THE UNIVERSITY of TEXAS
HEALTH SCIENCE CENTER AT HOUSTON

UTHSC-H

THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON

SCHOOL OF HEALTH INFORMATION SCIENCES

2007 — 2009 CATALOG

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The University of Texas Health Science Center at Houston is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501; URL sacs.org/) to award certificates and bachelor, master, doctoral and professional degrees.

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Message from the President

Congratulations and welcome to The University of Texas Health Science Center at Houston! Your decision to pursue a career in the health science arena is a noble one. As our world population continues to grow and age, your contributions to eliminating disease and suffering will be increasingly valued.

Inspired by my own parents who were both physicians, I have pursued a career in the field of cardiology -- caring for patients, teaching students, and conducting research that has led to new discoveries. In recent years there has been an explosion of new knowledge that is contributing to a better understanding of the role that genes and proteins play in the development of disease. There is no more exciting or challenging time for health professions students than the present.

You are now a part of our health science center family. This is the most comprehensive academic medical center in the Southwestern United States, with six distinct schools devoted to medicine, dentistry, nursing, public health, biomedical science and health informatics. Additional units are focused on molecular medicine and psychiatric care. Nowhere in the world can a student find the breadth of programs and opportunities available here on our campus with schools located throughout the world-famous Texas Medical Center.

I encourage you to get to know your fellow students and our esteemed faculty – many of whom are internationally known in their fields of endeavor. Become familiar with all components of this diverse health science center and foster opportunities to collaborate.

Each member of our faculty and administration is committed to creating and maintaining the most stimulating and nurturing learning environment possible. We wish you the best in your academic pursuits and in the health sciences career that lies ahead.

James T. Willerson, M.D.

Welcome !

UTHSC-H offers students a stimulating environment. This is important because we believe that learning and personal and professional growth and development occur best in an environment of excitement, creativity, and discovery. People, scholarship, and service are highly valued at UTHSC-H. The people are the students, faculty, staff, patients and others who comprise our university community and give it uniqueness, diversity and excitement. Scholarship is the foundation of all our activities. Scholarship is about learning or discovering new knowledge and teaching, integrating and applying that knowledge. Service occurs as members of the university community apply their knowledge and skills to provide advice and insight to care for patients, to prevent disease, and 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.

We are committed to leadership and quality in all that we do to further education, research, patient care and community service. That is our mission. As a result of our commitment, we are rigorous in the recruitment of faculty and students, knowing that we will count on their leadership and support now and in the future. Simply put, leadership is reflected in our appreciation for the contributions of others, making decisions based on first-hand information, and setting examples worth following.

Our location and research activities benefit our education programs. Being in the Texas Medical Center and in community hospitals, clinics and schools provide learning opportunities not available in many academic health centers. Our physical plant includes 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 unique opportunities for learning. Our university is nationally recognized for its basic science, population, and clinical research programs. UTHSC-H is in the top tier of research institutions in Texas, as measured by funds expended for research, the number of quality publications authored by faculty, students and staff, and the receipt of the Nobel Prize in Medicine by one of our colleagues.

We believe in teamwork but value the uniqueness of individuals. 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. We believe that every individual should be treated fairly and with respect and dignity. Furthermore, we believe that individuals are most productive and are more responsible and accountable when engaged in meaningful work or learning and when they know what is expected of them. In this regard, our faculty and others who are in leadership positions strive to provide direction and support for their constituents at all times.

Our goal is to make UTHSC-H an outstanding place for those who join us to share many positive experiences that will enrich their lives, build on the reputation of our university, and benefit our community.

L. Maximilian Buja, M.D.
Executive Vice President for Academic Affairs

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Mission and Vision Statements

Mission Statement

The University of Texas Health Science Center at Houston is a comprehensive health science university composed of six schools, an institute of molecular medicine and a psychiatric center. UTHSC-H's mission is to treat, cure, and prevent disease now and in the future by educating health science professionals; discovering and translating advances in social and biomedical sciences; and modeling the best practices in clinical care.

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 trust, 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 *Rules and Regulations* of The Board of Regents of The University of Texas System 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 4,400 faculty and staff and has over 3,500 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
(John Freeman Building, Medical School Building and Jesse Jones Library 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

Houston Recovery Campus
4514 Lyons
Houston, TX 77020

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

Speech and Hearing Building
1343 Moursund
Houston, TX 77030-3496

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 (HOOP Policy 2.09 Use of University Facilities, updated 10/96). 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 on the UTHSC-H campus or in any building, structure, or facility owned, controlled, or operated by UTHSC-H (HOOP Policy 2.05 Solicitation on Campus, updated 04/01).

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
Conflict Resolution Board
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
Student InterCouncil
Student Services Council
University Appointment, Promotion and Tenure Committee
University Classified Staff Council
Work/Life Council

Development Board

The Development Board consists up to 200 members who serve as ambassadors for the UT Health Science Center and assist the university in advancing its mission through philanthropic support. Members serve three-year terms and may be reappointed for up to four terms.

There are three categories of membership: regular, emeritus and life. Currently, there are 128 regular members of the Development Board. Emeritus membership is reserved for those members who have served as Chair of the Development Board. Life members are those distinguished Board members who have been recognized for their many years of outstanding service.

Board members also are able to serve on Development Councils established to involve members in the ongoing activities of the schools, institutes and centers. Currently, there are three Development Councils; Public Affairs Council, Corporate Relations Council and Government Relations Council. School Development Councils include: Dental Branch Development Council, Graduate School of Biomedical Sciences Development Council, Medical School Development Council, School of Health Information Sciences Development Council, School of Nursing Development Council and School of Public Health Development Council.

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 Research Center for Cardiovascular Diseases is leading efforts to identify molecular mechanisms that contribute to the development of heart attacks and heart failure. Recently, Dr. Edward T.H. Yeh and his colleagues discovered that C-reactive protein (CRP), a serum protein that rises during inflammation and heart disease, could directly activate human coronary artery endothelial cells to express adhesion molecules and cytokines. These findings provide a crucial insight into a large body of epidemiological studies showing that CRP, independent from cholesterol, is an important predictor of future cardiovascular events in apparently healthy men and women. The Center's discovery suggests that CRP is not only a marker of inflammation, but also a direct participant in the pathogenesis of atherosclerosis. Interestingly, several lipid-lowering drugs, such as statins and fibrates, can inhibit the pro-inflammatory effect of CRP. Center scientists have continued to lead an effort to define how CRP-induced inflammation could be regulated in order to prevent the progression of atherosclerosis and its dreaded complications.

The Research Center for Cell Signaling has been examining the role of nitric oxide and cyclic GMP in cellular signaling in vascular biology, inflammation in the gastrointestinal tract and other tissues. The

laboratory has obtained the genomic structure of the gene for mouse and human soluble guanylyl cyclase, and has identified the promoters for these genes. In addition, the enzyme has been expressed in large quantities to perform various biochemical studies. It was found that estrogen has an effect on the regulation of the gene. The isoforms of nitric oxide synthase have been characterized and many nitrotyrosine containing proteins that play a role in inflammation and diabetes, as well as a "denitrase" enzyme that modifies nitrotyrosine. The laboratory has also developed a soluble guanylyl cyclase mutant that is constitutively active in the absence of nitric oxide. This work has numerous implications and applications in many clinical disorders.

The Research Center for Human Genetics is using modern genomic technologies to unravel the genetic predisposition to the most common chronic diseases, such as heart disease and stroke. Cardiovascular diseases are the number one cause of sickness and death in the United States. Identifying and characterizing the genes underlying cardiovascular disease susceptibility promises to offer new treatment strategies (e.g. drugs) and even prevent their occurrence altogether. The Center uses the latest tools for large scale genomic and proteomic analyses. In addition, a major activity of the Center is the statistical and bioinformatics analysis of large-scale DNA sequence, gene expression and proteomic data.

The Research Center for Protein Chemistry serves as a core facility for the structural analysis of proteins; the research activities of this center focus on three major topics. All these activities relate to the significance of the manipulation of conformational change of proteins. (1) Development of technology for the production of diverse and stable conformational isomers of proteins; (2) Elucidation of the mechanisms and pathway(s) of protein folding and unfolding; (3) Preparation and isolation of isomers and derivatives of mouse prion protein that display structural properties of scrapie prion protein.

The Research Center for Immunology & Autoimmune Diseases is examining the molecular and genetic bases of several different allergic, autoimmune, and infectious diseases involving distinct organs. These studies explore the nature, structure, and function of specific cell membrane receptors and their ligands in modulating the immune and inflammatory responses. In concert with the molecular studies, the Center's scientists have engineered mice with specific targeted gene mutations or deletions that are being used in models of human disease. These animal studies have facilitated the identification of key gene products that play significant roles in modulating the immune system as well as contributing to the pathogenesis of human disease. Presently, the Center's research efforts are focused on diseases that affect the lung, skin, and kidney.

The Research Center for Vascular Biology is providing new insights into the molecular targets of cell protection and the results should be valuable for further development of cytoprotection therapies. The group is also involved in clinical investigations including the therapeutic use of nitric oxide gas in order to decrease circuit-induced cell and tissue injury in patients subjected to cardiopulmonary bypass and extracorporeal membrane oxygenation. Other clinical efforts have led to studies on the role of NO synthases in liver cirrhosis.

Core Facilities

The Laboratory for Developmental Biology was established to help scientists at the Institute of Molecular Medicine and The University of Texas Health Science Center conduct research that requires the production of transgenic and knock-out animal models of human diseases. Genetically-altered animals, called transgenic and "knock-out" animals, represent invaluable models of human genetic diseases. In these animals, candidate genes are inserted or deleted in order to study the role that specific gene products play in the pathogenesis of different diseases.

The Laboratory for Developmental Biology has produced over five hundred new, transgenic and knock-out mouse lines for scientists from the IMM, UTHSC-H, Baylor College of Medicine and UT M.D. Anderson Cancer Center. Some of the animal models generated were instrumental in the discovery of new genes that have important roles in the development of heart disease, asthma and cancer, just to name a few. By working together with and helping scientists to advance their research, the Core Facility has become an integral and valued component of the University.

Recently, the services of the Laboratory for Developmental Biology have expanded to include a Stem Cell Research Core Facility. This is the only facility in the Texas Medical Center that offers scientists intellectual and technical assistance in stem cell research. Mouse stem lines newly derived in the laboratory are available to investigators to use in their experiments in order to integrate this revolutionary new technology into their own research.

In addition to providing intellectual and technical assistance to other scientists, the Laboratory for Developmental Biology also conducts original research in stem cell therapy. The laboratory's recent accomplishments include the derivation of new, highly effective mouse stem cells and the genetic modification of these cells to emit a green light. The modified, glowing stem cells may be visually followed when re-implanted into the body and thus they represent an invaluable tool for studying the process by which stem cells regenerate tissues and organs that have been damaged by disease. The Laboratory's future research plans include the genetic engineering of the stem cells to prevent immune rejection following transplantation into a different organism and the application of the knowledge and experience that was gained by working with the mouse stem cells to research with human stem cells.

The Laboratory for Molecular Imaging, using modern information processing techniques in concert with physics-based simulation methods, is combining structural data of biological machines from a variety of biophysical sources. In particular, the team investigates the architecture, dynamics, and function of large-scale macromolecular assemblies with low-resolution density data from electron microscopy. The experimental work at the Institute is complemented by theoretical research in image processing and bio-computing at the School of Health Information Sciences.

Other core facilities available at the IMM include a flow cytometry and cell sorter facility, an automated DNA sequencing facility, and a BL-3 laboratory for work with highly infectious agents. A core facility for microarray analysis and proteomics is in the planning phase. These techniques are currently being used in some of the Centers.

The IMM is housed in the new 223,000-square foot Fayez 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.

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

The Center for Academic & Reading Skills

The Center for Academic & Reading Skills (CARS) is a research facility that studies the ways in which reading skills and other academic skills develop in young children, including those who are

academically disabled or underachieving. The Center examines the effects of concentrated early reading intervention for the prevention of reading difficulties, including an examination of the effects of different types of reading intervention on reading development. One research study looks at changes in brain activation as a function of reading intervention, using a Magnetic Source Imaging technique. CARS transfers research results into classrooms by disseminating information to school personnel, training teachers and educators, providing and implementing prototypes of new approaches to teacher training, monitoring programs, developing better ways to evaluate student performance and designing prevention programs. CARS' research is supported mainly by grants from the National Institutes of Child Health and Development, the Inter-agency Educational Research Initiative, the Office of Educational Research Improvement and the Texas Education Agency. Additional funding sources include the AT&T Foundation, Meadows Foundation and Houston Endowment.

Website: cars.uth.tmc.edu/

Center on Aging

The Center on Aging, established in 1987, advocates interdisciplinary activities, recognizing that the care of older persons requires the collaborative effort of physicians, nurses, social workers, nutritionists, physical and occupational therapists and other health professionals. The Center on Aging has taken the lead in responding to the Texas Higher Education Coordinating Board's goals of articulating programs, coordinating services and sharing resources among the publicly funded educational institutions that offer gerontology or geriatric programs throughout the state. The primary mission of the Center is to initiate, coordinate and facilitate disciplinary and interdisciplinary aging research, education, community service and institutional development within UTHSC-H.

Specific interdisciplinary aging-related activities initiated by the Center include: (1) research projects that aim at improving the well-being of older adults and their caregivers; (2) educational programs in collaboration with other academic institutions, and community agencies that provide professional development and continuing education; (3) community service programs that seek to improve access to accurate age-related information; (4) a consultation center that provides Aging Resources, Information, Support and Education (ARISE) services to individuals and families who are coping with aging changes and care giving challenges; and (5) the Long-Term Care (LTC) Ombudsman Program, an advocacy service for residents of LTC facilities in Harris County and their relatives.

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

The Center for Biosecurity Informatics

The Center for Biosecurity Informatics Research is established by the School of Health Information Sciences, the Center for Biosecurity and Public Health Preparedness and Institute for Biotechnology within the UTHSC-Houston to coordinate research and development of IT infrastructures and technological platforms relevant to bioterrorism preparedness, emergency response and situation awareness (Homeland Security).

The Center will promote 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 public health situation awareness systems and emergency response management infrastructure for public health preparedness against bioterrorism. The center will promote a multidisciplinary collaboration environment between university researchers, private enterprises and government agencies from public health, nursing, informatics, and medical domain, to provide America with state of the art technologies, research and development infrastructures and training, education and drill tools for scientists and for community about bioterrorism and mass casualty events."

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, faculties, 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.

2. 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.

3. 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 is a new collaborative endeavor, based in the School of Public Health, that will bring together the expertise of faculty throughout UTHSC-H as well as individuals and organizations statewide to focus on research, education and training, communication and public information, emergency resources and policy development in this critically important area for protection of the public's health.

Website: texasbiosecurity.org/

Center for Cardiovascular Biology and Atherosclerosis Research

Cardiology Clinical research interests include coronary thrombolysis in acute ischemia, the development of left ventricular assist pumps, and new PTCA and atherectomy devices. Quantitative arteriography to evaluate coronary restenosis and the progression of atherosclerosis is under investigation. 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. Basic science research is underway in molecular and cell biology, particularly with regard to endothelial aspects of atherosclerosis 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 augment population health – as measured by life expectancy without illness or disability – by promoting clinical research of the highest quality and by advancing the way that this research is applied by physicians in caring for their patients. Faculty of the Center includes 19 colleagues in an array of disciplines – epidemiology, economics, ethics, statistics and behavioral and social sciences – as well as physicians highly experienced in clinical research. The Center has developed a master's degree program in clinical research and an NIH-supported 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 Center also provides a Design and Analysis Support Service to assist clinical investigators. 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 105 published manuscripts, principal investigators for 17 funded grants and investigators for 48 funded grants.

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 UTHSC-H's School of Health Information Sciences 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: sahs.uth.tmc.edu/Centerforcomputationalbiomedicine/

Center for Education and Information Resources

The Center for Education and Information Resources (CEIR) plans, develops, and implements numerous educational and information technological projects and offers related resources in support of the students, faculty, and staff of the SON that encourages the attainment of the University of Texas Houston Health Science Center at Houston's mission and the goals of the SON. The purpose of the CEIR is to "*implement technology that enhances teaching excellence and quality learning.*"

Specifically, the CEIR provides support for educational programs, including distance education; develops software/hardware standards; maintains the SON networks; supports and schedules classrooms, supports and maintains the computer labs; and provides training and multimedia development.

Website: son.uth.tmc.edu/ceir/

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 Valley Border Health Services Project established in 1988. This project serves as focal point for research, analysis, planning and policy development related to health services and health status along the U.S./Mexico border, particularly the Lower Rio Grande Valley. Project faculty and students, in collaboration with UTHSC-H institutions and Valley representatives, develop and implement innovative strategies to expand access to health services and enhance community health.

Website: sph.uth.tmc.edu/mpch/default.asp?id=234

Center for Health Promotion & Prevention Research

The mission of the Center for Health Promotion and Prevention Research (CHPPR) is to conduct research to develop, evaluate and disseminate health promotion and disease prevention programs in diverse settings and populations. The CHPPR is a CDC Prevention Research Center and a World Health Organization Collaborating Center. The CHPPR has formal collaborative agreements with the University of Maastricht in the Netherlands and Queensland University of Technology in Australia. The CHPPR trains pre- and post-doctoral fellows in behavioral science cancer prevention and control through funding from the National Cancer Institute. The Center's Continuing Education Network offers professional development for public health practitioners.

In 2002 the CHPPR had 8,973,165 dollars in external funding for over 50 research projects focusing on: cancer prevention and control, tobacco use prevention and smoking cessation, drug abuse, sexual risk behaviors, asthma management, physical activity, alcohol abuse, cardiovascular health in children, youth health behaviors, diabetes prevention in children, women's health, injury prevention, comprehensive school health, CD- Rom based health promotion programs and obesity prevention in youth.

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 costs and benefits 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-Houston and School of Public Health (SPH) by applying basic research on causal relationships, intervention design, and population surveillance to service, system, and policy questions. The CHSR will provide graduate 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 UTSPH 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 Department of Psychiatry and Behavioral Sciences, University of Texas Health Science Center at Houston-Medical School. Our mission is to be a center of excellence in research, education, clinical and community service related to all aspects of human development and developmental psychopathology. Our goal is to improve the lives of people with developmental disorders or mental illness originating in childhood, through research on the nature, causes, and treatment of these disorders.

Website: uth.tmc.edu/chdr/

Center for Improving the Readiness of Children for Learning & Education

The Center for Improving the Readiness of Children for Learning & Education (CIRCLE) is actively involved in numerous research and training activities related to the goal of promoting quality learning environments for young children. The child development faculty colleagues and research and training staff of CIRCLE have developed a large research database on early childhood from numerous research programs supported by the National Institute of Child Health and Development, numerous foundations, as well as seed grants from UTHSC-H. Translation of the findings of CIRCLE research has resulted in the development and delivery of several ongoing training and service programs in Texas. Most recently, collaboration with the Episcopal Health Charities has resulted in a community-based early childhood

program with neighborhood mentors, parents and childcare agencies. Also, through funding from the US Department of Education, Department of Health and Human Services – Administration for Children & Families, the Texas Education Agency, the Bank of America and the Meadows Foundation, CIRCLE conducts demonstration teacher training projects across Texas and the United States.

Website: uth.tmc.edu/circle/

Center for Infectious Diseases

The Center for Infectious Diseases (CID) was created by the Texas Legislature in 1989. It is housed in the UTHSC-H School of Public Health and consists of offices and research laboratories. The Center's mission is to address the problems of emerging infectious diseases in Texas, especially HIV-related issues, and to develop fundable and sustaining research programs. Current programs include studies in hepatitis viruses, parasitic infections, traveler's diarrhea, HIV 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 AIDS Research and Control Center located in Mumbai, India, provides an important and valuable site for HIV-related studies, such as heterosexual transmission, an increasing problem in the Texas population. 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

The Center for Laboratory Animal Medicine and Care (CLAMC) provides laboratory animals and support to more than $25 million in biomedical research projects. The accredited facilities and programs provide professional veterinary, surgical and animal care services in support of principal investigators' animal use studies. CLAMC staff includes four veterinarians, seven veterinary technicians and over 30 animal care and support personnel. The physical facilities include vivaria in four UTHSC-H buildings, a modern experimental surgery suite and an off-site satellite facility. 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.

Website: research.uth.tmc.edu/clamc/

Center for Membrane Biology

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

Our newly formed Center, housed in the Department of Biochemistry & Molecular Biology, with participation also of the Departments of Integrative Biology & Pharmacology, and Microbiology & Molecular Genetics, is currently undergoing a major expansion, which has created 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 nursing science and improving the evidence-based practice of nursing through support of the School of Nursing. CNR supports faculty and students in the development and implementation of clinical intervention and outcomes research. The 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 CNR also maintains an electronic Research Bulletin Board.

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

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, which 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 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 bacterial 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 methodoly 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/cte/

Coordinating Center for Clinical Trials

The Coordinating Center for Clinical Trials, established in 1971 and located in the School of Public Health, provides individual investigators in biostatistics, epidemiology, biological sciences, management and other disciplines with the expertise and personnel to coordinate the design, analysis and interpretation of multi-center, randomized, controlled clinical trials. The Center includes experts who supervise 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 and interpretation and fiscal management. The Center has obtained over $250 million in research funding since its inception.

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

Gulf States Hemophilia & Thrombophilia Center/Pediatric AIDS Center

The Gulf States Hemophilia and Thrombophilia Center, affiliated with the Medical School, provides comprehensive diagnosis and treatment services for children and adults with Hemophilia, Thrombophilia, Von Willebrand's disease and other bleeding disorders. These services include medical, nursing, social services, physical therapy, dental, orthopaedic, genetic counseling, psychosocial and laboratory.

An annual outreach clinic is conducted in El Paso and a satellite clinic has been established in Galveston. The Center conducts research in the diagnosis and treatment of congenital coagulation disorders and HIV and its complications. Research on the impact of changing health care reimbursement on the provision of services to children with rare chronic diseases is conducted on an ongoing basis. The Center also provides educational sessions locally and through the Lone Star Chapter of the National Hemophilia Foundation.

The Pediatric AIDS Center 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 (and, perinatally, their mothers) 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.

Source: Joan Wasserman, Hemophilia Center/Memorial Hermann Hospital (713-500-8379)

Houston Biomaterials Research Center

The mission of the Houston Biomaterials Research Center, established in 1995 and housed at the Dental Branch, is to support and develop research, education and training in biomaterials at UTHSC-H. Its members investigate applied and fundamental biological, clinical, mechanical, chemical and physical properties of biomaterials for dental, orthopaedic, craniofacial and other applications. Scientists and advisory board members affiliated with the Center include faculty from Baylor College of Medicine, Rice University, Texas A&M University, Texas Heart Institute, UT-San Antonio Dental School, UTHSC-H Dental Branch and Medical School, as well as representatives from the dental industry. The Center supports the specialized master's program in oral biomaterials at the Graduate School of Biomedical Sciences and continuing dental education program at the Dental Branch. For more information, refer to the Center's website or contact John.M.Powers@uth.tmc.edu.

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

Human Genetics Center

Originally organized in 1972, the Human Genetics Center is a research and teaching facility which 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, which 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, hypertension and diabetes. Faculty in the Center also are actively engaged in studying the fundamental evolutionary mechanisms underlying human genetic variation. In order to accomplish these objectives, high through-put DNA typing 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 and Susan Dell Center for Advancement of Healthy Living

The Michael and Susan Dell Center for Advancement of Healthy Living, formerly the Human Nutrition Center was established in 1977 to develop a multidisciplinary approach to the solution of nutrition problems and to contribute to the nutrition education of health professionals and the public. The Center serves as a resource for individuals and institutions in the Texas Medical Center with common interests in the relationship of food intake and nutritional health status.

Because of the emphasis on disease prevention and nutrition education of public and health professionals, the Center is located in the School of Public Health. The Center's faculty and staff are particularly concerned with local, 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 Center promotes public and professional awareness and utilization of the nutritional resources available at the Health Science Center. The faculty and staff are also involved in a wide range of educational, research and service activities related to nutritional health issues, and maintain cooperative relationships with a number of academic, health and public health institutions in Houston, the State and throughout the country. The Center's staff are actively involved in the development of methods for assessing the dietary intake of individuals and population groups, public health nutrition education and research in the etiology and prevention of disease.

Website: sph.uth.tmc.edu/DellHealthyLiving/home.asp

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

The new John P. McGovern, M.D. Center for Health, Humanities and the Human Spirit at The University of Texas Health Science Center at Houston is an integrative teaching and learning center that will be rooted in the holistic principles established and taught by Sir William Osler (1849-1919), the "father" of American medicine. Dr. Osler sought to merge medical science with human connection and pioneered the modern residency program and bedside teaching for medical students. Students at UTHSC-H will be given the opportunity learn how to interact with patients on a deeper, more meaningful individual level.

The McGovern Center will build on a foundation of programs already underway at the health science center – programs in the medical humanities; health and the human spirit; and medicine, media and the arts. For example, through a health and human spirit course, students work with families in the critical

care and LifeFlight waiting rooms at Memorial Hermann Hospital, learning how to listen, deliver bad news, express compassion and maintain hope.

The center will collaborate with nearby institutions like the University of Houston, Texas Southern University, UT M. D. Anderson Cancer Center and Rice University. It also will offer workshops to help faculty members maintain and recover their inspiration in teaching, to help build a community of integrated learning 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 Hermann Eye Center, the Medical School Department of Ophthalmology 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.

Mental Sciences Institute

The Mental Sciences Institute was founded in 1961 as the Houston State Psychiatric Institute. Its name was changed to the Texas Research Institute of Mental Sciences (TRIMS) in 1967, and in 1985 it became The University of Texas Mental Sciences Institute (MSI) in association with the department of Psychiatry and Behavioral Sciences at the Medical School. The MSI offers comprehensive outpatient services to children, adolescents, adults, the elderly, the mentally disabled and substance abusers. Besides its clinical services, MSI also operates a series of research programs that are highly recognized locally and nationally. MSI also houses a comprehensive psychiatric- and behaviorally-oriented library.

Link on the Department Of Psychiatry And Behavioral Sciences Website:
med.uth.tmc.edu/departments/psychiatry/index.html

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 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 non-profit corporation, financed by government and private funds. To date, private sector gifts to the NUATRC have come primarily from corporations in the petroleum and chemical industries.

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 is engaged in interdisciplinary and interinstitutional research in the neurobehavioral sciences. More than 240 faculty members from UTHSC-H schools and departments engage in multidisciplinary investigations of a broad spectrum of issues that comprehensively address all aspects of the neurosciences from the molecular to the clinical. These studies may hold the key to understanding, preventing and treating chronically debilitating neural and behavioral disorders, such as dementia resulting from Alzheimer's disease, mental retardation, learning and developmental disabilities, mental illnesses, alcoholism and other substance-abuse problems, and loss of cognitive functions due to factors such as the aging process and head trauma. 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 and seminars. The NRC also sponsors a course in the Graduate School of Biomedical Sciences, 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 schools of UTHSC-H, 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 of UTHSC-H 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, Shriner's Hospital, Texas Children's Hospital, St. Luke's Hospital, a leading private hospital, The University of Texas Mental Sciences Institute, a clinical research center offering comprehensive outpatient treatment programs, the 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. It is a National Institute for Occupational Safety and Health-supported Education and Research Center, a National Institutes of Health (Fogarty International Center) funded International Environmental and Occupational Health Research Training Center and, since 1985, a World Health Organization Collaborating Center in Occupational Health.

The Center provides academic training in the core areas of industrial hygiene, occupational health for nurses, occupational medicine, occupational safety engineering, 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. SWCOEH maintains an active research program. Current domestic research interests and activities include: a bladder cancer screening and education program in the petrochemical industry; occupational and environmental risk factors for asthma; environmental lead poisoning surveillance systems; and health issues of migrant farm workers. International research interests and activities include: health care worker training programs in Latin America; development of standard curricula in international

occupational health; environmental aspects of diarrheal disease in children; ergonomic standards and applications in Latin America; and worker safety training in the petrochemical industry.

The Center's Continuing Education and Outreach program offers courses annually in Region VI and internationally to practicing occupational health professionals, professionals in related disciplines, paraprofessionals and technicians in a variety of aspects of occupational and environmental health. A hazardous substance training program, under the auspices of the 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 offering of scholarships and pilot project research awards.

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

Structural Biology 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 UTHSC-H's overall research enterprise.

Trauma Research Center

The Medical School's Trauma Research Center interest is in elucidating the pathogenesis of post injury multiple organ failure (MOF). Specifically, the Center's four basic research projects and one intensive care unit clinical study investigate how traumatic stresses cause gut dysfunction and how gut dysfunction contributes to MOF. When the Center was established in 1988, it was the first in the United States to concentrate on the role of the gastrointestinal tract in MOF. The Center, which is multi-departmental and multi-institutional, is funded by the National Institutes of Health. This year a formal postgraduate research training program has been added. The Medical School investigators represent the departments of surgery, integrative biology and pharmacology, internal medicine, biochemistry and pediatrics as well as academic computing and the Center for Laboratory Animal Medicine and Care. The department of biology at the University of Houston is also part of the Center's activity.

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

University Clinical Research Center

The University Clinical Research Center (UCRC) provides an optimal setting for controlled clinical investigations into the cause, progression, prevention, control and care of human disease. Accredited and funded by the National Institutes of Health (NIH), the UCRC also serves as an environment for training health professionals in clinical research. The NIH funds the inpatient/outpatient facility and the necessary nursing, dietary and administrative staff. A computer systems manager and biostatistician

are available to assist investigators with data management and analysis. Patient care expenses directly related to non-industry sponsored research are also supported in full by the grant. The UCRC is a discrete unit in Memorial Hermann Hospital devoted entirely to conducting clinical research with both adult and pediatric populations. Projects may also be conducted outside the UCRC with patients requiring care in specialty areas such as intensive care units and the nursery. In addition, a DNA Sequencing and Genotyping Core Laboratory supports genomics-based clinical research in the UCRC. Available to investigators from all disciplines at UTHSC-H, the UCRC encourages collaborative research.

sWebsite: uth.tmc.edu/uth_orgs/crc/

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

School/Program	Cert.	Bach.	Mast.	Doc.
Medical School				
M.D.				X
M.S. in Clinical Research			X	
Graduate School of Biomedical Sciences				
M.S. in Biomedical Sciences			X	
(with concentration in Biochemistry, Biomathematics and Biostatistics, Biophysics, Cancer Biology, Cell Biology, Molecular Carcinogenesis, Genes and Development, Genetic Counseling, Human and Molecular Genetics, Immunology, Integrative Biology, Medical Physics, Microbiology and Molecular Genetics, Molecular Biology, Molecular Pathology, Neuroscience, Oral Biomaterials, Pharmacology, Physiology, Radiation Biology, Regulatory Biology, Reproductive Biology, Toxicology, Virology and Gene Therapy).				
Ph.D. in Biomedical Sciences				X
(with concentration in Biochemistry, Biomathematics and Biostatistics, Biophysics, Cancer Biology, Cell Biology, Molecular Carcinogenesis, Genes and Development, Human and Molecular Genetics, Immunology, Integrative Biology, Medical Physics, Microbiology and Molecular Genetics, Molecular Biology, Molecular Pathology, Neuroscience, Pharmacology, Physiology, Radiation Biology, Regulatory Biology, Reproductive Biology, Toxicology, Virology and Gene Therapy).				
Dental Branch				
D.D.S.				X
M.S.D* / Advanced Education Programs	X		X*	
(General Practice Residency (GPR), Advanced Education in General Dentistry (AEDG), Endodontics,Periodontics, Prosthodontics (M.S.D. is required in these programs) Oral and Maxillofacial Surgery, Orthodontics, Pediatric Dentistry (M.S.D. is optional in these programs)				
B.S. in Dental Hygiene		X		
Dental Hygiene Certificate Program	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
School of Nursing				
B.S.N.		X		
M.S.N.			X	
D.S.N.				X
D.N.P.				X
School of Health Information Sciences				
Certificate (in Health Informatics)	X			
M.S. (in Health Informatics)			X	
Ph.D. (in Health Informatics)				X

Accreditation

The University of Texas Health Science Center at Houston is accredited to award certificates and baccalaureate, master, doctoral, and professional degrees by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS), which is located at 1866 Southern Lane, Decatur, Georgia 30033-4097, Telephone (404) 679-4501, sacs.org. 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/Program	Degree	Accrediting Agency
Medical School	M.D.	American Medical Association/Association of American Medical Colleges Liaison Committee on Medical Education
	M.S. (Clinical Research)	
Dental Branch	D.D.S.	American Dental Association
	M.S.	Commission on
	Dental Hygiene CertificateProgram	Dental Accreditation
	B.S. (Dental Hygiene)	
Graduate School of Biomedical Sciences	M.S. with specialization in Genetic Counseling	American Board of Medical Genetics
	M.S. with specialization in Medical Physics	American Association of Physicists in Medicine
School of Public Health	M.P.H.†	Council on Education for Public Health
	M.S.†	
	Dr.P.H.	
	Ph.D.	
School of Nursing	B.S.N.	Board of Nurse Examiners
	M.S.N.	Commission of Collegiate Nursing Education
	D.S.N.	
	D.N.P.	
Nurse Anesthesia	M.S.N.	Council on Accreditation of Nurse Anesthesia Educational Programs
School of Health Information Sciences	M.S. (Health Informatics)	
	Ph.D. (Health Informatics)	

*   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 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 pages following.

Memorial Hermann Hospital is the primary teaching affiliate of the UTHSC-H 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. A more detailed description is given under the Memorial Hermann Hospital and Memorial Hermann Children's Hospital heading.

Lyndon B. Johnson General Hospital is a 300-bed public facility staffed by faculty and residents of the UTHSC-H 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. A more detailed description is given under **The University of Texas M.D. Anderson Cancer Center** heading.

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 consortial 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 engineering. 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 UTHSC-H 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 (nursing); 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, Western and Eastern 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 at El Paso, UTMB in Galveston, UTHSC-San Antonio, and UTHSC-H have concurrent enrollment agreements 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 institution. 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 Outreach and Educational Office has 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 the past 16 years and includes projects that assist the medically underserved communities along the Texas-Mexico Border. This program provides preceptorship opportunities for health care professionals and 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 Country 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 The University of Texas Health Science Center at Houston 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 a major health care resource that provides extraordinary opportunities to obtain a broad base of professional experience. More than 100 permanent buildings, not including Rice University, now occupy more than 1,000 acres which include 15 patient care facilities and more than 14 academic and research institutions. There are over 12,000 volunteers who assist with a wide variety of tasks benefiting the Texas Medical Center.

Approximately 74,000 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 6,300 licensed beds and 373 bassinets. Over 5.2 million patient visits were recorded in 2004, the most recent year of record, which included over 10,000 international patients.

With more than 22,000 students enrolled in regular classes, 2,366 students taking non-short-term courses, and 70,568 attending workshops for professional development, 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 also included. In addition, research activities of the Texas Medical Center member institutions totaled $714 million last year and more than $5 billion in the past five years.

The Texas Medical Center now includes The John P. McGovern Texas Medical Center Commons building, which is the central meeting and gathering place for thousands of staff, patients and visitors who frequent the campus daily. Waterside Court provides eight food concepts that are reflective of Houston's diverse culture and offer freshly prepared foods with an abundance of health-conscious selections.

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.

Legend

Texas Medical Center Map

*The University of Texas Health Science Center at Houston Components *[Unless otherwise clearly posted or expressed by an authorized official of 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. (HOOP policy 2.09 Use of University Facilities, updated 10/96)]*

1. Texas Medical Center Conference and News Center and General Offices

2. Texas A&M University Albert B. Alkek Institute of Biosciences and Technology; ***Institute of Molecular Medicine for the Prevention of Human Diseases**

3. The Houston Main Building: The UT M.D. Anderson Cancer Center (UTMDACC); ***UTHSC-H Information Services; *UTHSC-H School of Nursing**

4. Texas Children's Hospital

5. St. Luke's Episcopal Hospital Complex

6. Texas Heart Institute

7. The Methodist Hospital Complex

8. The Institute of Religion

9. Texas Woman's University

10. ***John Freeman Building (UTHSC-H Medical School)**

11. Jesse H. Jones Library Building: Houston Academy of Medicine-Texas Medical Center Library; Texas Medical Center Executive Offices; Harris County Medical Society; Texas Medical Center Parking Garage 3; South Central Network of Libraries of Medicine–Regional Medical Library

12. ***UTHSC-H Medical School**

13. Prairie View A&M University College of Nursing

14. Hermann Professional Building

15. Hermann Hospital Cullen Pavilion

16. Hermann Hospital Jones Pavilion and Hermann Children's Hospital

17. Hermann Hospital (Administration) Robertson Pavilion

18. Ben Taub General Hospital Garage

19. Baylor College of Medicine Michael E. DeBakey Center for Biomedical Education and Research

20. Baylor College of Medicine (Administration); Roy and Lillie Cullen Building; M.D. Anderson Hall; and Jesse H. Jones Hall

21. Baylor College of Medicine Ben Taub Research Center; Howard Hughes Medical Institute

22. Baylor College of Medicine Vivian and Bob Smith Medical Research Building

23. Ben Taub General Hospital

24. Baylor College of Medicine Jewish Institute of Medical Research

25.   TIRR (The Institute of Rehabilitation and Research), TIRR LifeBridge

26.   ***UTHSC-H Dental Branch**

27.   City of Houston Department of Health and Human Services Central Laboratory; Sexually Transmitted Disease Clinic

28.   UTMDACC Center Complex

29.   ***UTHSC-H Mental Sciences Institute**

30.   University of Houston College of Pharmacy

31.   UTMDACC Jesse H. Jones Rotary Houston International

32.   ***UTHSC-H School of Nursing and Student Community Center**

33.   ***UTHSC-H School of Public Health**

35.   TECO-Central Heating and Cooling Plant

36.   Joseph A. Jachimczyk Forensic Science Center School

37.   **UT Police and Physical Plant Building**

38.   UTMDACC R.E. "Bob" Smith Research Building

39.   ***UTHSC-H Recreation Center**

40.   ***UTHSC-H Child Development Center**

41.   Harris County Psychiatric Center (HCPC)

42.   ***Lyndon B. Johnson General Hospital**

43.   ***University Center Tower (UTHSC-H Administration; UTHSC-H School of Health Information Sciences)**

44.   ***UTHSC-H University Housing**

45.   ***Operations Center Building**

46.   ***UTHSC-H Research Building**

47.   **Houston Medical Center Building; *Graduate School of Biomedical Sciences**

Texas Medical Center
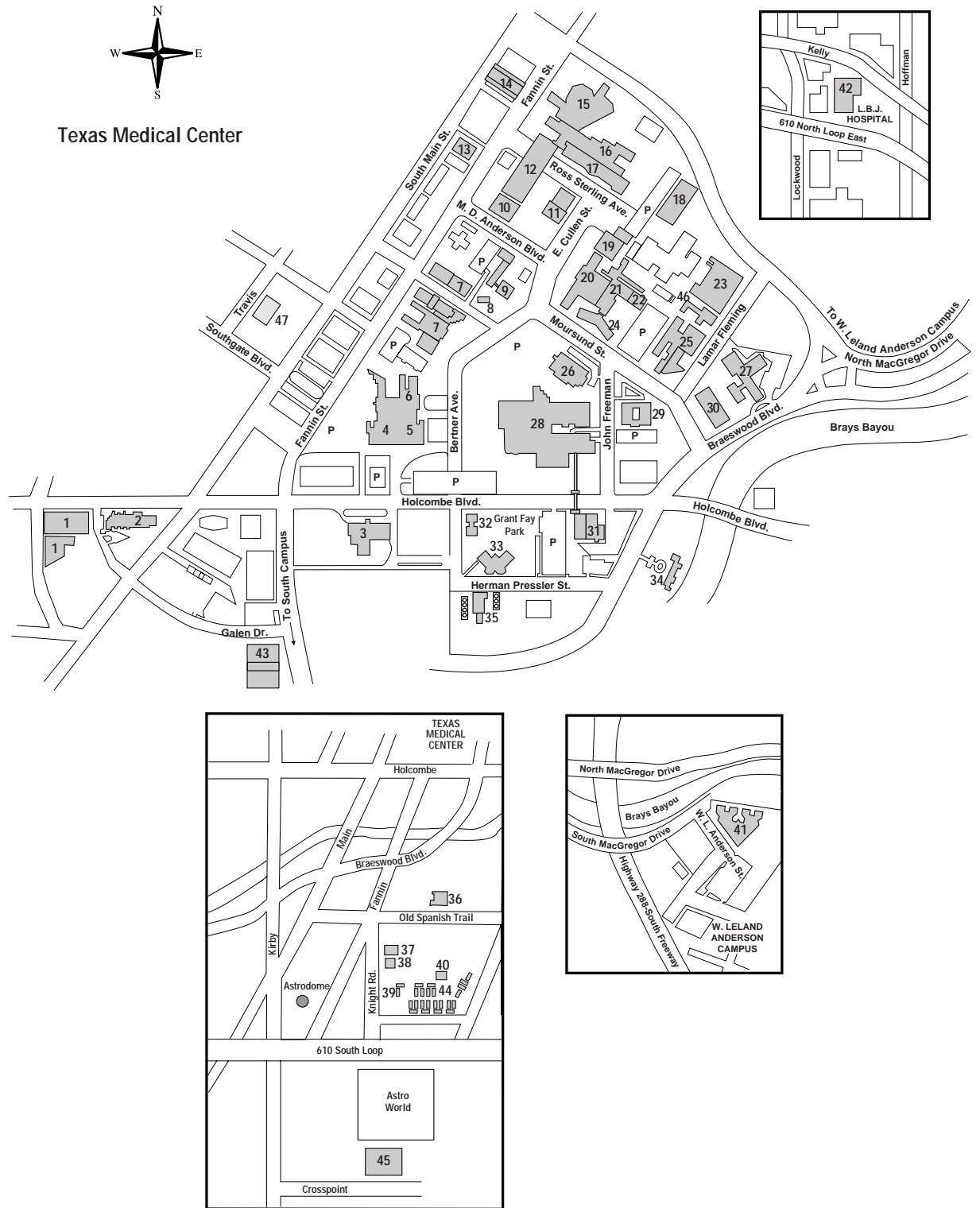
The University of Texas M. D. Anderson Cancer Center

The University of Texas M. D. Anderson Cancer Center (MDACC) 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, almost 700,000 patients have turned to M. D. Anderson for cancer care diagnosis and treatment. This multidisciplinary approach to treating cancer was pioneered at M. D. Anderson. Because they focus only on cancer, experts here are renowned for their ability to treat all types of cancer, including rare or uncommon diseases.

This year, more than 74,000 people with cancer will receive care at M. D. Anderson, and about 27,000 of them will be new patients. Approximately one-third of these patients come from outside Texas seeking the research-based care that has made M. D. Anderson so widely respected. More than 11,000 patients participated in therapeutic clinical research exploring novel treatments in 2005, the largest such program in the nation.

The size of M.D. Anderson has increased about 50% in the last five years, including an in-patient pavilion with 512 beds, two research buildings, an outpatient clinic building, a faculty office building and a patient-family hotel. From 2005 to present, the George and Cynthia Mitchell Basic Sciences Research Building, the Ambulatory Clinical Building, the Cancer Prevention Center and a new research building on the South Campus opened. In 2006, the Proton Therapy Center will open as well.

At M. D. Anderson, important scientific knowledge gained in the laboratory is rapidly translated into clinical care. In 2005, the institution spent more than $342 million in research, an increase of approximately 86% in the last five years. M. D. Anderson now ranks first in the number of grants awarded and total amount of grants given by the National Cancer Institute. M. D. Anderson holds 10 NCI Specialized Programs of Research Excellence (SPORE) grants: lung, bladder, prostate, ovarian, head and neck, pancreatic and endometrial cancers, leukemia, breast and melanoma. The research program is considered one of the most productive efforts in the world aimed solely at cancer.

In September 2005, M. D. Anderson unveiled plans for the Red and Charline McCombs Institute for the Early Detection and Treatment of Cancer. The most aggressive expansion of research in M. D. Anderson's history, the institute comprises six unique centers focused on genomics, proteomics, screening, diagnostic imaging and drug development.

More than 4,100 students take part in educational programs each year, which includes physicians, scientists, nurses and many health professionals. M. D. Anderson offers bachelor's degrees in seven allied health disciplines. More than 500 graduate students are working on advanced degrees at the Graduate School of Biomedical Sciences, jointly offered with M. D. Anderson. The relationship with the UTHSC-H Graduate School of Biomedical Sciences is longstanding and quite strong.

In addition, more than 1,000 clinical residents and fellows come to M. D. Anderson each year to receive specialized training in the investigation and treatment of cancer. More than 1,400 research fellows are being trained in M. D. Anderson's laboratories.

In recent years there has been a marked increase in collaborative activities with the UTHSC-H School of Public Health as the Cancer Center's prevention efforts have grown. Expanded research efforts in epidemiology and behavioral sciences complement achievements made in the clinical cancer prevention arena. 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.

M. D. Anderson employs more than 15,000 people and enjoys a volunteer workforce of more than 1,600 volunteers who provide more than 290,000 hours of service each year. Faculty, staff and volunteers are dedicated to the core values of Caring, Integrity and Discovery.

Several support activities, such as the Office of International Affairs, and UT Police are joint activities of the Cancer Center and UTHSC-H.

Website: mdanderson.org/

Memorial Hermann Hospital and Memorial Hermann Children's Hospital

Memorial Hermann Hospital is a private, not-for-profit hospital founded as a gift from philanthropist George H. Hermann to the people of the city of Houston. In 1997, the former Hermann Healthcare System merged with Memorial Healthcare System to form Memorial Hermann Healthcare System. Memorial Hermann Hospital and Memorial Hermann Children's are two of 13 hospitals in that system.

Memorial Hermann Hospital first opened its doors in 1925 on a then remote tract of land that would later become the world-renowned Texas Medical Center. Through the years, in addition to innovative patient care, the hospital's mission has expanded to include teaching and medical research, and the hospital itself has grown to encompass four pavilions, including the 12-story Hermann Pavilion which opened in the fall of 1999.

Today, Memorial Hermann Hospital and Memorial Hermann Children's Hospital serve some 15,000 patients and their families per month. The hospitals operate more than 650 beds and are staffed by 2,300 physicians and 3,800 employees. Since 1968, the hospitals have served as the primary teaching hospitals for The UTHSC-H Medical School. As a teaching hospital, Memorial Hermann Hospital offers comprehensive services in surgery, internal medicine, ophthalmology, neurology, obstetrics and gynecology, as well as many other specialties and subspecialties. Memorial Hermann Children's Hospital, offers comprehensive services in pediatrics including neonatal and pediatric intensive care. Memorial Hermann's renowned level I trauma center and Life Flight air ambulance program serve more than 40,000 patients each year.

Memorial Hermann Hospital and Hermann Children's Hospital are among the busiest kidney and liver transplant centers in the country. Over 100 kidney transplants take place each year at Memorial Hermann Hospital, the first to test and use the immunosuppressant drug cyclosporine. Initiated in 1991, Memorial Hermann Hospital's Liver Transplant Program has become Houston's leading liver transplant program. Among the milestones recorded by the Memorial Hermann Liver Transplant Program was Houston's first liver transplant from a living donor, which was performed in 1992. Memorial Hermann Hospital, in affiliation with UTHSC-H Medical School, has long been a referral center for treating heart disease. The President Bush Center for Cardiovascular Health offers comprehensive, multidisciplinary services for the diagnosis, treatment and prevention of cardiac disease. State-of-the-art diagnostic imaging techniques such as positron emission tomography (PET) and high resolution magnetic resonance imaging (MRI) enables physicians to diagnose and treat patients before they suffer heart attacks or other complications of heart disease. Other specialized services of the President Bush Center include diagnostic and interventional cardiac catheterization, coronary and peripheral balloon angioplasty, quantitative coronary angiography, and diagnosis and treatment of cardiac arrhythmias.

Each year more than 2,500 babies are welcomed into the world at Memorial Hermann Hospital. Specialized expertise available to expectant mothers includes special care for women with high-risk

pregnancies, which account for approximately 40 percent of the births each year at Memorial Hermann Hospital.

Memorial Hermann Children's Hospital is a 178-bed hospital that is specifically designed for and dedicated to meeting the needs of children from tiny premature infants to adolescents up to age 16. Memorial Hermann Children's Hospital is located inside Hermann Hospital, enabling it to share in the medical resources of a full-service, university-affiliated hospital.

Premature and ill newborns are cared for in the Neonatal Intensive Care unit, which is a level III nursery. Less critically ill infants are cared for in the level II nursery. Children with serious illnesses and injuries receive care in our Pediatric Intensive Care Unit while young kidney, heart and liver patients receive specialized care in the Pediatric Special Care Unit.

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 by the rapid development of petroleum refining and metal fabricating. The city experienced increasing economic diversification during the 1960s and 70s and became a leading financial, commercial and industrial center, as well as an international energy capital during the 1980s and 90s. 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 18 of the Fortune 500 companies and more than 5,000 energy related firms. Houston is considered by many as 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 second 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. It has approximately 4.8 million residents with a median age of 31.2 years. Within the city limits, the population of Houston is estimated at nearly 1.9 million. More than 90 languages are spoken throughout the Houston area. In the Houston region, there are 275,000 students in over 40 colleges, universities, and institutes. 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 cities.

It has more than 500 cultural, visual, and performing arts organizations, 90 of which are devoted to multicultural and minority arts. Located downtown, Houston's 17-block Theater District is home to eight 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 five 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, OrchestraX, and Palmer Society for the Appreciation of Liturgy and Music (PSALM).

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 three 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 Museum of Fine Arts, the Museum of Modern Art, the Menil Collection, the Museum of Natural Science, the Holocaust Museum, the Children's Museum, and the John P. McGovern Museum of Health and Medical Science. The Houston Museum of Fine Arts houses more than 27,000 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 Giacometti, Matisse and Rodin. The Children's Museum of Houston features hands-on activities for children. The Museum of Health and Medical Science, ranking first in America in numbers of visitors, is strongly supported by UTHSC-H 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, Disney-designed 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) and the Houston Comets (four-time WNBA champions) basketball teams; the Houston Dynamo (2006 MLS champions), soccer team; the Hot Shots, Continental Indoor Soccer League 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, such as Hermann Park, Rice University, the Texas Medical Center and Reliant Stadium. For personal sports enthusiasts the moderate climate is conducive to a variety of outdoor activities including tennis, golf, water sports, cycling and running.

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 total 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 342 developed parks and more than 200 green spaces totaling over 38,945 acres, which features the Houston Zoo, the Houston Garden Center, the Houston Museum of Natural Science, the Burke Baker Planetarium, the Wortham IMAX Theatre, the Miller Outdoor Theatre (free productions), the Japanese Garden, and the Cockrell Butterfly

Tower. Hermann Park also includes an 18-hole golf course, 2 miniature golf courses, paddle boats, and a hike and bike trail.

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/abouthouston/index.html

Student Government

Student Governance Organization

The Student InterCouncil (SIC) is the recognized forum of student opinion and the primary vehicle for student participation in the governance of UT-Houston. 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 through the publication of a bimonthly online student newsletter, Student Pulse, and planning and implementing activities that address the special needs of students.

The policy regarding student government can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_06.html and the SIC by-laws can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/app_b/sic.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 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 the Executive Vice President for Academic Affairs at (713) 500-3062.

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: registrar.uth.tmc.edu/

Student Financial Services

UTHSC-H has available loan, grant and scholarship funds. These funds are awarded based on proven financial need and/or academic excellence. Additional criteria may also apply. 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 Office of International Affairs serves the needs of non-U.S. citizen faculty, students, fellows and staff at UTHSC-H. This office has the responsibility for developing approaches that respond to the needs of this population, and in that process, strives to create an atmosphere conducive to meaningful intercultural experiences for all students, faculty and staff.

In 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 to obtain the appropriate clearance to begin appointment and/or studies.

Among the services provided by the office are application of immigration procedures, personal advice, counseling, and orientation. 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 Tuesdays when the office is closed from 9:00 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
7000 Fannin, Ste. 130
Houston, Texas 77225
(713) 500-3176   FAX (713) 500-3189
Website: uth.tmc.edu/intlaffairs/

Office of Equal Opportunity and Diversity

The University of Texas Health Science Center at Houston has committed to enhancing diversity at the Health Science Center by creating an Office of Equal Opportunity and Diversity (EO&D) within the Human Resources Department. The central responsibility of the Office is to ensure that the University meets its obligations as an affirmative equal opportunity employer and educational institution. To help provide the best possible service to students, staff, faculty and visitors, the EO&D 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/or harassment; serve as an Americans with Disabilities Act (ADA) resource by providing guidance and accessibility options for all persons with disabilities; and managing diversity by promoting an environment of respect and inclusiveness.

In addition to managing diversity, this office is responsible for assisting each school with issues as they relate to equal opportunity, discrimination and harassment. As the Disability Coordinator, the Director of EO&D is responsible for assisting the individual school's 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, providing interpretation services, and mediating faculty-student disability related issues.

For additional information, contact:
The University of Texas Health Science Center at Houston
P.O. Box 20036
7000 Fannin, Suite 150
Houston, Texas 77225

General Information - 41

(713) 500-3079
Website: hr.uth.tmc.edu/EEOnew/eeo.html

Student Health Services

Medical School Health Services (MSHS) provides health services to all UTHSC-H students. The mission of MSHS is to offer affordable health, wellness, and medical care for students and their families. A portion of the student services fee funds the programs. By additional payment, services can be extended to a student's spouse or children.

The health services available for UTHSC-H students include immunizations required for matriculation into and through UTHSC-H, tuberculosis screening, physical examinations, well woman examinations, flu shots, fit testing for HEPA filter masks, 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. 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.

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

For more information, contact:
Medical School Health Services
The University of Texas Health Science Center at Houston
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 of The University of Texas System 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. 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 provided in the Medical School 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

Any concern that troubles an individual or reduces that individual's ability to concentrate can be brought to UT Counseling & WorkLife Services at no cost. Services offered include evaluation, short-term individual counseling or psychotherapy for any issue, marital/couples counseling, psychiatric consultation, legal and financial consultations, identity theft counseling, simple will preparation, and referral to other services when indicated. Records are kept strictly confidential to the extent allowed by law, and there is no fee for service. This service is provided by the University as it understands that balancing personal life with the demands of academia can be difficult. Individuals who desire or who are in need of long-term therapy or of complicated medication management will be assisted with referrals. We also sponsor outreach and preventive programs, including presentations on topics of interest to students, such as managing stress or coping with test anxiety.

In addition to the vast array of mental health, legal and financial counseling services, UT Counseling & WorkLife Services offers extensive WorkLife benefits. To help students balance the competing demands of school and personal life, the Work/Life Program offers the following programs and policies:

Resources and Referral - We provide a host of Resources & Referral Information for all of our faculty, staff, residents, fellows and students on almost every conceivable area of work and life including: family & caregiving, emotional well-being, health & wellness, working smarter and daily living. Additionally, individual consultations are available with a trained specialist in the areas of child care, elder care, education and adoption via the website and/or telephone, whichever is more convenient for

you. The consultant will do the research for you and find the resources to meet your exact needs and will provide you with three to five confirmed openings. Please visit: uthouston.edu/worklife/resource-refer.html

- **Lactation Rooms at the School Site** – UTHSC-H supports breast-feeding at the school site, and rooms are available in most buildings for expressing milk. For more information and room locations, see the Work/Life website

- **Work/Life Training** – Learn at Lunch Programs address a variety of life balance issues for all UTHSC-H faculty, employees, and students. We offer free noon seminars to help students balance school life with personal life. Programs can be tailored to different areas. Contact the Work/Life Program with your request.

- **Corporate Discount Programs** – Students, residents, and employees are eligible for discounts at several Child and Adult Day Care facilities, as well as child transportation services. Discounts are available off registration for emergency child and elder care services. On-site massage therapy is also available at a discount. (Call the Work/Life Program or visit the website for a complete list of participants: uthouston.edu/worklife/corp_p_program.html. A UTHSC-H ID is required.)

We are located in Suite 1670, University Center Tower Building. The office hours are from 8:00 a.m. to 7:00 p.m. Monday and Wednesday, and from 8:00 a.m. to 5:00 p.m. Tuesday, Thursday and Friday, except for university holidays. Referrals are not necessary and students are encouraged to call (713) 500-3327 to make their own appointments.

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: uteapmgmt@uth.tmc.edu
Website: uthouston.edu/utcounseling

Child Development Center

UTHSC-H has a quality Child Development Center (UTCDC) for children ages six weeks through kindergarten, which is located within the University Housing complex at 7900 Cambridge. This program 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.

We are licensed by the State of Texas. Each classroom has its own teacher with a four-year degreed teacher or a Child Development Associates (CDA) 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 the professional staff's assessment 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.

The UTCDC program encourages and promotes a balance between the child's social, emotional, intellectual and physical needs. We look forward to having you join us and welcome you to tour our facility.

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 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 UT Housing 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

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 UT –Houston students, faculty and staff only. 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 with the exception of 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 30-35 minutes from University Housing. Key shuttle stop locations are: University Housing, Recreation Center, University Center Tower, School of Nursing, School of Public Health, Dental Branch/Mental Science Institute, Medical School, and the Graduate School of Biomedical Sciences.

If you have any questions regarding shuttle services or route information, please contact the Auxiliary Enterprises Parking/Shuttle Service Office at (713) 500-3405. To obtain a copy of the UTHSC-H Shuttle Schedule, visit the Parking/Shuttle Service website at ae.uth.tmc.edu/parking/index.html.

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.

Students should be aware that the streets and roadways adjacent to UTHSC-H facilities are public roadways and that Vehicle Inspection practices (Texas Transportation Code, Section 548.602) are fully enforced. A peace officer who exhibits a badge or other sign of authority may stop a vehicle not displaying an inspection certificate on the windshield. It is a Class C misdemeanor offense to operate a motor vehicle after the fifth day after the date of expiration of the period designated for inspection for a motor vehicle registered in Texas.

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 or van from the remote locations to the TMC make frequent stops at key locations throughout TMC. Free parking areas for bicycles and motorcycles are located throughout the TMC.

Student contract parking is available from the TMC Parking Office located at the TMC Visitor Information Center on the corner of Bertner and Holcombe. Student parking is available at the South Extension Lot and the Smithlands Extension Lot located between Braeswood and Old Spanish Trail. Students with disabilities may obtain decals for parking in reserved spaces. In addition, TMC provides after-hours parking (6:00 p.m.-7:00 a.m.) on the central campus of TMC at a discounted rate. For more information on TMC Parking, please call the TMC Parking Office at (713) 791-6161. If you need assistance after hours or on weekends, you can call UT Police at (713) 500-4357 for an escort service to your vehicle. Identify yourself as a UTHSC-H student and give them your location. You may have to wait 5-10 minutes or more depending on the availability of the after-hours escort.

University Center Tower (UCT) Garage: Parking at the University Center Tower (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 current student sticker 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 access gates are usually open for parking access Monday through Friday 6:00 a.m. to 7:00 p.m. For more information about parking and UTHSC-H operated parking areas, please call the Auxiliary Enterprises Parking/Shuttle Service Office at (713) 500-3405.

University Professional Building (UPB) Garage: After Hours (5:00pm to 8:00am) and weekend parking is available at the University Professional Building Garage, 6414 Fannin for students at a rate of thirty dollars ($30) per semester. Parking contracts can be attained by visiting the UPB Parking Office (G.25) and presenting their student ID. There is a one-time non-refundable parking card activation fee of ten dollars ($10) upon contract completion. The UPB Parking Office is open from 8:00 a.m. to 5:00 p.m.

Monday through Friday. For more information about the UPB Parking Garage contact the Parking Office at (832) 325-7655.

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.

Please contact UTHSC-H Parking/ Shuttle Services at (713) 500-3405 or click on   ae.uth.tmc.edu/parking/index.html for additional information.

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 AM – 5:00 PM 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 AM – 4 PM, 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 AM – 5:00 PM Monday – Friday.

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

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

University Dining and Catering Services

The French Corner, UTHSC-H's food service provider, is located within two buildings of UTHSC-H. These locations are in the basement of the Dental Branch, 6516 M.D. Anderson Blvd., and the first floor of the School of Nursing and Student Community Center Building, 6901 Bertner Ave.

Hours of Operation (Excluding University holidays)

Dental Branch
Breakfast:	7:00 a.m. - 10:30 a.m.
Lunch:	10:30 a.m. - 4:00 p.m.

School of Public Health
Breakfast:	7:00 a.m. - 10:30 a.m.
Lunch:	10:30 a.m. - 4:00 p.m.

Catering services are available for all types of events. Catering Services can be obtained by calling either location at: School of Nursing – 713-500-4058 or Dental Branch – 713-500-9102. The Dental Branch location services functions at the Dental Branch Building, while the School of Nursing location services all other locations throughout the Health Science Center.

Vending machines are also available and located throughout the UTHSC-H campus in 23 different locations.

Recreation Center Facilities and Programs

The recreation fee entitles a UTHSC-H student to use the Recreation Center which is located at 7779 Knight Road, adjacent to the University Housing Complex. Operating hours of the facility are: 6:00 a.m. - 10:00 p.m. Monday through Friday, 8:00 a.m. - 8:00 p.m. on Saturday, and 10:00 a.m. - 8:00 p.m. on 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 times and days 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, 2 outdoor tennis courts, 2 outdoor basketball courts, locker rooms, 2 outdoor sand volleyball 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 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. A valid ID is required for admittance and at time of purchase of any services offered. UTHSC-H students have the option of having their spouse and or child(ren) join the facility by registering them through the "optional fee" selection or by paying directly at the facility.

The optional fee selection is for spouse, child or family. There is no charge for children under 6 years of age, and the Family fee covers spouse and unlimited children between ages 6-20, only. UTHSC-H students do have the privilege of having "extended family" members join (brother, sister, mother, father), but this must be handled directly at the facility. To get the best value, we encourage students with children under the age of 16, to handle their family membership fees directly at the facility. This is due to certain age restrictions and areas with limited seasonal use by children under the age of 16.

If you do use the optional fee selection, you will need to bring a copy of your fee statement to the facility, to obtain your optional membership. At that time, Rec Center ID cards will be made for your spouse/family.

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-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 2,700 series and journal volumes. Additionally, the Library has subscriptions to over 100 electronic databases and over 4,000 electronic journals. Over fifty 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, Endnote, 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/

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 on the internet at
uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/index.html or linked to the university's Home Page (uthouston.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 Board of Regents of The University of Texas System and apply to all institutions within the UT System. The Regents' *Rules and Regulations* supersede all official documents at UTHSC-H and all policies in these documents 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.

For additional information on policies specific to individual schools, contact the Student Affairs Office in your school.

STUDENTS ARE HELD INDIVIDUALLY RESPONSIBLE FOR READING AND BECOMING FAMILIAR WITH UTHSC-H POLICIES, REGULATIONS AND PROCEDURES.

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

The University of Texas Health Science Center at Houston (UTHSC-H) is in compliance with the Family Educational Rights and Privacy Act (FERPA) of 1974, which protects the privacy of educational records and establishes the rights of students to access and correct their educational records. The full policy can be found online at
uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_08.html.

The full text of FERPA, which includes a list of directory information that the university may release without a written request for non-disclosure, can be found online at
uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/app_c/c_6_08.html.

Please note that in some cases, the thesis or dissertation authored by a student must be made available to interested members of the community for necessary review and commentary. A copy of FERPA is also maintained and available in the Office of the Registrar and can be found on the Registrar's Website at registrar.uth.tmc.edu/Registration/FERPA.html.

AIDS, HIV, HBV, and HCV Infection

The University of Texas Health Science Center at Houston (UTHSC-H) 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 uth.tmc.edu/ut_general/admin_fin/planning/pub/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. Policy 1.06 Campus Security can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/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/. (Policy 18.04 Reporting Criminal Activity on Campus can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/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 and UT System rules and regulations; comply with directives issued by administrative officials of the 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 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 or not civil or criminal penalties are imposed for such conduct. The full policy, which defines unacceptable conduct and sanctions, and describes the process, can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_03.html

Criminal Background Checks - Students

The University of Texas Health Science Center at Houston (UTHSCH) is committed to providing a safe environment for its students and employees. Section §51.215 of the Texas Education Code permits UTHSCH to obtain criminal background information regarding applicants for security sensitive positions as designated by the President of UTHSCH or his/her 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. Based on this background, The University of Texas Board of Regents at the July 8, 2005, meeting granted authority to all institutions offering clinical programs to amend their catalogs to inform potential students of the possible requirement of a criminal background

check. Individuals who are unable to meet the school's criminal history standards may be denied admission or continued enrollment in the program.

For the purposes of this policy, UTHSCH has determined that all students are in security sensitive positions and thus may be subject to criminal background checks. This policy goes into effect immediately and may encompass current students as well as incoming students. 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, which provides additional details and describes the process, can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_19.html

Disability Accommodation

The University of Texas Health Science Center at Houston (UTHSC-H) ensures equal educational opportunity for all disabled individuals who are otherwise qualified, with or without reasonable accommodation.

If any student 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 UTHSC-H Office of Equal Opportunity and Diversity or contact the Student Affairs office at his/her school. Policies and procedures regarding disability accommodation can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/02/2_18C.html.

Equal Educational Opportunity

The University of Texas-Health Science Center at Houston (UTHSC-H) 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 Equal Opportunity and Diversity. The full policy can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_01.html

Hazing

Hazing is prohibited by both state law (Sections 37.151 et seq and 51.936, Education Code) and by the Regents' *Rules and Regulations* (Part One, Chapter VI, Section 3.28). The term "hazing" is broadly defined by statute to mean any intentional, knowing, or reckless act, occurring on or off the campus of UTHSC-H, 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. (From policy 6.03 Conduct and Discipline, uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_03.html)

Immunizations 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. The UT Medical School Health Services (MSHS) will place an immunization "hold" on each student's record at the time of admission if immunizations are incomplete. The hold blocks registration. The MSHS will release all immunization holds after proof of immunizations is satisfied.

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). Click on each immunization for detailed information.

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 (registrar.uth.tmc.edu/Forms/immuform.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
uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_07.html

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:
uth.tmc.edu/ut_general/admin_fin/planning/pub/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.)

Observing Religious Holy Days

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 online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/02/2_37A.html

Sexual Assault

UTHSC-H 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. Policy 6.14 Sexual Assault can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_14.html.

Sexual Harassment

The UTHSC-H distinguishes between, and 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 community of UTHSC-H including, but not limited to, administrators, faculty, staff, students, residents, fellows and other trainees, volunteers, vendors, consultants, observers, and visitors. The full policy, which defines sexual harassment, sexual misconduct, and consensual relationships and explains the appropriate process for registering complaints, can be found online at
uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/02/2_04.html.

Student Government

The University of Texas Health Science Center at Houston (UTHSC-H) authorizes the existence of a student government body that has the jurisdictions and powers delegated by the Board of Regents of The University of Texas System. The student association of UTHSC-H is the Student InterCouncil (SIC), which is recognized as a forum for student opinion and is made up of representatives from each of the six schools with minority and international representation.

Website: uth.tmc.edu/sic/

The SIC bylaws can be found online in the HOOP at
uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/app_b/sic.html.

The full student government policy can be found online at
uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_06.html
and the Statement on Governance can be found at
uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/app_c/c_4_26.html.

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 *Regents Rules, 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 it will 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 the UTHSC-H. The full UTHSC-H Student, Faculty and Staff Organizations policy can be found online in the HOOP at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/01/1_18.html

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

Substance Abuse - Students

The University of Texas Health Science Center at Houston (UTHSC-H) is committed to maintaining an environment that is free from substance abuse and its primary concern related to substance abuse among students is prevention and treatment. The institution 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. The 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 uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/18/18_06.html

Travel by UTHSC-H Students

The University of Texas Health Science Center at Houston (UTHSC-H) supports the educational, research and service activities of its students by sponsoring and reimbursing certain 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 Board of Regents of The University of Texas System to assure 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 uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/06/6_18.html.

Other Important Policies Affecting Students

Other important policies affecting students are included in the HOOP (uth.tmc.edu/ut_general/admin_fin/planning/pub/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*.

6.09 Student Employment Appointments
6.10 Financial Aid
6.11 Tuition, Fees, and Debt
6.11A Tuition and Refund
6.13 Governance
6.15 Tax-Free Sales
6.16 Student Services
6.17 Student Publications

The University of Texas Health Science Center at Houston

School of Health Information Sciences 2007 – 2009 Catalog

SCHOOL OR HEALTH INFORMATION SCIENCES Table of Contents

The School of Health Information Sciences
2007–2009 Catalog

Message From The Dean

The School of Health Information Sciences is a very 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 the only school of its kind in the Western hemisphere. The varied and talented cadre of professionals at our school represent expertise both in the theory and practice of informatics applied to biomedical science and health care. You'll find our performance based, highly interdisciplinary, team-oriented education and research programs both stimulating, challenging and career enhancing.

Masters and Doctoral degree programs as well as a certificate program in health informatics 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 and the more than forty other healthcare related entities in the Texas Medical Center. These opportunities are unmatched anywhere else.

You will interact with highly qualified and experienced faculty active in research and applications in a wide array of Health Informatics problems. Through such research consortia and centers as the Gulf Coast Consortia for Structural and Computational Biology, the Center for Clinical and Translational Sciences, Center for Biosecurity and Public Health Informatics Research, Institute for Molecular Medicine for the Prevention of Human Diseases, 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 of inquiry for future generations. The certificate program is designed to introduce professionals to the practical applications of information science to modern healthcare. These certificate courses are available via distance education.

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 is resulting in breakthrough discoveries. Our faculty and students are 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.

Are you up to the challenge? Then join us, become the informatics leaders of tomorrow, and help us invent the future of health care and biomedical discovery.

Jack W. Smith, MD, PhD
Dean

Academic Calendar
2007-2009

FALL SEMESTER 2007   Orientation — Entering Students-Registration   August 1 - 16, 2007

Classes Begin	August 27, 2007
Classes End	December 7, 2007
Final Examinations	December 10-14, 2007

SPRING SEMESTER 2008   Orientation — Entering Students-Registration   December 15 - 31, 2007

Classes Begin	January 7, 2008
Spring Break	March 10-14, 2008
Classes End	April 25, 2008
Final Examinations	April 28 - May 1, 2008

SUMMER SESSION 2008 (12-WEEK SESSION)   Orientation — Entering Students-Registration May 1-14, 2008

Classes Begin	May 19, 2008
Classes End	August 11, 2008
Final Examinations	August 12-13, 2008

2008-2009

FALL SEMESTER 2008   Orientation — Entering Students-Registration   August 1-28, 2008

Classes Begin	September 2, 2008
Classes End	December 12, 2008
Final Examinations	December 15-19, 2008

SPRING SEMESTER 2009   Orientation — Entering Students-Registration   December 1-31, 2008

Classes Begin	January 12, 2009
Spring Break	March 9-13, 2009
Classes End	May 1, 2009
Final Examinations	May 4-8, 2009

SUMMER SESSION 2009 (12-WEEK SESSION)   Orientation — Entering Students-Registration May 1-20, 2009

Classes Begin	May 26, 2009
Classes End	August 18, 2009
Final Examinations	August 19-20, 2009

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

Deborah A. Todd, B.S.
Director of Admissions

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

Todd R. Johnson, Ph.D.
Associate Professor and Associate Dean for Academic Affairs

Faculty

Ananth Annapragada, Ph.D.
Associate Professor

Rafat Ansari, Ph.D.
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

Michael E. Brandt, Ph.D.
Associate Professor

Claudio Cavasotto, Ph.D.
Assistant Professor

Vittorio Cristini, Ph.D.
Associate Professor

Kim Dunn, M.D., 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 Associate Dean for Academic Affairs

Hualou Liang, Ph.D.
Associate Professor

Paul Macklin, Ph.D.
Assistant Professor

Kevin Montgomery, Ph.D.
Assistant Professor

Cynthia L. Phelps, Ph.D.
Assistant Professor

Doris L. Ross, Ph.D.
Dean Emeritus

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

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.
Instructor

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

Adjunct Faculty

Jonas Almeida, Ph.D.
Adjunct Professor

Hiroki Arakawa, Dr. Eng
Adjunct Professor

Philip R. Baldwin, Ph.D.
Adjunct Assistant Professor

J. Robert Beck, MD
Adjunct Professor

Eric Boerwinkle, PhD
Adjunct Professor

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

Wah Chiu, PhD
Adjunct Professor

Elizabeth King Eaton, Ph.D.
Adjunct Professor

Oliver Esch, M.D.
Adjunct Associate Professor

Richard E. Ewing, PhD
Adjunct 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

Jeffrey Huber, PhD
Adjunct Associate Professor

Robert Hunter, MD, PhD
Adjunct Professor

John C. Joe, MD, MPH
Adjunct Assistant Professor

Kathy Johnson-Throop, PhD
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

Jianpeng Ma, PhD
Adjunct Associate Professor

Patrick McGinnis, MD, MS
Adjunct Assistant Professor

Yanko F. Michea, MD, PhD
Adjunct Assistant Professor

Dianna Milewicz, M.D., PhD
Adjunct Professor

Aleksander Milosavljeic, PhD
Adjunct Associate Professor

Parsa Mirhaji, MD
Adjunct Assistant Professor

Mitchell Morris, MD
Adjunct Professor

Adjunct Faculty Continued

Robert E. Murphy, MD
Adjunct Assistant Professor

Koichi Nobutomo, MD, PhD
Adjunct Professor

Paula N. O'Neill, EdD
Adjunct Associate Professor

John Riggs, MD, MS
Adjunct Associate Professor

Richard M. Sailors, PhD
Adjunct Assistant Professor

Pamela Salyer, PhD
Adjunct Assistant Professor

Michael Shabot, M.D.
Adjunct Professor

Ross Shegog, Ph.D.
Adjunct Assistant Professor

Elizabeth Souther, RN, PhD
Adjunct Assistant Professor

David L. Steffen, PhD
Adjunct Professor

Ignacio H. Valdes, MD, MS
Adjunct Assistant Professor

Muhammad Walji, Ph.D.
Adjunct Associate Professor

William Weems, PhD
Adjunct Associate Professor

George Weinstock, PhD
Adjunct 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 primary purpose of the School is interdisciplinary graduate education. The initial educational programs in this newly directed school are focused on health informatics, the electronic transmission, storage, access, interpretation, and analysis of health data. Health Informatics also examines the way in which knowledge and information are transmitted to and by humans. The education of competent Health Informatics professionals in healthcare, clinical and medical research for service in the State of Texas is the primary endeavor of this School. The educational programs lead to a Master of Science in Health Informatics degree or a Doctor of Philosophy in Health Informatics. These graduate programs allow students to specialize among several areas within health informatics. Degree programs are highly customized to meet the unique needs of each student. However, the degree programs allow three broad focus areas.

- The first focus is in the broad area of data information and knowledge management. Components of this focus include storage, access, interpretation, and analysis of health and medical data communicated through electronic transmission. The study of informatics allows health professionals and scientists to conceptualize and plan the collection, communication and analysis of data in efficient and effective ways.

- The second focus is in the area within health informatics concentrating on the area of knowledge generation from complex data sets. This focus involves the integration of computational and biomedical methods and techniques by faculty and Students. This is accomplished in a learning environment characterized by state-of-the-art biomedical research and computational methodologies coupled with a highly interdisciplinary program.

- A third focus is in the area of knowledge transmission and communication. This focus includes research involved in teaching/learning using new technologies in the education of health professionals and Scientists. Health informatics has many facets and it also examines the ways in which knowledge and information are transmitted to and by humans using new technologies and how this process may be improved.

The interaction of students from varied academic and professional backgrounds, with each other and with an equally diverse faculty, is at the heart of the graduate educational programs at the School. It is a way to prepare students for the interdisciplinary and collaborative work in their future professional lives. The educational goals of each student are considered in designing their educational experience in the School. Students are encouraged to bring "real-world" problems from their work environment into the classroom where the issues can be addressed by both faculty and other students. The goal is to have the classroom model the problem solving in which the student will engage following graduation.

Research is valued as an integral part of scholarship and teaching. The research may be directed to clinical practice, biomedical basic research, or human learning. This is accomplished in a learning environment characterized by state-of-the-art clinical care, biomedical research, and computational methodologies coupled with a highly interdisciplinary program and excellent informatics faculty. Collaborative interdisciplinary projects are secured because their very nature strengthens interdisciplinary teaching activities. Additional funding from outside resources supports these research efforts. The faculty believes that the issues related to computational knowledge will be at the heart of the next advances in health informatics. The integration of health delivery with the study in this school by students and the activities of the faculty provide a vital link between service, teaching, learning, and research.

The School of Health Information Sciences

The School of Health Information Sciences was originally founded in 1973, as the School of Allied Health Sciences. The School of Health Information Sciences (SHIS) is one of the six schools at The University of Texas Health Science Center at Houston. 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 of Health Information Sciences began the shift from traditional allied health baccalaureate programs toward the development of graduate programs to join those of the other schools in the University. The result has been the development of a new School and the new area of Health Informatics. The School currently offers, a certificate of completion, a Master of Science in Health Informatics and a Doctor of Philosophy in Health Informatics, and is developing other programs to be adopted in the future.

The School has affiliation agreements with many of the organizations in the Texas Medical Center, such as the Memorial Hermann Hospital System, The Methodist Hospital, Texas Children's Hospital Integrated Delivery System, St. Luke's Episcopal Hospital, The University of Texas M.D. Anderson Cancer Center, Texas Woman's University, and Baylor College of Medicine. Other cooperating institutions include UT Medical Branch at Galveston, Texas A & M University, Houston Academy of Medicine/Texas Medical Center Library, VNA (Visiting Nurses Association) of Houston, Rice Medical Center, Schull Institute, and the University of Houston.

Members of the Texas Medical Center (TMC) have pooled their resources to form the Houston Academy of Medicine-Texas Medical Center Library (HAM-TMC). The HAM-TMC Library ranks as one of eight top echelon Region National Network Libraries recognized by the National Library of Medicine. HAM-TMC Library has more than 338,880 volumes, 2742 print serial subscriptions, and 4009 electronic serial subscriptions and is quickly becoming a center for digital library activities allowing unparalleled access to resources for students, clinicians and researchers. Additionally, the collections of Rice University and the University of Houston, a national depository library, are available to students and faculty through a regional consortium agreement.

SHIS maintains a multi-platform computer network for support of students, faculty, and staff. This network is in a continuous process of upgrade to meet the educational and research needs of students and faculty. The local network connects through fiber channels to the other TMC organizations. These links include a current connection to the high performance computer backbone Internet II that is currently under development. UTHSC-H has facilities for interactive video transmissions linking sites within the state and internationally. The Office of Academic Computing (uth.tmc.edu/ut_general/ research_acad_aff/oac/) at UTHSC-H supports this infrastructure.

SHIS is a school continually re-inventing itself to meet the future. Anticipated directions include the implementation of new programs, new technologies, and new teaching strategies. Currently the School of Health Information Sciences is located in the University Center Tower, 7000 Fannin Street, Suite 600, Houston, TX, 77030.

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, age, national origin, religion, 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 have 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 Overview

All students prior to registering at The University of Texas Health Science Center at Houston are required to furnish an immunization record signed by a healthcare provider to Medical School Health Services, 6410 Fannin, UT Houston Professional Building Suite 510, Houston, Texas 77030.

Immunization Procedure

In accordance with the regulations promulgated by the Texas Board of Health the following immunizations and tests are required for all students enrolled at the Health Science Center who have direct patient contact in medical or dental care facilities or who come in contact with human biological fluids or tissue:

- Tuberculin (PPD) skin test or chest x-ray (see statement below regarding requirement of this test prior to registration);

- Measles: proof of two doses of measles vaccine administered on or after the first birthday and at least 30 days apart or proof of immunity (see statement below regarding requirement of this test prior to registration);

- Mumps: proof of one dose of mumps vaccine administered on or after the first birthday or proof of immunity;

- Rubella: proof of one dose administered on or after the first birthday or proof of immunity;

- Tetanus/diphtheria: proof of one "booster" dose of tetanus/diphtheria (within 10 years);

- Hepatitis B virus (HBV): proof of serologic immunity to HBV or certification of immunization with a complete series of Hepatitis B vaccine. Students will be required to present a letter or other suitable written certification. In addition to the immunization & tests required by the Texas Board of Health, the varicella titer or vaccine series is strongly recommended for all students.

- Varicella (chickenpox): history of disease in the past. If no disease in the past, varicella titer is required. If varicella titer is negative, varicelle vaccine series required.

In accordance with the regulations promulgated by the Texas Board of Health the tuberculin skin test or chest x-ray is required for all students at the Health Science Center who do not have direct patient or body fluids contact. The following test must be completed before prospective School of Health Information Sciences students may register for classes:

Tuberculin skin test or chest x-ray must be completed or evidence of testing must be submitted to the Student Health Services prior to registration.

Students are strongly urged to obtain measles, mumps, rubella, tetanus/diphtheria, hepatitis B, and varicella immunizations for their own protection. It is possible that some practicum or clinic sites will require the student to show evidence of these immunizations before the student will be allowed to enter the site.

All immunizations except hepatitis B and varicella are given to registered UTHSC-H students free of charge at the Student Health Services. Prior to being a registered student, an individual must assume the full cost of immunizations. The student must cover the cost of the three hepatitis B injections and the varicella series. Individual schools may require other immunizations.

Students may obtain information from the Student Health Services regarding the consequences of not being current on immunization for certain diseases; the age groups most vulnerable to these vaccine preventable diseases; and local providers of immunization services.

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.

- Nondegree 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, a minimum score of 213 on the computer 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 non-immigrant 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 Services 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 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, college transcripts;

- Integrity: goal statement, 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

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 by 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.

Address application inquiries to:
Todd R. Johnson, Ph.D.
Associate Dean for Academic Affairs
7000 Fannin, Ste 600
Houston, TX 77030
(713) 500-3921
Todd.R.Johnson@uth.tmc.edu

Address personal interview inquiries to:
Director of Admissions
School of Health Information Sciences
7000 Fannin, Ste 600
Houston, TX 77030
(713) 500-3903

Financial Information

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 2007-2009, Texas resident tuition is $146 per semester credit hour. Non-resident tuition is $ 474 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 during the Fall and Spring semesters 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).

Tuition and fee payment for each summer session is due in full at the time of registration. Beginning in 2007-2009 Texas resident tuition rate is $ 146 per semester credit hour. Non-resident tuition will be assessed as described above for the fall and spring semesters. If students register for additional courses during the second summer term, tuition and fees will be automatically adjusted.

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, who were citizens of Texas at the time of entering the military, and who are currently residents of Texas, may qualify for Hazelwood benefits, which include exemption of tuition and certain fees. 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 $100/semester credit hour for non-residents.

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	$1119.00
Laboratory Fee (see below) per Laboratory Course	$2.00-30.00
Student Services Fee	(see below)

Information Technology Access Fee	$20.00/semester
Computer Resource Fee	$50.00/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	$700.00/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 $2 per laboratory course to a maximum of $30 per laboratory course. Each didactic course has a lab fee of $10. The practicum and precep-torship 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 713-500-3903,
email Deborah.A.Todd@uth.tmc.edu , or
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 $ 167.64 per Fall or Spring semester or $96.57 per Summer session. If a student enrolls in more than one summer session, the maximum fee will be $96.57. 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	$77.80	$37.74
2	$89.01	$44.98
3	$100.27	$52.35
4	$111.50	$59.75
5	$122.73	$67.09
6	$133.96	$74.46
7	$145.18	$81.81
8	$156.40	$889.19
9 or more	$167.64	$96.57

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 by credit card on the web at UTLINK.uth.tmc.edu.

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 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 or spring 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 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 $75. 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.

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

Policy Overview (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.

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 Advisory 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 Based on Full-time enrollment

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)[1]	
Resident	$3504.00
Non-Resident	$11376.00
Student Service Fee	$431.85
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 Rent[3]	
One Bedroom (UT Housing)	$ 6480.00
Daycare	varies
Health/Medical Insurance[4]	

Basic coverage for student only	1119.00
Basic for student and spouse	3225.00
Basic for each child (additional)	1281.00
Optional Major Medical (per person)	435.00
Optional Dental-student or spouse (each)	72.00
Family cost	120.00
Optional Vision plan	29.00

[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

Undergraduate

"A" indicates excellent; "B" indicates good; "C" indicates satisfactory; "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". Undergraduate courses in which a grade of "C" or better has been earned may not be repeated for credit or to raise a grade point average (GPA).

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.

A 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.

Academic Probation

Probation is an official warning status for a defined period of time, which informs the student of unsatisfactory academic, clinical, 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 and its clinical affiliates is subject to probation, suspension, and/or dismissal by the Associate Dean for Academic Affairs.

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 advisory 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, 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, 4) the student fails to meet with his or her Advisory Committee within a nine-month period, or 5) 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.

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 Dean 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 Student Affairs Committee of the Faculty Governance Organization stating evidence in support of the request. The Student Affairs 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 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 is 6 semester credit hours. Credit for courses taken elsewhere and which are offered in this School is granted only through Petition for Equivalency. Contact the Director of Admissions for information.

Reentry After Non-Attendance

A Program Student who misses enrollment in two registration periods must have written approval from the student's Advisory Committee, (see program section for details,) and the Dean 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 Advisory 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 and submit the forms provided in the administrative withdrawal packet. This packet, available in the Office of the Dean, contains a student clearance form, an exit interview form, a survey questionnaire, drop slips, a student information card, and a program clearance form. 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 program/division prefixes used are:

HI   Health Informatics

Adding a Course

To add a course, the student must obtain approval from the students' advisory committee and the instructor. To add a course, the student must use the web at UTLINK.uth.tmc.edu . The student must get the call number from the class schedule and an approval number from the instructor or Director of Admissions. 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 the Dean. Signatures of the course instructor, the student's advisory committee, 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). 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 a Petition for Equivalency form available in the Office of the Director of Admissions or Student Affairs. The student should contact the Director of Admissions, (see program section) who will initiate the process by presenting the petition and the required documentation for approval. Courses for which grades of less than "B" were achieved will not be accepted for equivalency except by petition.

Challenging a Course by Examination

A student may obtain credit for his or her comprehensive knowledge of certain subjects. This may be done by examination. The following examination is used to determine the adequacy of the student's preparation in the subject matter:

SHIS Challenge Examination: A challenge examination offered in the School is a comprehensive test for academic credit designed by a course instructor to test knowledge of that specific course. The student should confer with the course instructor and his or her Advisory Committee concerning the availability and conditions of a challenge examination.

NOTE: Any challenge exam or method for a course should be reviewed and approved by the faculty.

Enrollment of Graduate Students Who Wish to Participate in Enrollment Among Affiliated Institutions

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.

General Degree Requirements

In order to receive a degree from the School of Health Information Sciences the student is required to fulfill certain academic, residency, 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.

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 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. Each program has representation in the Student Government Organization. Any 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.

The Student InterCouncil

The Student InterCouncil at UTHSC-H consists of three students from each of the UTHSC-H component Schools plus minority and international student representatives. The InterCouncil meets with representatives from administration and student services to gain an understanding of The University of Texas System student-related policies, to propose activities that contribute to the quality of student life, to review proposed student fees, policies, and legislation related to tuition and student fees, and to offer student-based solutions for problems that arise. Subcommittees are responsible for making recommendations on fundraising events and the disbursement of scholarship funds. In addition, the committees are responsible for publishing the UTHSC-H Student News and Views, and sponsoring several student activities. The Student Activities Council, another part of the Student InterCouncil organization is responsible for planning UT-sponsored parties, trips and recreational activities.

The Student Services Council

The UTHSC-H Student Services Council is composed of student affairs representatives from each of the six Schools, student service providers' representatives, and student representatives. The purpose of the Student Services Council is to improve the quality of services offered to students and improve communication between service providers and students.

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 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.

There is a generally acknowledged need for people trained in health informatics. Hospitals throughout Houston and the state of Texas are in the process of implementing electronic patient records.

While the Texas Medical Center is a current 'hotbed' of work in electronic patient records, interest in electronic records is starting to take hold in community and smaller hospitals. Also, most of the hospitals are in their early phase of adoption, and will be seeking increasing numbers of qualified staff as they expand electronic record systems throughout their organizations. There will be a continued expansion of this activity, not only among hospitals, but also of the scope of electronic record systems into broader aspects of the hospital information environment.

Electronic patient records will have an impact beyond the limits that have traditionally bound hospital-based care. The Community Health Information Network (CHIN) of the future will link hospitals to primary care offices of physicians and nurses to home-based health care and to long-term care facilities. This will require a simple seamless information network that will share information with all caregivers across multiple settings in order to address the healthcare needs of individual clients. Such healthcare networks will allow for the creation of new healthcare providers.

These new healthcare providers will be able to organize and summarize data across the cohort of patients enabling caregivers to study the outcomes of care on populations occurring in their own environment. Information from these outcome studies can then be compared with outcome studies occurring on regional and national levels. Texas health professionals will need informatics practitioners who are capable of implementing and organizing existing systems and who can research and develop new aspects and new components of systems to meet the ever-increasing data and information needs.

There will be continued growth as the need for patient-based information and electronic record systems move to areas outside of the major cities. The need for these health informatics practitioners will be especially acute in rural areas. It is well documented that the healthcare needs of people in rural areas are greater than those in the more urban areas. Cooperation with Texas A&M University will give additional access to the rural aspects of health informatics. Texas A&M University is linked to all 254 counties in the state of Texas through extension programs. The skill mix and availability of practitioners tends to be less rich in the rural areas. Health informatics practitioners will meet the needs of populations across the state. Ensuring that information is available to clients and healthcare providers in a timely and orderly fashion parallels the needs for delivering quality patient information in an organized and timely manner. Both issues center on issues of data display, data models, and ultimately the issue of clinical decision-making.

Essential Skills for Health Informaticians

To successfully perform the duties of a health informatician, an individual must possess cognitive skills in logical and analytical thinking, 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.

Students must have demonstrable competence with a programming language, college algebra, computer literacy skills, anatomy, physiology, health language and operational characteristics of healthcare.

Program Philosophy

The School of Health Information Sciences at Houston strongly believes that healthcare will increasingly be a cooperative interaction among the health disciplines. The result will be a need for health practitioners to better 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 in their underlying science or discipline. Working in teams, they will understand the structure and organization of health-related knowledge. They will study how to communicate knowledge across traditional 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 in 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 an interdisciplinary, interrelated discipline 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 students, 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 and bring the strengths of their discipline knowledge. 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. Virtually all 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 conceptualized and 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 could apply for the graduate Health Informatics program. To complete the program full-time students 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 Certificate Program

The admission process to the certificate program is designed to get the professional working applicant into the system by meeting the minimal requirements. Each applicant must submit to the Registrar's Office for fall, July 1, spring, November 1, and summer, March 15 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 basic by an independent organization such as Educators Credential Evaluators or World Evaluation Services prior to application.

4. A minimum TOEFL score of 550 on the paper test, a score of 87 total, 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.

5. Satisfy a criminal background check if offered admission

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 5000 Information Technology for Biomedicine

HI 5053 Introduction to Health Data and 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 every semester.

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.
7000 Fannin, Ste 875
UCT 600
Houston, TX 77030
(713) 500-3627
Irmgard.Willcockson@uth.tmc.edu

Master of Science 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 skills in knowledge engineering and knowledge structuring;

3. Apply the acquired skills set in a selected domain of health professions practice;

4. Develop health informatics solutions to clinical health 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 each of three areas: basic informatics, research, and advanced informatics. Within the curriculum, each student, in cooperation with the student's Advisory Committee, will select the combination of courses and experiences that most directly meet the student's educational needs. Because Health Informatics is a developing discipline, students will work together in teams to identify problems and opportunities that exist. While all students may not share the same combination of courses, they will continue to work together in project teams throughout their program to ensure that they have a comprehensive understanding of the field of health informatics, as well as the skills that they individually desire for their own future work.

Master of Science in Health Informatics Admission Process

Presentation of Qualifications

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 statement of Informatics related work experience

3. a Graduate Record Exam (GRE) score over 1140 or Millers Analogy Test (MAT) score over 432

4. Grade Point Average (GPA) in previous degrees of 3.5 or greater

5. 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

6. 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 over 1140/MAT over432

GRE 1040-1139/MAT432

GPA in previous degree> 3.7

GPA in previous degree 3.5 – 3.69

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 subcommittee will interview with a two-member admissions committee: a faculty member in Health Informatics and a representative from the health field of the applicant and/or the applicant's prospective work, e.g., nursing, medicine, telehealth, public heath, dentistry, genomics, digital imaging. 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.

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.

Students who wish to transfer must meet all admission requirements. A maximum of six semester credit hours can be accepted toward a master's degree. However, the student's Advisory Committee may have the flexibility to determine whether comparable courses have been taken at other institutions. If equivalent courses have been taken at other institutions, the student will not be required to repeat the equivalent course in the SHIS program. If semester credit hours are transferred from another institution, they will not normally count toward the degree. However, if the student has more than six semester credit hours that parallel courses in this program, six semester credit hours may be counted toward the degree. Other courses may be taken as equivalent courses but they will not affect the total number of semester credit hours that must be taken for the completion of a degree. The selection of any courses must be with the approval of the student's Advisory Committee.

Master of Science in Health Informatics Core Competencies

Health Informatics has three areas of competencies. They are biomedicine, computer science, and mathematics. You need to be proficient in each of these areas to successfully work in health informatics. If you do not have one or two of these competencies, courses are available to help you meet each competency. If you do not have any of the three, careful consideration should be given by you that your background knowledge might not help you 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 Degree in Health Informatics

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. Other courses such as Telehealth and Health Informatics Consulting will be developed in cooperation with other institutions. Each student follows a degree plan developed with an Advisory 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 (12semesters) 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 advisory 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 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/ for current specifications. A portable computer that is easily used at clini-cal 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 and practicum 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. The courses include instruction in basic informatics, research, advanced informatics and support courses. Practicum courses are 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 curriculum with approval of an advisory committee. A degree plan will be filed that includes a minimum of nine semester credit hours in basic informatics, six semester credit hours in research, 15 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 advisory committee.

Basic courses

Introduction to Health Informatics

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

Introduction to Computational Biomedicine

Introduction to Learning Environment in the Health Sciences

Biomedical Signal Processing

Image Processing

Information Technology for Biomedicine

Introduction to Clinical Healthcare

Foundations of Health Information Science I

Foundations of Health Information Science II

Research courses

Evaluation of Health Care Systems

Research Design and Evaluation in Health Informatics

Statistical Methods in Health Informatics

Health Informatics Data Analysis

Cognitive Engineering in Health Informatics I

Triangulation Methods in HI Research

Learning Environment Development in the Health Sciences

Methods in Computational Biomedicine

Advanced courses

Advanced Health Information Systems

Health Data Display

Introduction to Telehealth

Consultation in Health Informatics

Social Dynamics and Health Information

Comparative Taxonomy

Cognitive Engineering in Health Informatics II

Consumer Informatics

Knowledge Modeling and Engineering in Health Informatics I

Healthcare Interface Design

Knowledge Modeling II

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

Computational Structural Biology

Scientific Writing for Healthcare

Support courses may include:

Cognitive Science

Mathematics

Measurement

Computer science

Healthcare outcomes

Public Health

The Advisory 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 Advisory 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
Fall Semester		
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
Spring Semester		
HI 5351	Research Design and Evaluation in Health Informatics	3

HI 5304	Advanced Database Concepts	3
HI 5307	Systems Analysis	3
Total		9

Summer

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 6000	Practicum in Health Informatics	6
Support Course 2		3
Total		9
Grand Total		42

For further curriculum information, please contact:
Todd R. Johnson, PhD, Associate Dean for Academic Affairs
7000 Fannin, Ste 600
Houston, Texas 77030
Telephone: (713) 500-3921
email: Todd.R.Johnson@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 Advisory 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:

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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.

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
Outcomes, Evaluation and Quality in Healthcare
Technology Assessment in Healthcare
Clinical Datamining
Health Services Delivery and Performance

Support courses
Introduction to Epidemiology
Introduction to Population and Environment Assessment

Practicum in Public Health
Practicum in Health Informatics

Total 42 hours to meet the MS degree including 18 hours from the School of Public Health

Requirements for MPH/MS
6 hours must be in basic HI courses

3 hours must be in research HI courses

9 hours must be in advanced HI courses

Practicum must produce a paper to be submitted to a peer-reviewed journal for publication.

15 hours must satisfy the core courses in the Discipline. 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

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.

As issues in healthcare become more complex, the amount of data collected and stored escalates, and the need for facilitated retrieval of pertinent information continues, there is a widespread, generally acknowledged need for Health Informatics researchers. 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 health-care 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 creating a focus on patient healthcare.

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

- 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. In addition each student will select a supporting area outside of the focus area and complete an extensive preceptorship, all with a clear research focus. Each student must have a mentor and an Advising Committee that will oversee that student's progress from admission to graduation. The student's mentor, a Health Informatics faculty member, will chair the Advising Committee. The Advising Committee will guide the student in the selection of courses, selection of supporting area, 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 such as cognitive science at Texas A&M University, telehealth at UT MD Anderson or biomedical computing through the Keck Institute.

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.

Financial Assistance

Substantial financial packages and research assistantships will be available to all students to facilitate full time doctoral education.

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 statement of Informatics related work experience

3 a Graduate Record Exam (GRE) score over 1140 or Millers Analogy Test (MAT) score, over 432 (required)

4 Grade Point Average (GPA) in previous degrees of 3.7 or greater

5 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

6 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.

7 Satisfy a criminal background checks if offered admission.

As part of the admission process, 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 categories that will be considered for admission are:

Health, MIS, Computer or Engineering related degree

Health-care work experience

Database work experience

Informatics work experience

Demonstrated expertise in programming

GRE over 1140-1239/MAT over 432

GPA in previous degree> 3.7 (adjusted for grade inflation)

GPA in previous degree 3.5 - 3.69 (adjusted for grade inflation)

Success in overcoming social, ethnicity, gender, economic or educational disadvantages

Prior research experience

Interview

The second component for admission is a personal interview. Applicants will interview with at least three members of the Advising Committee; the student's proposed mentor must be one of the members. The Admissions Committee will have a broad membership of full-time and adjunct faculty who will also represent cooperating schools and potential employers. One committee member would be the student's mentor, another faculty member in the Health Informatics and a representative of the field of the applicant and/or the applicant's prospective work, e.g., nursing, medicine, telehealth, public health, dentistry, genomics, or computational biomedicine. Separate interviews may be conducted due to scheduling. The interview would focus on the applicant's research goals and how they can be achieved in the SHIS doctoral program. The applicant is expected to bring to the interview an essay describing the applicant's goals and objectives in Health Informatics.

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.

Students who wish to transfer must meet all admission requirements. A maximum of thirty-six semester credit hours can be accepted toward a doctoral degree. However, the student's advisory committee may have the flexibility to determine whether comparable courses have been taken at other institutions. If equivalent courses have been taken at other institutions, the student will not be required to repeat the equivalent course in this program. If the semester credit hours are transferred from another institution, they will not count toward the degree. However, if the student has more than six semester credit hours that parallel courses in this program, six semester credit hours will be counted toward the degree. Other courses may be taken as equivalent courses but they will not affect the total number of semester credit hours that must be taken for the completion of a degree. The selection of any courses must be with the approval of the student's advisory committee.

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. Other courses such as Telehealth and Health Informatics Consulting will be developed in cooperation with other institutions. Each student follows a degree plan developed with an advisory committee composed of two full-time Health Informatics faculty members and a third faculty member who represents the student's interest or discipline area.

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 eight years from the time of entry to complete the required course work. Continued enrollment is required unless approval from the Advisory 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 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, the student will be dismissed from the program for academic reasons. If a student fails an overall total of three or more 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. 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 his or her curriculum with approval of his or her Advisory Committee. A degree plan will be filed with the approval of his or her advisory committee that includes a minimum of nine semester credit hours in basic informatics, fifteen semester credit hours in research, 21 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 Advisory Committee.

Basic Informatics courses include:

> Foundations of Health Information Sciences
> 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
Introduction to Computational Biomedicine
Introduction to Learning Environments in the Health Sciences
Biomedical Signal Processing
Image Processing

Research courses include:

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

Advanced informatics courses include:

Advanced Health Information Systems
Health Data Display
Introduction to Telehealth
Consultation in Health Informatics
Social Dynamics and Health Information
Comparative Taxonomy
Cognitive Engineering in Health Informatics II
Consumer Informatics
Knowledge Modeling and Engineering in Health Informatics I
Healthcare Interface Design
Knowledge Modeling II
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
Computational Structural Biology
Bimolecular Modeling

Support courses may include topics in:

Cognitive science
Mathematics
Measurement
Computer science
Healthcare outcomes
Public Health

The advisory 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 6 semester credit hours of support courses will be accepted toward the degree requirements.

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 written proposal will be submitted to all Health Informatics Faculty. The oral presentation will be open to all students, faculty, adjunct faculty and interested parties within the University. The exam must be completed at the 58th hour limit or a defense will be scheduled.

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 Advisory Committee must approve the focus of the research application.

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. During this phase the student should complete the work needed to write the first two papers that will be part of the dissertation. The student should submit these papers for publication in a refereed journal. The student will use this time to activate 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 would be combined with an introduction and summary and bound as a dissertation.

The second option requires the student to write a monograph. 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.

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

Course No.	Course Title	Semester Credits
Fall Semester		
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
Spring Semester		
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 please 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, please contact:
School of Health Information Sciences
Attn: Todd R. Johnson, Associate Dean for Academic Affairs
7000 Fannin, Ste 600
Houston, Texas 77030
Telephone: (713) 500-3921
email: Todd.R.Johnson@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 Advisory 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

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1200 Herman Dr.
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Keith.Burau@uth.tmc.edu
Dissertation

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(713) 500-3969
Chiehwen.E.Hsu@uth.tmc.edu

Dual Degree Application Process

Persons wishing to enter a degree program in the School of Health Information Sciences are requested to submit the following to the Office of the Registrar:

1 A completed application form

2 A $30 non-refundable application fee

3 Official transcripts covering all periods of enrollment in accredited institutions of higher education. Applicants should request the institution to mail or deliver electronically official (original) transcripts directly to the Registrar's Office. A grade point average of at least 3.0 on a 4. 0-point scale is preferred. All foreign transcripts must be evaluated by an independent service. Educators Credential Evaluators is recommended. See ece.org

4 Letters of recommendation from at least three persons who are qualified to evaluate the applicant's health informatics work related experience, academic or professional performance, ability, motivation, and character.

5 Satisfactory scores obtained on the general test of the Miller's Analogy Test (MAT) or Graduate Record Examination (GRE) are required for applicants to all programs. Generally, a combined minimum score of 1140 is expected on the combined two sections of the GRE exam or a score of 432 on the MAT exam.

6 Copies of any published papers, reports, or other material that may provide information about the ability and performance of the applicant. These cannot be returned.

7 A letter describing the applicant's motivation and health informatics-related goals. These goals and interests may be expressed in terms of career path, research or community service areas of interest, and personal aspirations. The applicant may include a description of work or other significant life experiences that relate to his or her motivation, qualifications or academic record.

8 Applicants who are nationals of countries where English is not the primary language are requested to submit scores from the Test of English as a Foreign Language (TOEFL). A minimum score of 550 on the paper test, a minimum score of 213 on the computer test, or a score on the internet based test of writing 26, speaking 23, reading 21, listening 17, and total of 87 is required for admission.

9 A student criminal background check is required for all that are offered admission to the school. This report must be received by the Director of Admissions before registration is allowed. Foreign nationals are not required to meet this student background check unless they have been in the United States for more than two years.

10 Interview with the students' admissions committee as appropriate with the review of the documents and test scores submitted to the Registrar's Office.

11 Applicants to the School of Health Information Sciences are to designate the area of interest of study on the application.

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
Outcomes, Evaluation and Quality in Healthcare
Technology Assessment in Healthcare
Knowledge Acquisition
Clinical Datamining

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:

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(713) 500-9472
Keith.E.Burau@uth.tmc.edu

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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**
(Variable hours/week)

3 semesters hours of credit

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 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 basic 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 Clinical 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

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.

HI 5310   **Foundations of Health Information Science I**
(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

Why are computers indispensable in banking, but have made relatively little progress in health care outside of financial and scheduling systems? Health informatics is computation on evolved (as opposed to engineered) systems. Unlike engineered systems, evolved systems cannot be neatly divided into components. Therefore, it is difficult to design algorithms that work well in health care. Foundations I am an introductory survey course and am divided into two parts. First we introduce fundamental topics such as information, models, decision analysis, medical computing, standards/vocabularies and technology evaluation. Second we apply these concepts to specific areas of health informatics including computer-based patient records, patient care/monitoring systems, clinical decision support, public health and consumer informatics, imaging systems, information retrieval and bioinformatics.

HI 5311   **Foundations of Health Information Science II**
(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 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   **Information Technology for Biomedicine**
(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 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

HI 5320   **Introduction to Computational Biomedicine**
(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 a survey of research techniques and methods in computational biomedicine. Bioinformatics, biostatistics, biomedical engineering, modeling and simulation of biomedical systems and processes, bio-signal and image analysis, and complex biodynamical systems will be explored from a computational perspective with respect to normal and pathological structure and function of biomedical systems.

HI 5321   **Biomedical Signal Professing**
(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: We 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 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, it's 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: Access to the internet, 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: Access to the internet, personal computer, and 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 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 organi-

zation. 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 for example. 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, (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 advanced informatics 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 consultants 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 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 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   **Comparative Taxonomy**
(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 purpose of this course is to examine the taxonomies currently used in health care. The structure of individual taxonomies will be discussed and evaluated. Students will have the opportunity to compare the relationships between different taxonomies from different disciplines to determine where there are similarities and differences in the assumption, design and execution of the various taxonomies. The taxonomies will be examined in terms of meta-level taxonomies such as UMLS (Unified Medical Language System) and SNOMED-III (Systematic Nomenclature of Medicine Version III). This will allow students to examine how well phenomena of health care are related in the existing taxonomies. Such a study will give students insight into the implications of the use of existing taxonomies in electronic records and electronic categorization schema. Such insight will demonstrate the strengths and limitations of the existing systems as well as point to directions where future work needs to be done. The course will have a particular focus on the ability of current taxonomies to communicate knowledge across disciplinary lines to improve patient -centered healthcare.

HI 6307   **Cognitive Engineering in Health Informatics II**
(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

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 advanced 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 advanced 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 6320   **Introduction to Computational Aspects of Bioinformatics**
(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of advanced informatics component

Prerequisites: Undergraduate course work in differential and integral calculus, course work in biomedical sciences, computer science or programming courses, graduate standing, and consent of instructor.

This course will introduce the student to the use of applied computational science in bioinformatics. The course will present theories, algorithms and computer-based methods and applications for understanding biological structures and processes such as DNA, the genome, and protein sequences.

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 6326   **Computational Structural Biology**
Prerequisites: We will cater both to biological 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 introduces computational algorithms and data processing strategies used in modern biophysics and structural biology. The emphasis is on the algorithmic foundation and development of software fragments that may assist students in future research projects in computational biology. The course covers topics such as fast Fourier transform, computational geometry, diffraction theory, optics, and digital signal processing. The application of these methods in crystallography and image analysis of biological specimens is discussed.

HI 6327   **Biomolecular Modeling**
(2 hours lecture/3 hours laboratory/week lecture/demonstration/discussion)

3 Semester Credits/meets part of the advanced 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 provides a broad and practical introduction to the major techniques employed in the computational modeling of biological structures: computational chemistry, molecular dynamics, normal mode analysis, Monte Carlo simulations, electrostatics, and conformational analysis. The

course will be useful for graduate students in the pharmaceutical and medical disciplines that wish to model the physical and chemical properties of biological structures.

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 Creditd

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

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 Gulari 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.

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Noriaki Aoki, MD, PhD, MS; 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.

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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Hiroki Arakawa, Dr. Eng: Adjunct Professor, Health Information Sciences, UTHSC-H, B.E., M.S.E, Dr. Eng., 1969, 1071, 1982, Hokkaido University. President of NTT DATA University.

Dr. Arakawa is the President of NTT DATA University in Japan. He has worked in the areas of research and development of data transfer using the web. He is a guest Professor at Hitotsubashi University and Hokkaido University. His discipline areas are risk management, Corporate Governance and MOT. He has published several articles and is a member of several professional organizations.

Philip R. Baldwin, PhD; Adjunct Assistant Professor, Health Information Sciences and Assistant Professor, Biochemistry and Molecular Biology, Medical School, UTHSC-H. A.B., Princeton University, 1982; Ph.D., University of Illinois at Urbana-Champaign, 1987.

Dr. Baldwin is a Physicist at the Medical School. He did postdoctoral training at Baylor College of Medicine, AT&T Bell Labs and at the University of Houston. His research is in alignment errors in images. He has over 20 publications and articles.

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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.

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Dr. Bernstam is a board-certified in internal medicine and continues to practice. He completed a National Library of Medicine fellowship at Stanford Medical Informatics. His research focuses on clinical informatics; specifically on information retrieval, clinical practice guidelines and consumer informatics.

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Stefan Birmanns, PhD; Assistant Professor, Health Information Sciences, UTHSC-H, M.S., Ph.D., University of Aachen, 1999, 2003. Post Doctoral studies, Health Information Sciences, UTHSC-H.

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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Eric Boerwinkle, PhD; Adjunct Professor, Health Information Sciences, UTHSC-H, and Professor, Human Genetics Center, School of Public Health, UTHSC-H. B.S., University of Cincinnati, Ohio, 1980; M.A., M.S., Ph.D., University of Michigan, 1984, 1985.

Dr. Boerwinkle is a nationally and internationally recognized scientist in human genetic and cardio-vascular research. His research encompasses the genetic analysis of common chronic diseases

in humans. Diseases currently being analyzed are coronary heart disease, hypertension, and non-insulin 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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Michael E. Brandt, PhD; Associate Professor, Health Information Sciences, UTHSC-H, and Associate Professor, Department of Pediatrics, Medical School, UTHSC-H, Adjunct Faculty Member, GSBS, UTHSC-H, Dept. of Electrical & Computer Engineering, University of Houston and The Keck Center/Gulf Coast Consortium. B.S., Polytechnic Institute of New York, 1977; M.S., Ph.D., University of Houston 1983, 1989.

Dr. Brandt has a bachelor's degree in physics with a master's and doctoral degree in biomedical engineering. He has completed postdoctoral training in cognitive neuroscience and biomedical signal processing. He was a faculty member of the UTHSC-H Medical School from 1990 – 2000 (Dept. of Psychiatry). He serves on various departmental committees and is the director of the Neurosignal Analysis Laboratory.

sahs.uth.tmc.edu/NAL/.

He is a member of the Sigma Pi Sigma Physics Honor Society, Institute of Electrical and Electronics Engineers and the Society for Psycho physiological Research. Dr. Brandt has extensive research in computational methodologies for measuring both normal and anomalous pediatric brain development from magnetic resonance scans. His lab has NIH funded research studies of normal brain development in children and various brain disorders including traumatic brain injury, hydrocephalus, autism and spinal bifida. Dr. Brandt is also involved in biosignal/image analysis and computational modeling/simulation of biomedical processes such as brain electrical activity, viral dynamics in the body, and development of the T-cells.

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Juliana Brixey, Ph.D., RN, Adjunct Assistant Professor, Health Information Sciences, UTHSC-H. B.S., A.D., Missouri Southern State College, 1974, 1978; B.S.N., M.S.N., University of Texas Medical Branch at Galveston, 1995, 2000; Ph.D., School of Health Information Sciences, UTHSC-H, 2006.

Dr. Brixey is an Assistant Professor at the University of Kansas. She has numerous publications and her research includes interruptions to healthcare providers in clinical workspaces. Her dissertation was Understanding Interruptions in Healthcare: Developing a Model.

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Wah Chiu, Ph.D.; Adjunct Professor, Health Information Sciences, UT-Houston and Baylor College of Medicine, Department of Biochemistry and Molecular Biology. B.A., Ph.D., University of California, Berkley, 1969, 1975.

Dr. Chiu's research is in the field of electron cryomicroscopy and bioinformatics using computer enhancement and molecular 3-dimensional modeling of bacteria and viruses. He has numerous publications and teaches graduate courses.

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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. Cristini is an expert in the fields of complex fluids, microfluidics, complex (bio) materials, mathematical/computational modeling of cancer and nanomathematics, 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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Kim Dunn, MD, PhD; Assistant Professor and Associate Dean for Academic Affairs, Health Information Sciences, UTHSC-H, and President and CEO, Telecare International. B.A., The University of Texas at Austin, 1983; M.D., The University of Texas Health Science Center at Houston, 1990; Ph.D., The University of Texas Health Science Center at Houston, 1990.

Dr. Dunn is a practicing general internist who serves as the Associate Dean for Academic Affairs at the School of Health Information Sciences and 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 Prison System. At SHIS, she teaches Telemedicine, Consultation in Health Informatics, Project Management, and Advanced Informatics. She assists in developing the strategic directions for the SHIS.

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Elizabeth King Eaton, PhD; Adjunct Professor, Health Information Sciences, and Executive Director, Houston Academy of Medicine-Texas Medical Center. B.A., Hood College, 1965; M.L.S., The University of California, 1972; and Ph.D., The University of Texas Medical Branch, 1986.

Dr. Eaton is the Executive Director of the Houston Academy of Medicine-Texas Medical Center, a major academic health science library serving a multi-institutional center. Dr. Eaton became a National Library of Medicine Medical Informatics Fellow in October 1999. She serves on many national library and curriculum committees. She has published numerous articles. She is a member of the American Medical Informatics Association and other professional societies.

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Oliver Esch, MD, Adjunct Associate Professor, Health Information Sciences, UTHSC-H and Genefobank Technologies International. B.S. Technical University of Aachen, 1973; M.D., Aachen Medical School, 1983.

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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Richard E. Ewing, PhD; Adjunct Professor, Health Information Sciences, UTHSC-H, and Vice President for Research, Professor, Mathematics and Engineering, Director, Academy for Advanced Telecommunications and Learning Technologies, Institute for Telecommunications and Information Technologies, Institute for Scientific Computation and Science and Technology Division, Texas

Engineering Experiment Station Distinguished Research Chair, Texas A & M University. B.A., M.A., Ph.D., The University of Texas at Austin, 1969, 1972, 1974.

Dr. Ewing is Vice President for Research and Director for the Academy for Advanced Telecommunications and Learning Technologies at Texas A&M University. He holds the Distinguished Professor of Mathematics and Applied Mathematics chair and the Mobil Technology Chair in Computational Science. He has an extensive research background in mathematical modeling and ground water simulation. Dr. Ewing has received over 90 grants and contracts in the area of mathematical modeling and has published over 250 publications. His research has investigated several areas of human performance that could be modeled. While his work has not focused on health, many of the insights from his research will have direct applications in the areas being investigated by Health Informatics.

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Mauro Ferrari, Ph.D.; Adjunct Professor, Health Information Sciences, UTHSC-H and Professor, Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases, Chair, Department of Biomedical Engineering, UTHSC-H; Professor, Univ. of TX, M.D. Anderson Cancer Center, Rice University, Univ. of TX Medical Branch at Galveston. Ph.D., Universita' di Padova, 1985; M.S., Ph.D., Univ. of California, Berkley, 1987, 1989.

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 empression 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 invarients and apparatus for modeling causal relationships between genes.

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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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Lex Frieden is professor of physical medicine and rehabilitation at Baylor College of Medicine in Houston, Texas. He is also senior vice president at Memorial Hermann|TIRR (The Institute for Rehabilitation and Research) and director of the ILRU research, training and technical assistance program at TIRR. He has served as chairperson of the National Council on Disability, president of

Rehabilitation International, and chairperson of the American Association of People with Disabilities. Frieden was instrumental in conceiving and drafting the Americans with Disabilities Act (ADA).

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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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Dr. Hsu has served as a director of a masters of public health program and is a professor of public health informatics. His research encompasses emergency preparedness for bioterrorism situations and its delivery to emergency responders and health professionals. Dr. Hsu has numerous book chapters , articles published and is also a member of the American Public Health Association. His lab seeks to enhance the understanding of public health informatics in addressing current critical public health challenges, including disaster informatics, informatics in vulnerable populations in health and human services, emergency preparedness and response, and reduction of health disparities.

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Dr. Huber is a professor in Library Science. His research areas include HIV/AIDS information and resources. He also concentrates on relationships between sociological aspects of disease and their respective vocabularies, information access for health care consumers and public health professionals. He is a Research Information Scientist for the Houston Academy of Medicine-Texas Medical Center Library. He has many journal articles, book chapters and presentations.

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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 wed 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. 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

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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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Dr. Li has an active research program with industry and the National Institutes of Health. She is the University of Texas Medical Branch's (UTMB) principle investigator for the National Eye Institute sponsored Studies of Ocular Complication of AIDS and Diabetic Retinopathy Clinical Research Network. Another of Dr. Li's areas of interest is telemedicine. Dr. Li has received grant support for teleophthalmology imaging research and the application of telemedicine to eye disease. A frequently invited lecturer on telemedicine in ophthalmology, Dr. Li has written a number of papers and book chapters on the emerging field. She provides telemedicine diabetic retinopathy evaluation services to UTMB Starks Diabetes Center patients and teleophthalmology consultation to National Science Foundation researchers and support personnel at three Antarctica research stations and two research ships operating near the South Pole. Dr. Li is a three-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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Dr. Liang's graduate training is in signal processing, and his PhD is on neural networks in physics. After completing his PhD, he performed three postdoctoral research periods in Tel-Aviv University, Israel, Max-Planck-Institute for Biological Cybernetics, Germany, and the Center for Complex Systems and Brain Sciences, Florida Atlantic University, USA in order to gain expertise in neural modeling and neurobiology. His research experience throughout the years ranges from areas in biomedical signal processing to cognitive and computational neuroscience.

Dr. Liang's major current interest is development and application of advanced signal processing techniques to biological systems. In collaboration with other scientists, Dr. Liang has been engaged in two related research areas: computational

Neuroscience and biomedical signal processing. Much of his work focuses on the analysis and modeling of electrophysiological data on which mathematical, statistical and computational techniques are applied. The long-term research objective in his lab is to understand computation in biological systems.

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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.

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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 commu-

nications, 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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Dr. Michea is the appointed Director of the Faculty Instructional Technology Services unit at the University of Connecticut Health Center. During his career has gathered a broad range of technological, educational and research expertise: Ten years of research, design and development experience evaluating e-learning, learning management systems, and cognitive issues of multimedia in education. Dr. Michea has ten years of clinical experience on Family Practice and Mental Health. He is currently applying his expertise in the development of a technological platform for shareable virtual patients and simulations, and also participating of diverse working groups to develop the standards to exchange contents on these domains.

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She became Dean Pro Tem in September 1992. The School was redefining itself. She has been instrumental in the development of the new School of Health Information Sciences. The School received approval to offer a masters degree in Health Informatics in July of 1999. In October of 2000, the School under her leadership received approval to offer a doctoral degree in Health Informatics. In March2001,

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Dr. Jack W. Smith was recruited from Ohio State University to become the first Chairman of the Department of Health Informatics at U.T.H.S.C.-H. He was instrumental in recruiting many of our original faculty from O.S.U. In January 2003, he became the Interim Dean for the School of Health Information Sciences at the University of Texas Health Science Center at Houston. In addition, he is Deputy Director of Medical Informatics and Healthcare Systems at the National Aeronautics and Space Administration (NASA) - Johnson Space Center, Houston, Texas. Medical Informatics and

Healthcare Systems is concerned with the issues surrounding the collection, storage, retrieval, analysis, and transmission of medical information related to spaceflight at NASA JSC. This includes investigations in a number of areas such as medical devices for collecting information both on the ground and on orbit, electronic patient records for quality and timely astronaut care, security measures to enable remote access to medical information, warehouses of medical data to enable further analyses used to determine risk factors and develop countermeasures, and technologies to support international partner collaboration on medical issues. His research interests are artificial intelligence, modeling problem solving in healthcare, implementation of decision support and tutoring systems, modeling complex human problem-solving and the application of cognitive science to understanding human-computer interaction. Dr. Smith is a board certified in Pathology and has a doctorate in Computer Science in the area of Artificial Intelligence. Dr. Smith has funded research in the modeling of problem solving in healthcare and its application to the implementation of decision-support and intelligent tutoring systems. His current research focuses on modeling clinician understanding and the implementation of systems to supporting tutoring and the decision-making processes of healthcare specialists, flight surgeons and biomedical engineers. His research interests includes the modeling of complex human problem-solving in healthcare, the representations of knowledge for automating these processes and the application of cognitive science to the understanding of human-computer interaction.

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Dr. Souther has taught undergraduate and graduate nursing courses at several universities. She has been an innovator to move education programs into the electronic era. She has worked as a consultant in the Health Informatics field.

Currently, Dr. Souther is an implementation specialist at Texas Children's Hospital with the use of an electronic medical record.

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David L. Steffen, Ph.D.; Adjunct Professor, Health Information Sciences, UTHSC-H and Professor, Molecular and Human Genetics, Baylor College of Medicine. B.A., University of California, Berkley, 1971; and Ph.D., Brandeis University, 1977.

The Bioinformatics Research Center provides a core competency and focus for the wide range of excellent biomedical computing activities at Baylor College of Medicine. Our primary purpose is to engage in high quality research bioinformatics, both in our own projects and in collaborations with other groups. Secondarily, we provide some services (for a fee) for which we are the most appro-

priate host. These include the GCG suite of programs, statistical software, GeneSpring, and various computer server hosting options.

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James P. Turley, RN, PhD; Associate Professor, Health Information Sciences, UTHSC-H. B.A., St. Francis College, 1970; B.S., Widener University, 1973; M.A., New School for Social Research, 1976; M.S.N., Case Western Reserve University, 1977; Ph.D., University of Oregon, 1981; Post-Doctoral Fellow of the National Library of Medicine, Health Informatics, 1993.

Dr. Turley is Associate Professor. He has a BA in Philosophy and a BSN in Nursing. He has an MSN (Nursing) from Case Western Reserve University and a PhD is in Community Health Education from the University of Oregon. From 1991-1993, Dr. Turley was a National Library of Medicine Post-Doctoral Fellow at the University of Minnesota. He was an Associate Professor in The University of Texas Health Science Center at Houston-School of Nursing for several years. During 1990-1991, Dr. Turley was project director for the development of the Community nursing Minimum Data-Set Australia. Recent research interests include visual display of complex clinical data, and the impact of data display on decision making of clinicians and laypersons.

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Dr. Valdes has developed software in the treatment of patients and healthcare professionals to reduce stress in the workplace. He is the editor of several medical computing journals. He has written numerous articles, made presentations and designs and host several medical society web pages.

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Robert W. Vogler, DSN, Associate Professor, Health Information Sciences, UTHSC-H B.S.N., Seattle University, 1966; M.Ed., North Texas State University, 1972; M.S.N., Medical College of Georgia, 1976; D.S.N., University of Alabama, 1984; F.N.P., Texas Women's University, 1995; Post Doctoral Fellowship, University of Texas Health Science Center at Houston, 1999.

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 univer-sity 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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Hongbin Wang, PhD, Associate Professor, Health Information Sciences, UTHSC-H. B.S., Peking University, 1991; M.A., M.S., Ph.D., The Ohio State University, 1995, 1998, 1998.

Dr. Wang has a doctorate in Psychology (Cognitive) and masters degree in Computer Science. His research is in medical decision-making, human & machine learning, computational modeling, and human-computer interaction. Dr. Wang has several articles and book chapters. He has made several national and international presentations.

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Dr. Weems is director of the Office of Academic Computing (OAC), The University of Texas Health Science Center at Houston and Associate Professor of Integrative Biology at the Medical School. He has conducted extensive research in the areas of neurophysiology of sympathetic ganglia, control of intestinal motility and fluid propulsion. Recent research has focused on informatics as a tool for the study of modeling and management of complex systems. Through his work in OAC, Dr. Weems has been responsible for establishing the electronic and computing infrastructure required to support academic activities at The University of Texas Health Science Center at Houston. Dr. Weems has created the staff and resource support for the development of Web-based courseware, which he has pioneered with his own course in physiology. Dr. Weems has been integral to the establishment of an electronic record system at Hermann Hospital, linking Hermann with The University of Texas Health Science Center at Houston-Medical School.

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Dr. Weinstock is a Biochemist and Molecular Genetics specialist at the Health Science Center. He teaches microbiology and human genetics to medical school and graduate students at UT-Houston and Baylor College of Medicine. He has continuing funded research in the areas of Biochemistry, Microbiology, and Genetics. He has sponsored many postdoctoral candidates. Dr. Weinstock has been invited to make presentations nationally and locally by other universities, drug companies and

professional organizations. He holds patents and licenses in his fields. He has numerous articles, chapters, and books.

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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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Irmgard Willcockson, PhD; Instructor, Health Information Sciences, UTHSC-H. B.S., University of California, 1987, Ph.D., Baylor College of Medicine, 1997.

Dr. Willcockson is the Director of the Certificate program. She recruits working professionals in the field of informatics. The program is tailored to their needs as they progress through the program. Mentoring these students is very important to Dr. Willcockson. Her current research is evaluating outcomes from the students that are in the Foundations I course. This is an online course that requires the development of resources to make courses high in enrichment value.

She has been involved in the evaluation of educational video games. This includes instrument development, evaluation using the instrument and publications in peer-reviewed journals. She has been instrumental in writing grants for further development.

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Dr. Wong has various faculty positions in the electrical engineering and informatics fields. His current research encompasses brain modeling techniques, and his past research deals with computing in the medical field, especially information storage and medical imaging. Dr. Wong serves as an associate editor for various books and has had numerous publications.

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Kevin C. Wooten, PhD; Adjunct Associate Professor, Health Information Sciences, and Associate Professor, Management and Human Resources, University of Houston Clear Lake. B.A., M.A., University of Houston Clear Lake, 1976, 1978; and Ph.D., Tulane University, 1991.

Dr. Wooten's research interests include psychological and cognitive reactions to job loss, quantitative methods for training need assessment. Change readiness and resistance, organizational fairness and justice, personality predispositions relative to career change and culture fit, measurement issues in vocational assessment, methodologies for evaluating organizational development interventions, and organizational and professional ethics.

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Jiajie Zhang, PhD; Professor and Associate Dean for Research, Health Information Sciences, UTHSC-H. B.S., University of Science & Technology of China, 1983; M.S., Ph.D., University of California, San Diego, 1991, 1992.

Dr. Zhang is a cognitive scientist with interdisciplinary training in cognitive psychology, computer science, and neurosciences. He has done research in biomedical informatics, cognitive science, human-centered computing, user interface design, information visualization and external representation, medical error, decision-making, and computational cognitive modeling. He has authored numerous articles; book chapters, and peer-reviewed proceedings papers. He has been the principal investigator or co-investigator on more than ten grants from NASA, Office of Naval Research, Army, NIH, James S. McDonnell Foundation, and other funding agencies. He has given numerous conference presentations and invited presentations at other institutions, and organized and participated in many symposia and panels at international and national conferences. He has also served on several NIH review panels. Dr. Zhang was a recipient of John P. McGovern Outstanding Teacher Award in 2002.

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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 on the Internet at uth.tmc.edu/ut_general/admin_fin/planning/ pub/hoop/index.html or linked to the university's Home Page (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/home-page.html) reflect the general policies and rules set forth by the Board of Regents of The University of Texas System and apply to all institutions within the UT System. The Regents' Rules and Regulations supersede all official documents at UTHSC-H and all policies in these documents 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.

For additional information on policies specific to individual schools, contact the Student Affairs Office in your school.

STUDENTS ARE HELD INDIVIDUALLY RESPONSIBLE FOR READING AND BECOMING FAMILIAR WITH UTHSC-H POLICIES, REGULATIONS AND PROCEDURES.

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

The University of Texas Health Science Center at Houston (UTHSC-H) is in compliance with the Family Educational Rights and Privacy Act (FERPA) of 1974, which protects the privacy of education-al records and establishes the rights of students to access and correct their educational records. The full policy can be found online at uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/06/6_08.html

The full text of FERPA, which includes a list of directory information that the university may release without a written request for non-disclosure, can be found online at uth.tmc.edu/ut_gen-eral/admin_fin/plan-ning/pub/hoop/app_c/c_6_08.html. Please note that in some cases, the thesis or dissertation authored by a student must be made available to interested members of the community for necessary review and commentary. A copy of FERPA is also maintained and available in the Office of the Registrar.

AIDS, HIV, HBV, and HCV Infection

The University of Texas Health Science Center at Houston (UTHSC-H) 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 uth.tmc.edu/ut_gener-al/admin_fin/plan-ning/pub/hoop/18/18_07.html

Campus Security

UTHSC-H is committed to a safe and secure learning and working environment. To that end, the uni-versity strives to assure that its buildings and contents are secure and that members of the univer-sity community are properly identified and are given appropriate access to university facilities and amenities. Policy 1.06 Campus Security can be found online at uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/01/1_06.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 and UT System rules and regula-tions; comply with directives issued by administrative officials of the 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 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 or not civil or criminal penalties are imposed for such conduct. The full policy, which defines unacceptable conduct and sanctions, and describes the process, can be found online at uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/06/6_03.html

Disability Accommodation

The University of Texas Health Science Center at Houston (UTHSC-H) ensures equal educational opportunity for all disabled individuals who are otherwise qualified, with or without reasonable accommodation.

If any student 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 UTHSC-H Office of Equal Opportunity and Diversity or contact the Student Affairs office at his/her school. Policies and procedures regarding disability accommodation can be found online at uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/06/6_02.html

Equal Educational Opportunity

The University of Texas-Health Science Center at Houston (UTHSC-H) strives to maintain an educa-tional 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 activ-ity 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 or contact the executive vice president for academic affairs. The full policy can be found online at uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/06/6_01.html

Hazing

Hazing is prohibited by both state law (Sections 37.151 et seq and 51.936, Education Code) and by the Regents' Rules and Regulations (Part One, Chapter VI, Section 3.28). The term "hazing" is broadly defined by statute to mean any intentional, knowing, or reckless act, occurring on or off the campus of UTHSC-H, 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. (From policy 6.03 Conduct and Discipline, uth.tmc.edu/ ut_gen-eral/admin_fin/ planning/pub/hoop/06/6_03.html)

Immunizations 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. The UT Medical School Health Services (MSHS) will place an immunization "hold" on each student's record at the time of admission if immunizations are incomplete. The hold blocks registration. The MSHS will release all immunization holds after proof of immunizations is satisfied.

The full policy, which lists required immunizations and procedures for requesting exemptions from required immunizations, can be found online at uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/06/6_07.html

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

Oath of Residence

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 complete a residence questionnaire and affirm under oath that he or she is entitled to be classified as a resident for the purposes of tuition. The full policy can be found online at uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/06/6_12.html

Observing Religious Holy Days

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 online at uth. tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/02/2_37A.html

Sexual Assault

UTHSC-H 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. Policy 6.14 Sexual Assault can be found online at uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/06/6_14.html

Sexual Harassment

The UTHSC-H distinguishes between, and 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 community of UTHSC-H including, but not limited to, administrators, faculty, staff, students, residents, fellows and other trainees, volunteers, vendors, consultants, observers, and visitors. The full policy, which defines sexual harassment, sexual misconduct, and consensual relationships and explains the appropriate process for registering complaints, can be found online at uth.tmc.edu/ut_gener-al/admin_fin/planning/pub/hoop/02/2_04.html

Student Government

UTHSC-H authorizes the existence of a student government body that has the jurisdictions and pow-ers delegated by the Board of Regents of The University of Texas System. The student association of UTHSC-H is the Student InterCouncil (SIC), which is recognized as a forum for student opinion and is made up of representatives from each of the six schools with minority and international repre-sentation. The SIC bylaws can be found online in the HOOP at uth.tmc.edu/ut_gener-al/admin_fin/planning/pub/hoop/app_b/sic.html

The full student government policy can be found online at uth.tmc.edu/ut_general/ad-min_fin/planning/pub/hoop/06/6_06.html and the Statement on Governance can be found at uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/hoop/app_c/c_4_26.html

Substance Abuse - Students

UTHSC-H is committed to maintaining an environment that is free from substance abuse and its primary concern related to substance abuse among students is prevention and treatment. The institution 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. The 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 uth.tmc.edu/ut_general/admin_fin/planning/pub/hoop/18/18_06.html

Travel by UTHSC-H Students

UTHSC-H supports the educational, research and service activities of its students by sponsoring and reimbursing certain 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 Board of Regents of The University of Texas System to assure 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 uth.tmc.edu/ut_gener-al/admin_fin/planning/pub/hoop/06/6_18.html

Other important policies affecting students are included in the HOOP (uth.tmc.edu/ut_general/admin_fin/plan-ning/pub/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.

6.09 Student Employment Appointments

6.10 Financial Aid

6.11 Tuition, Fees, and Debt

6.11A Tuition and Refund

6.13 Governance

6.15 Tax-Free Sales

6.16 Student Services

6.17 Student Publications