Master of Science (M.S.), Major in Health Services Research

Major Program
Health services research, while focusing on health informatics, effectively utilizes biostatistics, epidemiology, and management engineering. The program prepares the graduate to be a vital contributor to clinical research, quality improvement, or policy development in the health sciences. The Texas State program represents the practical application of computer based qualitative, quantitative, and analytical methods of problem solving and decision making in both clinical and administrative settings. Graduates work in public health, biotechnology, or other careers related to health services administration where their quantitative and computer skills are a strong asset. The program is designed for entrance by students with diverse academic preparations, including both the health and non-health professional.

Admission Policy
For information regarding admission application requirements and deadlines, please visit The Graduate College website at www.gradcollege.txstate.edu/.

Degree Requirements
The degree will require between 43 to 45 semester hours. The degree can be thesis or non-thesis, with most students choosing thesis.

**Thesis Option**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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**Electives**
Choose 6 hours from HR, HIM, or HA

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<tr>
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<td>Information Systems Management in Healthcare</td>
<td>3</td>
</tr>
<tr>
<td>HA 5321</td>
<td>Healthcare Law</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5301</td>
<td>The Enterprise Electronic Health Record</td>
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**Non-thesis Option**

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**Practicum or Internship**

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<td>HR 5640</td>
<td>Administrative Practicum</td>
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</tr>
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<td>or HR 5840</td>
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**Total Hours**

| Total Hours | 43 |

**Comprehensive Exam**
All degree-seeking graduate students must pass a comprehensive exam at the end of the didactic portion of their programs. The School of Health Administration administers comprehensive exams at the end of the fall and spring terms. Students with field placements on their degree audits must pass the comprehensive exam before they begin their field placement. Students who fail the comprehensive exam may take the exam again the next term it is offered.

If a student elects to follow the thesis option for the degree, a committee to direct the written thesis will be established. The thesis must demonstrate the student's capability for research and independent thought. Preparation of the thesis must be in conformity with the Graduate College Guide to Preparing and Submitting a Thesis or Dissertation. The thesis handbook may be accessed at http://www.gradcollege.txstate.edu/docs/Thesis_Diss_Guide.pdf.

**Thesis Proposal**
The student must submit an official Master's Thesis Proposal form to their thesis committee. The required thesis proposal form may be obtained from The Graduate College at http://www.gradcollege.txstate.edu/gcforms.html. After signing the form and obtaining committee members' signatures, graduate advisor's signature (if required by the program), and the department chair's signature, the student must submit the thesis proposal form with one copy of the proposal attached to the dean of The Graduate College for approval before proceeding with research on the thesis. If the thesis research involves human subjects, the student must
obtain exemption or approval from the Texas State Institutional Review Board prior to submitting the proposal form to The Graduate College. If the thesis research involves vertebrate animals, the proposal form must include the Texas State IACUC approval code. It is recommended the thesis proposal form be submitted to the dean of The Graduate College by the end of the student’s enrollment in 5399A.

**Thesis Committee**

The thesis committee must be composed of a minimum of three approved graduate faculty members.

**Thesis Enrollment and Credit**

The completion of a minimum of six hours of thesis enrollment is required. Enrollment for the thesis will be in course number 5399A for a student’s initial thesis enrollment and a thesis B course for each subsequent thesis enrollment in the field in which the subject matter of the thesis falls, e.g., PS 5399A and PS 5399B. Preliminary discussions regarding the selection of a topic and assignment to a research supervisor will not require enrollment for the thesis course.

A student will be required to enroll in and pay the fee for at least one hour of the thesis course during any term in which the student will receive thesis supervision or guidance and/or in which the student is using university resources. Failure to register for the thesis course during a term in which supervision is received may result in postponement of graduation. After initial enrollment in 5399A, the student will continue to enroll in a thesis B course as long as it takes to complete the thesis. In the rare case when a student has not previously enrolled in thesis and plans to work on and complete the thesis in one term, the student will enroll in both 5399A and 5399B. The only grades assigned for thesis courses are PR (progress), CR (credit), W (withdrew), and F (failing). If acceptable progress is not being made in a thesis course, the instructor may issue a grade of F. If the student is making acceptable progress, a grade of PR is assigned until the thesis is completed. The minimum number of hours of thesis credit (“CR”) will be awarded only after the thesis is filed in the Alkek Library and the librarian has electronically returned the thesis card to the office of The Graduate College.

A student who has selected the thesis option must be registered for the thesis course during the term or Summer I (during summer the thesis course runs ten weeks for both sessions) in which the degree will be conferred.

**Fee Reduction**

A master’s degree candidate for graduation may be eligible for a one-time fee reduction under V.T.C.A. Education Code, Section 54.054. Please refer to the section titled *Fee Reduction* in the *Additional Fees and Expenses* chapter of this catalog for more information.

**Thesis Deadlines and Approval Process**

Thesis deadlines are posted at the following web page: http://www.gradcollege.txstate.edu/Thes-Diss_Info/T-D_Deadlines.html. The completed thesis must be submitted to the chair of the thesis committee no later than 41 days before the date of the commencement at which the degree is to be conferred.

The following must be submitted to the office of The Graduate College no later than 24 days, not counting weekends or holidays, before the date of commencement at which the degree is to be conferred (see The Graduate College webpage for specific deadlines):

1. The Thesis/Dissertation Committee Approval form bearing original signatures of the student and all committee members.
2. One (1) copy of the thesis in final form, approved by all committee members, on standard paper (Hard-copy Submission Option) or PDF of the thesis in final form, approved by all committee members, uploaded in the on-line Vireo submission system (Vireo On-line Submission Option).

After the dean of The Graduate College approves the thesis, the process is as follows:

1. For the Vireo On-line Submission Option:
   a. No copies are required to be submitted to the Alkek Library. However, Alkek will bind copies submitted that the student wants bound for personal use. Personal copies are not required to be printed on archival quality paper. The student will take the personal copies to the Alkek Library and pay the binding fee for personal copies.

**Courses Offered**

**Health Research (HR)**

HR 5101. Independent Study in Health Services Research.
An in-depth study of a single topic or related problem solved through health services research. The course may be repeated once if the topic studied is different

1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.
Grade Mode: Standard Letter

HR 5191. Field Experience and Thesis Orientation.
This course will prepare students for the field experience or thesis experience as well as the comprehensive exams qualifying students for these experiences

1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5199B. Thesis.
This course represents a student’s continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding. Graded on a credit (CR), progress (PR), no-credit (F) basis

1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5299B. Thesis.
This course represents a student’s continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding. Graded on a credit (CR), progress (PR), no-credit (F) basis

2 Credit Hours. 2 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5301. Independent Study in Health Services Research.
An in-depth study of a single topic or related problem solved through health services research. The course may be repeated once if the topic studied is different

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
HR 5311. Seminar in Health Services Research.  
This course will introduce the student to some of the latest trends and issues in health services research, as well as newer analytical techniques, focusing on research applications where possible using real data and problems. This course may be repeated for credit with different area of study  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Course Attribute(s): Dual Enrollment Permitted/Time Conflicts Permitted  
Grade Mode: Standard Letter

HR 5330. Biostatistics for Health Professionals.  
An applied course addressing statistical and analytical techniques important to researchers and practitioners within the scientific and health profession communities. This course provides in depth coverage of biostatistical methods from simple ANOVA and regression, through selected multivariate techniques. This course cannot be used for degree credit. Graded on a credit (CR), no credit (PR) basis. Prerequisite: HP 3302 or equivalent  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Course Attribute(s): Exclude from Graduate GPA/Leveling  
Grade Mode: Leveling/Assistantships

HR 5331. Research Methods in Health Services.  
Quantitative and qualitative research methods are introduced to evaluate effective health services. Psychometric techniques are covered to prepare survey questionnaire, experimental design for data collection, data analysis, and interpretations. Scientific principles such as randomization and replication are illustrated for efficient decision making. Prerequisite: HP 3302 or equivalent  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5333. Regression Analysis and Biostatistics.  
An introduction to multivariate analysis techniques appropriate to the health sciences. Multiple statistical packages such as the Biomedical package (BMD) will be utilized. The analysis of health data using least-squares analysis for the study of multiple regression and analysis of variance will be examined. Time series analysis will be studied for its utility in forecasting needs within health agencies. Prerequisite: HR 5331 or consent of the instructor  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5337. Clinical Trials and Statistical Analysis.  
A survey of statistical techniques important in the analysis of biomedical data, statistical analyses related to bioassay, clinical trials, and survey research with special emphasis on mathematical modeling techniques. Confidentiality and privacy of records, safe-guarding computer data, and rights of human and animal subjects will be addressed. Prerequisite: HR 5333 or consent of instructor  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5339. Advanced Multivariate Health Data Analysis.  
Advanced multivariate analysis techniques are examined for their utility to the health sciences. Statistical computer packages, such as the Biomedical Statistical Package (BMD), will be used for the study of each statistical procedure. Applied to health data will be procedures such as multivariate analysis of variance, canonical correlation, factor analysis, and discriminate analysis. Prerequisite: HR 5333 or approval of instructor  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5341. Operations Research in Health Administration.  
Adaptation and application of procedures and principles of operations research to the specific needs and requirements of health service institutions. Specific attention will be given to the improvement of effectiveness and efficiency of management functions and the delivery of health services. Emphasis will be placed on techniques to optimize allocation of resources, inventory control, customer service/cost factors, and project management within health institutions. Prerequisite: HHR 5391 or HR 5331  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5351. Principles of Epidemiology.  
Principles of epidemiological methods are examined as they may identify factors influencing health and disease in a population. Epidemiological methods are examined for their technique of hypothesis formation, retrospective and prospective methods, and sampling problems  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5357. Clinical Epidemiology and Outcomes Research.  
Examination of techniques and issues important to clinical epidemiology and how they can be applied to health outcome research. A study of variation in the measurement of illness to include diagnostic and screening tests; experimental design; outcome measures; patient satisfaction; and risk adjustment for severity, co-morbidity, and demographic factors  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5362. Bioinformatics.  
Examines clinical information systems and statistical issues in the emerging field of genomics and proteomics. Topics examined include medical advances, gene mapping, database issues, ethical issues surrounding genomic research, stochastic models, dynamic programming, Markov-Chain Monte Carlo methods, neural networks, and Bayesian statistical techniques. Prerequisite: HR 5330  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5363. Medical Informatics.  
An examination of clinical aspects of health care information systems to include administrative systems, diagnostic systems, and patient care monitoring systems. Current challenges and future technologies will be discussed  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter

HR 5369. Health Information Systems.  
Critical examination of concepts and theories of medical information systems and their integrated support in functional areas of health institutions, such as pharmacy, clinical laboratory, radiology, food service, wards and clinics, patient administration, patient appointment scheduling and logistics  
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.  
Grade Mode: Standard Letter
HR 5383. Healthcare Marketing Research.
Examination of methods for internal and external environmental analysis, including patient demographics and economic factors. Patient satisfaction surveys, institutional image analysis, competition analysis, and sources of health marketing research data will be introduced.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter

HR 5399A. Thesis.
This course represents a student’s initial thesis enrollment. No thesis credit is awarded until student has completed the thesis in Health Research 5399B. Graded on a credit (CR), progress (PR), no-credit (F) basis.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5399B. Thesis.
This course represents a student’s continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding. Graded on a credit (CR), progress (PR), no-credit (F) basis.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5495. Directed Study in Health Services Research.
A course where the student investigates a topic of importance to Health Services Research under the supervision of a faculty member. Topics may be selected to advance a student’s knowledge beyond that normally covered in an organized course. A significant terminal project should result from the investigation. Graded on credit (CR), no-credit (F) basis.
4 Credit Hours. 4 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5599B. Thesis.
This course represents a student’s continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding. Graded on a credit (CR), progress (PR), no-credit (F) basis.
5 Credit Hours. 5 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5640. Administrative Practicum.
A one semester, part-time field experience which provides an orientation to the health services research organization and special projects. Designed for the student already working full-time in healthcare.
6 Credit Hours. 0 Lecture Contact Hours. 20 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5840. Administrative Internship.
A one semester, full-time field experience which provides an orientation to the organization, a rotation through health services research functions in healthcare organizations and special projects. Designed for the student with little or no prior work experience in healthcare.
8 Credit Hours. 0 Lecture Contact Hours. 40 Lab Contact Hours.
Grade Mode: Credit/No Credit

HR 5999B. Thesis.
This course represents a student’s continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding. Graded on a credit (CR), progress (PR), no-credit (F) basis.
9 Credit Hours. 9 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Credit/No Credit