Lisbon, Portugal.

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J. Robert Beck, MD; Adjunct Professor, Health Information Sciences, and Fox Chase Cancer Center. UTHSC-H. B.A., Dartmouth College, 1974; M.D., John Hopkins University, 1978; Clinical Fellow in Medicine, New England Medical Center, 1982.

Dr. Beck is an internationally recognized expert in medical decision-making and is editor of the premier journal in that area. Dr. Beck is a founding member of the Fellows of the American College of Medical Informatics.

For more information, contact Dr. Beck at:

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Dr. Birmanns is an Assistant Professor at the School of Health Information Sciences. His research areas include biocomputing, molecular modeling, virtual reality, haptic rendering, visualization, macromolecular machines, and image processing. He uses haptic rendering for interactive multi-resolution fitting of biophysical data sets.

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Dr. Boerwinkle is a nationally and internationally recognized scientist in human genetic and cardiovascular research. His research encompasses the genetic analysis of common chronic diseases in humans. Diseases currently being analyzed are coronary heart disease, hypertension, and noninsulin dependent (type II) diabetes. This work includes localizing genes that contribute to disease risk, identification of potentially functional mutations within these genes, testing these candidate functional mutations in experimental systems, defining the impact of gene variation on the epidemiology of disease, and determining the extent to which these genes interact with environmental factors to contribute to disease. Research and training opportunities include genetic analysis methods and applications and genome database integration. He has numerous publications, book chapters and funded research and he has received multiple honors and awards. Dr. Boerwinkle serves on the editorial board of Genetic Epidemiology and Circulation. He teaches medical and graduate students at the Health Science Center.

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Dr. Cavasotto is an Assistant Professor at the School of Health Information Sciences. His research interests include the development, validation, and application of relevant biomedical theoretical problems and in silico methods for high-resolution protein modeling, ligand-based and structure-based drug discovery, and study of protein interaction and function. Computational methods include docking, virtual screening 2D- an 3D-QSAR, pharmacophore modeling, molecular dynamics and quantum chemistry approaches. His support tasks also include simulation theory, force-field development and cheminformatics.

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Dr. Chen has very broad of research interests. Dr. Chen has done research in human centered design in clinical electronic health record; Technology usage in dental education, interface evaluation, long distance health care (teledentistry). Dr. Chen is also active in dental clinical related research, such as HIV positive patient, sedation, cone beam CT, cleft lip and palate repair etc. Dr. Chen is trying to apply technology in health care and doing clinical care with informatician's keen evaluation. The clinic in Loma Linda University now is using paperless chart and radiography. A lot of research projects are now undergoing to evaluate the information flow and how to improve the functionality in the EDR systems.

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Dr. Cohen's primary research interest is in distributional semantics, or put somewhat more simply what machines can learn about meaning from human use of language. Current application areas include knowledge discovery and biomedical information retrieval. In addition, how humans detect and recover from error, in particular medical error in the critical care environment. While much attention has focused on the issue of error in medicine, very little of this attention has been directed at the mechanisms of error recovery in this domain. This line of research aims to redress this imbalance.

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Dr. Cristini is an expert in the fields of complex fluids, microfluidics, complex (bio) materials, mathematical/computational modeling of cancer and nanomaterials, where he has organized numerous domestic and international conferences and has published book chapters and numerous articles in journals. Dr. Cristini is also an editor for journals in the fields of bioengineering and nanotechnology. Dr. Cristini received the prestigious "Andreas Acrivos Dissertation Award in Fluid Dynamics." Dr. Cristini's research has been supported by the National Science Foundation, the National Cancer Institute, the Department of Defense, the State of California, the State of Texas, Orqis Medical, Dekk-Tec, and Merck.

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Dr. Dunn is a practicing general internist who leads the Laboratory for Telehealth and Distributed Computing at the School of Health Information Sciences. She has extensive experience in starting new companies and advising people in issues related to start-up technology companies in the healthcare space. She serves as Chairperson of the Your Doctor Program (a practice model to integrate finance, delivery, cost-effective technology, and accountability for healthcare) and Vice-President of the Schull Institute, a non-profit organization to foster international development. Prior to joining the faculty, she was Vice Chair of Internal Medicine at UTMB and played a leading role in developing the telemedicine program and outcomes management program for the Texas

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She is board certified in Anatomic and Clinical Pathology and was an Assistant Professor of Pathology at Vanderbilt University and an Associate Professor in the Division of Anatomic Pathology at the Moffitt Cancer Center before coming to MD Anderson, where she is currently an Associate Professor with tenure. Dr. Edgerton's research is focused on discovery of mechanisms in cancer genesis and progression. She works on the development of mathematical models for computer simulations of spread of ductal carcinoma in situ, and the role of cell motility in extensive disease. She also researches methods for the analysis of gene expression array data for pathway and molecular targets discovery. She has published on the application of these methods to lung cancer and breast cancer profiles data, and is currently extending this analysis to premalignant breast disease and to brain cancer. In addition to researching mechanisms, Dr. Edgerton has worked on the development of integrated information platforms for tissue acquisition, clinical annotation, and molecular profiling. She has contributed to the development of standards for data sharing and to ontologies to be used for tissue annotation. She is currently working with the clinical and research informatics systems to implement an "adapter" strategy to make MD Anderson compliant with the Cancer Bioinformatics Grid (CaBIG).

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Dr. Oliver Esch is an academic physician and scientist who has most recently served as Section Head/ Director of PACS, Computer Operations, and Director of the General Clinical Research Center Whole Body Counter and Body Composition Laboratory, at The University of Texas Medical Branch, Galveston, TX. His responsibilities included the assessment, planning and implementation of one of the largest continuous speech recognition systems for medical reporting in the US. Other professional responsibilities have included: Planning and implementation of a departmental Local Area Network and Wide Area Network access, an Image Research Laboratory (Sun and SGI), a DICOM server, Web based imaging applications, upgrade and integration of applications into Radiology and Hospital IS; planning and implementation of Picture Archiving and Communication Systems (PACS), Computed and Digital Radiography, as well as comprehensive systems planning. On an institutional

level he has served as faculty liaison for all imaging related aspects of Telemedicine at the University of Texas Medical Branch. The UTMB Telemedicine program is one of the most comprehensive in the US. He has published, lectured, and taught extensively in Academic Surgery, Gastroenterology, and Radiology, and on Medical Information Technology, Digital Imaging, Telemedicine, DICOM and related Standards, and Speech Recognition. He serves on the editorial and review board of several academic publications, and has published both in the peer reviewed as well as popular-scientific literature. He is involved in numerous related professional organization and committees, and has provided consulting services to the health care industry since 1993. These included assignments by Texas Instruments, companies in the US and European markets, and non-for-profit organizations. Dr. Esch now serves on the Board of a Houston based Biotechnology company, and as Principal Scientist of several interdisciplinary expert teams working on health information technology and environmental health projects of national and long-range importance. One focus of this work is the application of healthcare related information technology to environmental health and health risk assessment problems, and resulting community health improvement for minority, underserved, and remote communities, among them Native American groups. His current academic affiliation includes appointments in Health Informatics at the U T-Houston, in Preventive Medicine and Community Health at the University of Texas Medical Branch, Galveston, Texas, and in Diagnostic Imaging at the University of Toronto, Ontario.

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Research Interests: Biomedical nanotechnology; translational science; medical therapeutics in drug delivery application in oncology, cardiovascular disease and diabetes; biosensors and bioseparation technology; multiscale discrete/continuum mechanics and biomechanics Research in my laboratory is directed at the early detection of disease from biological fluids, the autonomous (time-controlled and spatially directed) delivery of therapeutics agents, the continuous monitoring of disease progression, and the real-time evaluation of the efficacy of therapeutic intervention. We have completed work that demonstrates how silicon-based implants can be engineered to provide long-term therapeutic delivery for treatment of chronic and acute conditions. Our laboratory has pioneered the development of proteomic nanodevices for analysis of low-concentration biomarkers in biological fluids.

Depending on the student's interests, a tutorial in my laboratory would provide experience in working with silicon-based nanotechnologies for drug delivery, proteomics, or cell transplantation. The laboratory will also provide training opportunities in the multiscale mathematical modeling of biological phenomena in health and disease.

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Dr. Fofanov's research areas are bioinformatics, applied statistics, mathematical modeling, information theory, causality in genetic networks, microarray technology, gene/protein expression and DNA sequence analysis, Structural identification of non-linear dependencies, mathematical methods of discovering non-linear conformities in experimental data, and planning of experiments on discovering nonlinear regularity. He has written several book chapters and journal articles. He holds a patent for method of invariants and apparatus for modeling causal relationships between genes.

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Dr. Franklin is a cognitive scientist with interdisciplinary training in cognitive Psychology and Linguistics. She has done research in psycholinguistics including studies of language and gesture, conversational negotiation, deception, and language acquisition. As part of the Center for Cognitive Informatics and Decision Making, her research focus is on reducing medical errors and improving care through a better understanding of human thought processes including decision-making and the dynamics of group and human-computer interactions. She has authored and co-authored numerous papers and has been invited to present her work at conferences worldwide. Dr. Franklin has received research support from the Keck Foundation, National Science Foundation, Department of Defense, and the National Institute of Health.

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Dr. Frenzel focuses his research on the use of Electronic Medical Records and their impact on the economics and quality of healthcare delivery. He is the Medical Director of the Ambulatory Surgery Center and Preoperative Consultation Center at M.D. Anderson where these technologies are being used to transform care for patients and practitioners in the Perioperative environment. He has coauthored a book, written articles and lectured on the impact of these applications and healthcare.

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Dr. Fukui is a General Medicine physician. His research interests include objective evaluation of medical practices and technologies using clinical epidemiology and decision sciences to qualitative research in medical education and ethical issues. Among his accomplishments are initiatives in establishing the Department of General Medicine, the Department of Clinical Epidemiology and the first data management center at a national university in Japan. He helps young doctors to become clinical researchers. He introduced the concept of Evidence-based Medicine in the medical community and to the public in Japan. He has written many articles and books in Japanese. He has also translated 22 books into Japanese. He is on the editorial board of the Japanese Journal of Public Health, Journal of Integrated Medicine, The Journal of the Japanese Society of Internal Medicine, Journal of Epidemiology, General Medicine, and Journal of General Internal Medicine.

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Our group is involved in proteomics, drug design, nanotechnology, and computational chemistry. We are also interested in the development of biophysical applications of NMR spectroscopy to probe the detailed structure and dynamics of biological molecules, including RNA, DNA, proteins and drug complexes. We have a major program in proteomics and nanotechnology for both diagnostics and therapeutics. This involves the development of dithiophosphate oligonucleotide analogues and thiophosphate aptamer ("thioaptamer") combinatorial selection technologies and the use of thioaptamer nanoparticles as countermeasures for biodefense and emerging infectious diseases

and cancer. We are also developing with Sandia National Laboratory a hand-held, Point-of-Care thioaptamer microfluidics chip-based proteomics diagnostics technology.

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Dr. Herskovic's research interests focus on information retrieval, data mining, and machine learning. I am currently working on machine learning for data mining large clinical data warehouses under the UT CCTS.

His Ph.D. research focused on graph-based ranking as a novel way of selecting indexing terms for biomedical articles.

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Dr. Hunter is chair of the Department of Pathology and Laboratory Medicine at the Medical School. Dr. Hunter has over 200 publications in his field of pathology. He has worked with information systems as a critical part of his professional activities for most of his career. The key focus of his work is developing improved means of facilitating professional work of pathologists. This includes development of information system resources to be used as aids to memory and time savers in diagnosing difficult cases across a spectrum of disease conditions. This includes web based algorithms for efficient leading one to the correct diagnosis in a complex field. In addition, much work has been done on systems for facilitating communication among geographically dispersed pathologists. Telepathology systems that transmit live high quality images over the web are being used for conferences and for consultation among professionals. Current work focuses on pen based tablet computes that can be used during daily work to facilitate more efficient navigation of the increasingly complex diagnostic processes. Cooperative work on these issues will benefit both departments and the students in particular.

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Dr. Iyengar has focused his research in bio-medical informatics Research & Development including mathematical/statistical modeling, algorithms, and software development across diverse areas such as biochemistry, immunohematology, endocrinology, oncology, orthopedics, neural imaging, and clinical trials. He has extensive software development experience, most recently with Palm OS and web technologies.

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Dr. Joe is the Informatics Specialist for Space Medicine and Health Care Systems at NASA. He is the Director of Medical Informatics, Baylor College of Medicine and Assistant Medical Director for Information Systems, Texas Children's Hospital. He has developed software for the Baylor Family Practice Clinic. He is implementing an electronic medical record system in the Baylor Family Practice Clinic.

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Dr. Johnson's research interests focus on several areas of study: cancer prevention, information visualization, human-centered computing, and risk communication and representation. Dr. Johnson has over 20 years of experience in research and informatics in the area of health promotion and disease prevention. While at The University of Texas Health Science Center, Dr. Johnson studied under an F38-Applied Informatics Fellowship from the National Library of Medicine. She is currently working with a multidisciplinary team on the development of a cancer risk model and assessment tool based on published evidence of epidemiologic and clinical factors. In conjunction with this modeling work, she is working on a new approach to building web-based interfaces and on the development of an interactive website that hosts the model and considers risk representation to healthcare consumers.

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Dr. Johnson has been at The University of Texas Health Science Center at Houston since 1983. Dr. Johnson's Ph.D. is in educational psychology with specialization in research, statistics and human learning. Dr. Johnson has taught or advised hundreds of faculty and graduate students in design, development, implementation, analysis, interpretation and publication of education and health oriented research and evaluation studies. While at The University of Texas Health Science Center at Houston, Dr. Johnson has presented or published numerous scholarly papers concerning effective use of computers in education and research (e.g., "Hypertutor Therapy for Interactive Instruction", "Microcomputer-administered Research: What it means for Educational Researchers", "Microcomputer as Teacher/Researcher in a Nontraditional Setting", "Randomized Comparisons Among Health Informatics Students Identify Hypertutorial Features as Improving Web-Based Instruction"). He authored the computer game BlockAIDS - The AIDS Education Game. More recently, Dr. Johnson has become a recognized expert in the area of Web-based courseware research and development. He has developed a theoretical framework for the design of Web-based instruction (WBI) called the HyperTutor Model. Dr. Johnson's chief research efforts have focused on the production and evaluation of superior Web-based interdisciplinary learning environments while implementing evidence-based teaching (EBT) randomized control methodologies to evaluate WBI effects in the field. This research not only "bridges the gap", but integrates randomized teaching and learning research with teaching practice, maximizing internal and external validity, while providing a model for WBI research in diverse health, science, mathematics, engineering and technology learning environments. Dr. Johnson is a winner of The University of Texas Health Science Center at Houston/ School of Health Information Sciences Outstanding Teacher Award and of the John P. McGovern Outstanding Teacher Award.

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Dr. Johnson is an expert in cognitive science in healthcare, an area that improves healthcare and biomedical decision-making by designing processes, software, and devices that match the needs and cognitive capabilities of those who use them. His current work focuses on two areas: (1) improving patient safety by reducing medical errors caused by poor device and software interfaces, as well as errors that arise due to pressures placed on caregivers by the healthcare system in which they work; and (2) improving decision making and efficiency through user-centered software design and decision support systems.

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Dr. Kano first majored in International Relations at the University of Tokyo, and then graduated from the Department of Electrical Engineering in 1967. He immediately joined NTT. He was engaged in a number of network related projects at its Laboratories and became Director, Network Technology Laboratories in 1987. After serving as Director, Network Strategic Planning at NTT headquarters and Deputy Managing Director of R&D, he left NTT in 1999 and became Visiting Professor, at the University of Edinburgh. Since 2001, he assumed the current position of Professor, Graduate School of Global Information and Telecommunication Studies at Waseda University. He served as Chairman of a Study Group at International Telecommunication Union headquartered in Geneva, Switzerland, and also as President of Telecommunication Information Networking Architecture Consortium, composed of some 50 telecom and information companies of developed countries. He is now Deputy Director of the Wearable Information Networking Consortium and heading its Ubiquitous Health and Welfare Information System Group.

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Dr. King's dissertation focused on identifying the statistical properties of applying frailty survival models to the investigation of length of life in the Old Order Amish. Dr. King continued her professional training with a post-doctoral fellowship under the guidance of Dr. Chris Amos at the University of Texas M.D. Anderson Cancer Center. During her post-doctoral fellowship she continued research on the statistical properties of model for the analysis of clustered survival data as well as conducting research on the use of phenotypes derived by principal components models in linkage analysis. She initiated a family study examining the genetics of a cellular biomarker, for which she received funding under the R-03 program. She continued at UTMDACC as an Assistant Professor and in 1997, she was awarded a K-07 award from the National Cancer Institute. As part of that award, she completed coursework in theoretical statistics at Rice University. In the final two years of her K-07, she held a joint appointment between UTMDACC and Genometrix, Inc. located in The Woodlands, TX. During this appointment, she was responsible for the development of statistical protocols for the analysis of microarray data as well as manufacturing quality control metrics. In addition, she developed clinical research databases, which were fully integrated with genetic and genomics data generated by microarrays. The position at Genometrix, Inc was not an academic position and this is reflected in her publication and grant record. In 2001, she chose to re-enter the academic field and joined the faculty of The University of Texas Houston Medical School as a tenure-track Assistant Professor in the Department of Internal Medicine, Division of Medical Genetics. This appointment has permitted her to transition her career focus from genetic epidemiology to statistical genetics. Her research interests are in the development of multivariate analytic techniques integrating phenotypic, genetic and genomic information. Since re-entering academia, Dr. King has established strong collaborations through the University and this is reflected in her publication and grant submission record over the last 18 months.

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The Laboratory of Angel Lee, M.D., Ph.D., focuses on understanding how signaling pathways activated by receptor tyrosine kinases regulate cell growth, survival and differentiation.

There are two areas of interest. The first is in hematopoietic systems (myeloid progenitors and bone marrow-derived macrophages) and is directed at the signaling pathways downstream of the Colony Stimulating Factor-1 Receptor (CSF-1R). We are specially interested in basic mechanisms that could provide a basis for therapeutic intervention in cancers involving receptor tyrosine kinases. As the CSF-1R is a key receptor for macrophages, we are also very interested in how CSF-1R mediated pathways in myeloid cells contribute to diseases with a chronic inflammatory component such as cancer (tumor associated macrophages).

The second area of interest is the role of signaling molecules and scaffolding proteins in neurogenesis, using murine embryonic stem cells and primary neural stem cells as models. In this project, we are interested in determining what governs neural stem cell proliferation and fate specification, in the hopes that our findings will provide information useful in areas of brain injury and repair.

Given the complexity of the systems we study, my lab will be adopting a systems biology approach. The aim is to integrate experimental findings from genomics and proteomics with computational analysis and consider the participating molecules as part of a network. This approach should provide novel insights into cancer and those insights may lead to new drug developments and better understanding and design of complicated drug regimens.

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Dr. Li's research interests include information technology for delivering eye care. She has published on digital imagery standards for clinical research and telemedicine and co-edited "Telehealth Practice Recommendations for Diabetic Retinopathy," published by the American Telemedicine Association's Telemedicine and eHealth journal. Dr. Li was past chair of the American Telemedicine Association's Ocular Telehealth Special Interest Group. Her research support included grants from National Institutes of Health, foundation and industries. Dr. Li is a four-time recipient of Faculty of the Year Awards from the UTMB ophthalmology department. She teaches medical students, graduate students and supervises practicums and theses for UTHSC-H Health Information Sciences master and doctoral students.

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The research in our lab focus on the development of computational and statistical approaches to performing large-scale analysis of cellular networks, biological pathways, genomic sequences, and gene expression. Current studies in our lab primarily focus on the area of systems biology, which involves the development of computational methods to integrate information from diverse sources in order to reconstruct biological networks, such as protein interaction networks and signal transduction networks. From a statistical point of view, Our lab is interested in the field of Bayesian inference and its applications in Bioinformatics, and we have been working on the development of Bayesian approaches to inferring protein functional modules using high-throughput mass spectrometry data.

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Dr. Ma's main research focus is on computational study of the energetics and dynamics of protein structures, particularly on the role of functionally important large conformational changes, such as those involved in signal transduction, enzyme catalysis and protein folding in vivo.

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Dr. Macklin's research interests include computations modeling of tumor growth. Dr. Macklin is currently collaborating with Dr. Cristini on a new generation of tumor growth and angiogenesis models. For more information, contact Dr. Macklin at:

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Rodger Marion was a California filmmaker who won a CINE Golden Eagle. In graduate school, he learned to program a computer, and trained as a school psychologist, but ended up in the US Air Force, in Texas, teaching reading to basic trainees. Later he got a Ph.D. in psychology and communications, did a lot of computer programming, and wanted to go into educational television. Again he ended up somewhere else. This time he trained interdisciplinary health care teams in rural Kentucky. He came to the University of Texas Medical Branch in 1981. Currently, he is professor of Humanities and Basic Sciences, and assistant dean for research and educational technology in the School of Allied Health Sciences. Rodger, and his colleagues, have developed multimedia, instructional software that is licensed at over 60 colleges and universities. They have received many grants to support their research in using computers in education and developing software. Their current work focuses on developing simulations of international, telemedicine clinical encounters. And finally, thanks to the wonders of technology that have linked computers and television, he gets to paint again with light and shadow through a camera's lens.

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Patrick J. McGinnis, MD is a Physician Executive with Cerner Corporation -- the leading firm in the healthcare information technology industry. Cerner Physician Executives bring expertise to the challenging intersection of clinical, technical, and managerial domains of modern healthcare organizations. Prior to joining Cerner, Dr. McGinnis was a NASA Flight Surgeon at the Johnson Space Center in Houston, Texas. There, he provided primary care to NASA astronauts, their families, and medical support for several space missions. He has served as a Flight Surgeon with the Air National Guard and the USAF Reserve; he has completed the USAF Air War College, and currently holds the rank of Lieutenant Colonel in the USAF Reserve. Dr. McGinnis is a graduate of Xavier University and the University of Kentucky College of Medicine. He trained in Internal Medicine at the University of Texas Medical Branch and in Aerospace Medicine at Wright State University. His academic credentials also include an MS in Health Informatics from the University of Texas Health Science Center at Houston, and an MBA from the Georgetown University McDonough School of Business. In addition to academic, public sector, and corporate experience, Dr. McGinnis served as a Congressional Fellow to Montana Senator Conrad Burns in 2002. He conducted legislative research and assisted with policy formulation, thereby gaining valuable insights to the political process and leadership in the Federal Government.

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The Bioinformatics Research Laboratory (BRL), directed by Dr. Milosavljeic, develops new experimental and computational methods for discovery through genomics, epigenomics and informatics. BRL aims to enable new discovery methodologies employing massively parallel sequencing and other high-throughput genomic technologies. A recent research initiative is the construction of the Epigenome Atlas as part of the NIH Epigenomics Roadmap Initiative. The Genboree Discovery System is the largest software system developed at BRL. Genboree is a turnkey software system for genomic research. The Epigenomics Data Analysis and Coordination Center and a number of collaborative epigenomic projects use Genboree as the core informatic infrastructure. Our Positional

Hashing method, implemented in the Pash program, enables extremely fast and accurate high-volume sequence comparison and pattern discovery by employing low-level parallelism. By being able to accurately analyze billions of sequence fragments from ChIP-seq, bisulfite-seq and other *-seq assays performed in the course of the NIH Epigenomics Roadmap Initiative project, we anticipate to be able to gain insights into the interplay between human genetic and epigenetic variation. BRL is also developing comprehensive, rapid, and economical methods for detecting and interpreting recurrent chromosomal aberrations in cancer using massively parallel sequencing technologies.

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Throughout the course of her career, Patel has covered many areas of cognitive informatics and decision-making. She initiated the use of cognitive science methods and theories in research pertaining to medical problem solving. She worked extensively in the area of medical error reduction in emergency care and critical environments, and in the area of lay health cognition in diverse socio-cultural contexts. Patel also studied risk-taking behavior and sexual decision-making as it relates to HIV in youth and adolescents. Her expertise brought her to work for many national and even global agencies, such as the World Bank, the World Health Organization (WHO), Unicef, and the Canadian International Development Agency (CIDA).

Patel is an elected fellow of the Royal Society of Canada (elected by the Academy of Humanities and Social Sciences) and The New York Academy of Medicine. In 1999, she received the Swedish "Woman of Science" award. Patel is an associate editor of the Journal of Biomedical Informatics, has authored more than 250 publications, and has been on the editorial board of several other health science and informatics journals.

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American College of Medical Informatics. During his surgical residency, Dr. Shabot implemented a first generation clinical information system for the real time management of critically ill patients. Since then he has overseen the development of numerous innovations in patient care including ambulatory systems. He has published over 325 papers, chapters, books and abstracts on critical care, trauma, physiologic monitoring and the use of computerized information systems for decision support, quality management and clinical research. A specialist in medical computer technology, Dr. Shabot conducts research on how systems can improve patient care, quality and safety. With Cedars-Sinai Medical Center he obtained a patent on a wireless clinical alerting system in 1999.

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The States Group is also engaged in molecular biology data integration. Projects have included physical map assembly, genome annotation, the analysis of gene expression profiles, databases for molecular interactions and automated natural language processing.

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Dr. Turley is the founding faculty member of the School of Health Information Sciences at the University of Texas Health Science Center at Houston (formerly the School of Allied Health Science). He was responsible for the development of the curriculum for the Master of Science and Doctor of Science Programs. He has worked nationally and internationally in the areas of knowledge modeling and taxonomy development. He was project director for the development of the Community Nurse Minimum Data Set-Australia, which has since been incorporated into the Australian National Minimum Data Set. Since then, his research and education have focused on the interface between discipline specific and an integrated Health Focus for Informatics and Health Data Utilization. More recently this work has included the need to develop a light weight electronic health record for the street homeless. This project has begun a reconceptualization of the needs and structures of health data for electronic health records and patient specific health records.

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Dr. Vogler has a nursing background and has taught, held administrative positions and served as a school of nursing chief information officer and executive director of an information and educational technology center that provided information services and educational support. He has served on university level information, technology and educational committees, been involved at the university level for HIPPA, compliance, security, course management software and distance technology issues. He has participated in oversight of information technology, served on distance education committees and in university building programs. His recent research interests include blood pressure reactivity and un-witnessed patient falls. He has published journal articles, book chapters and has numerous presentations. His dissertation research focused on quality of care for terminally ill hospitalized patients.

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Dr. Walji has been recruited by the UT Dental Branch to bridge the gap between endodontics and electronics, prosthodontics and programs, and all things dental with all things digital. Dr. Walji is the Dental Branch's new informatician. . Muhammad F Walji PhD is an assistant professor in the Department of Diagnostic Sciences at the University of Texas Dental Branch at Houston and an adjunct assistant professor at UTH-SHIS. Dr Walji's research has focused on assessing usability of HIT systems, and improving decisions of patient and providers through the use of the electronic health record and point of care decision support. Dr Walji currently serves as Principal Investigator of a NLM funded grant to develop an Inter-university Oral Health Data Repository that will allow end users to directly explore and extract information to support their specific research or decision making needs. He is also the current chair of the ADEA Section on Dental Informatics and serves on the Board of Directors for the Consortium of Oral Health Related Informatics (COHRI).

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Dr. Wenker has developed Wenker Technologies and Internet Scientific Publications to provide educational technologies and peer-reviewed electronic publications on the web. WenTek LLC (Wenker Technologies) has been incorporated in early 1998. The goal of the company is to create and produce multimedia-based educational products. The main focus is to combine modern electronic technology with medicine. Professional medical personnel is involved in the production of educational material such as CD-ROM's, Internet web pages, Intranet pages streaming, slide shows, streaming video, interactive programming, and CME content production. Internet Scientific Publications LLC is one of the oldest and largest International medical publishing houses on the web. All our articles, reviews, multimedia presentations and case reports are peer-reviewed. It is our goal to remain a leading source for high quality medical information on the Internet.

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Her main research interest is in using technology to teach. A particular interest is the use of games to teach health science concepts to children and youth. . She teaches the popular Emerging Technology course that address current developments in teaching, learning, and research.

Her other role at the school is as Director of the Certificate program, recruiting and advising students both in the certificate and in their transition to the MS or PhD Program. In this role she examines several facets of informatics education, for example predicting student success in the school's degree programs and retention.

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