

# PH.D. IN HEALTH SCIENCES

## Overview

The Doctor of Philosophy in Health Sciences degree program is designed to prepare allied health professionals to assume major leadership, research and educational positions within their professions, as well as to provide career advancement opportunities. The Ph.D. in Health Sciences is a broad-based, interdisciplinary/interprofessional degree that will allow graduates to place their individual health field in the context of the allied health disciplines, the health care delivery system as a whole, and the larger issues of health and wellness across the continuum of the health care system. Graduates will be well prepared to assume essential roles as faculty and researchers at colleges and universities, as well as assuming leadership roles in clinical agencies, governmental and health care organizations, and industry.

The Doctor of Philosophy in Health Sciences offers specialization tracks in Emergency Medical Sciences, Medical Laboratory Sciences, Speech-Language Pathology, Occupational Therapy, Physical Therapy, Physician Assistant Studies and Respiratory Care, as well as a generalist concentration in Health Sciences. The program of study for the Doctor of Philosophy degree includes formal courses and electives in research design, statistical methods, health systems management, communications (publications and grant writing), education, leadership, and advanced course work in a health science professional track.

## Admission Requirements

General graduate admissions standards and program-specific admissions standards are listed below. Applicants must have a graduate degree (master's or professional doctorate) in a relevant allied health discipline such as emergency health sciences, medical laboratory sciences, occupational therapy, physical therapy, physician assistant studies, respiratory care or speech language pathology or other relevant field (e.g., public health, imaging sciences, radiation therapy, dental hygiene, other health-related discipline or relevant biological sciences discipline). A limited number of students may be allowed to enroll concurrently in School of Health Professions professional doctoral programs (e.g. O.T.D./Ph.D., D.P.T./Ph.D.).

Applicants must provide official transcripts from each college or university attended and documentation of appropriate certification and/or licensure (as applicable) in their health profession by a major U.S. certification/licensing agency.

Courses taken outside the United States may be considered for transfer with the approval of the program director, but all such courses must be evaluated by a NACES member (<https://www.naces.org/>) and be judged equivalent by U.S. standards.

Applicants must:

1. Possess a minimum overall grade point average (GPA) of 3.0 on a 4.0 scale.
2. Submit official transcripts from all colleges and universities attended.
3. Complete any prerequisite courses (where required) with a grade of 3.0 or better. Students entering with a master's degree or higher in an allied health discipline will not be required to complete additional prerequisite courses.
4. Documentation of certification and/or license in an allied health or allied health related discipline (as applicable).

5. Three letters of recommendation from persons who are knowledgeable about the quality of the applicant's scholarly activities and/or work experiences.
6. Acceptable healthcare experience in the professional area of study is required for admission. Prior research experience, especially in a health sciences environment, will also be considered and has the benefit of increasing the candidate's understanding of the biomedical research process.
7. Transcripts from institutions outside the United States must be submitted in the original language and must be accompanied by an acceptable evaluation agency translation for each course (NACES®, e.g. WES or ECE).
8. International applicants only: Submit Test of English as a Foreign Language (TOEFL) scores; minimum scores 84 (Internet based test) or IELTS advanced version Band score of  $\geq 7.0$ .
9. Specific admission requirements may be waived by the Graduate Faculty Council. Requests for waivers will be addressed on a case-by-case basis.

Scores from the Graduate Record Examination (GRE) are strongly encouraged, but not required.

## University Faculty and Staff as Students

Any faculty member (tenured or non-tenured) may pursue an advanced degree in an institution of The University of Texas System other than the university that employs the faculty member. Non-tenured university faculty may pursue an advanced degree at their university of employment with the written recommendation of his/her department chair and approval of the appropriate dean and the president. Faculty interested in applying to the Ph.D. in Health Sciences program are advised to review the guidelines provided in their employment institution's *Handbook of Operating Procedures (HOP)* and speak with their departmental chair prior to application. Approved faculty and staff are encouraged to work with their appropriate dean, department chair, and/or supervisor to determine availability and approval of release time for the completion of the educational and research activities required by the Ph.D. in Health Sciences program. Any approved release time should be in accordance with university policies.

Must complete 98 total program hours and a cumulative GPA of a 3.0 to be eligible for graduation.

## Transfer Hours – Allied Health Masters Degree or Doctoral Degree

With permission from their major advisor, program director and the program Committee on Graduate Studies (COGS), students holding a master's degree (or higher) in a relevant allied health related discipline will be able to transfer up to 30 SCH into the PhD program. Appropriate master's degrees include specific allied health fields (e.g., Physician Assistant Studies, Medical Laboratory Sciences, Respiratory Care, Speech Language Pathology).

Students holding a professional doctoral degree (e.g., audiology doctorate [Au.D.], Doctor of Physical Therapy [D.P.T.], or Doctor of Occupational Therapy [O.T.D.]), and those with extensive graduate level course work beyond the 30 SCH transferred in from the master's degree may request that up to 21 SCH of additional course work completed in their professional program be applied toward elective (12 SCH) and/or professional track PhD (9 SCH) program requirements. The minimum number of semester hours required for completion of the PhD degree in Health Sciences will be 47 semester credits (SCH). The student must

supply the course description or course syllabus for each transfer course requested.

### Transfer Hours – Non-Allied Health Master's Degree

With permission from their major advisor, program director and the program Committee on Graduate Studies (COGS), students entering with only master's degree in a relevant biological sciences or health-related discipline only the 30 SCH may be transferred. The minimum number of semester hours required for completion of the PhD degree in Health Sciences will be 68 semester credits (SCH). The student must supply the course description or course syllabus for each transfer course requested.

### Other Degree Requirements

After passing a comprehensive written qualifying examination on fundamental principles related to the Health Professions and the chosen area of specialization, students must complete and successfully defend their dissertation research proposals (i.e. dissertation prospectus) as certified by their advisory committees. The Ph.D. program is intended to advance the science and practice of the allied health sciences by providing a link between the sciences, clinical research and practice. Award of the Ph.D. degree demonstrates the capability of independent research and recognizes a unique contribution to scientific.

## Sample Plan of Study

The Ph.D. program in Health Sciences consists of four major core areas: Education (12 SCH), Research & Statistics (16 SCH), Leadership (10 SCH), and the Professional Track (9 SCH). The nine (9) hours of Professional Track credit provides advanced cognate courses in specific allied health disciplines. Specialization areas may include emergency health sciences, medical laboratory science, occupational therapy, physical therapy, physician assistant, respiratory care, speech-language pathology, and health sciences. The specialization in health sciences may include additional course work in outcomes research, health sciences education, health systems management, and clinical services.

In addition to the coursework described above, students must complete 12 SCH of elective course work which may include the advanced biomedical sciences, clinical sciences, education, management and supervision, leadership principles, measurement and statistics, and additional research courses that are available at UT Health San Antonio. Elective courses will require approval by the student's major advisor and the program director and will be individualized based on the student's interests and career goals. Students may request completion of elective course work at other regionally accredited colleges and universities offering appropriate doctoral level graduate course work. Student learning outcomes for the Ph.D. in Health Sciences have been developed for each major core area and are mapped to individual courses.

Each student will have an individualized Program Plan which will include the prescribed core courses in education, research, statistics, leadership, and the professional track, as well as a projected timeline for completion. Electives will be included in the student's program plan, based on the student's interests and career goals. Each student's individualized Program Plan (i.e. Plan of Study) must be approved by the program's Committee on Graduate Studies (COGS).

Students holding a master's degree (or higher) in an allied health related discipline will be able to transfer up to 30 SCH into the Ph.D. program. For students holding an appropriate master's degree, the minimum number of additional semester hours required for the Ph.D. degree in Health Sciences will be 68 semester credit hours (not including the

master's degree requirement of 30 SCH). Students holding a professional doctorate (e.g. D.P.T., O.T.D.) may request that up to 21 SCH of additional course work completed in their professional doctoral program be transferred in, and applied toward elective and/or professional track Ph.D. program requirements.

## Required/Core Courses

### Education Core Courses (12 SCH)

HSCI 7001	Foundation of Education	3
HSCI 7002	Curriculum and Instruction	3
HSCI 7003	Methods and Evaluation	3
HSCI 7004	Teaching Practicum	3

### Research Core Courses (16 SCH)

HSCI 7101	Research Design I	3
HSCI 7102	Research Design II	3
HSCI 7103	Statistics I	3
	or NURS 7316 Statistical Analysis For Nursing Science	
HSCI 7104	Statistics II	3
	or NURS 7375 Regression Models For Nursing Science	
HSCI 7105	Introduction to Grantsmanship	2
	or TSCI 6064 Grantsmanship and Peer Review	
HSCI 7106	Research Seminar 1	1
HSCI 7107	Research Seminar 2	1

### Leadership Core Courses (10 SCH)

HSCI 7201	Leadership Theory	3
HSCI 7202	Issues and Trends in Health Care	3
HSCI 7203	Ethics in Clinical and Research Settings	1
HSCI 7204	Management and Supervision	3
	or RESC 5013 Management & Leadership in Health Profession	

### Research Dissertation (9 SCH)

HSCI 7304	Dissertation	9
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**Total Credit Hours** **47**

## Professional Track Courses (9 Credit Hours Required)

### Medical Laboratory Sciences

MLSC 5013	Medical Toxicology/Therapeutic Drug Monitoring	3
MLSC 6000	Advanced Diagnostic Microbiology	2
MLSC 6003	Evidence-based Medicine in Medical Laboratory Science	3
MLSC 7091	Selected Topics in Medical Laboratory Sciences	1-9
MLSC 7097	Research in Medical Laboratory Sciences	3-6

Courses chosen from the Master of Science Medical Laboratory Science course offerings.<sup>1</sup>

### Occupational Therapy

OCCT 7110	Advanced Occupational Therapy Theory and Practice	3
OCCT 7114	Advanced Evidence-based Practice in Occupational Therapy	3
OCCT 7125	Population Health and Occupational Therapy	3

OCCT 7091	Selected Topics in Occupational Therapy	1-9
OCCT 7097	Research in Rehabilitation Sciences	3-6
Courses chosen from the Occupational Therapy course offerings. <sup>1</sup>		

### Physical Therapy

PHYT 7801	Advanced Studies in Physical Therapy	3
PHYT 7802	Practicum in Clinical Practice	3
PHYT 7091	Selected Topics in Physical Therapy	1-9
PHYT 7097	Research in Rehabilitation Sciences	3-6

Courses chosen from the Physical Therapy course offerings.<sup>1</sup>

### Physician Assistant Studies

PHAS 7010	Current Issues in Physician Assistant Education	3
PHAS 7020	Physician Assistant Leadership and Governance	3
PHAS 7030	Research Topics in Physician Assistant Clinical and Professional Practice	3
PHAS 7091	Selected Topics in Physician Assistant Studies	1-9

Courses chosen from the Physician Assistant course offerings.<sup>1</sup>

### Respiratory Care

RESC 5015	Education in Respiratory Care	3
RESC 5023	Cardiopulmonary Diagnostics and Pulmonary Function Testing	3
RESC 7042	Advanced Clinical Practice	3
RESC 7091	Selected Topics in Cardiopulmonary Sciences	1-9
RESC 7097	Research in Cardiopulmonary Sciences	3-6

Courses chosen from the Master of Science Respiratory Care course offerings.<sup>1</sup>

### Speech-Language Pathology

MSLP 5007	Motor Speech Disorders	3
MSLP 5009	Dysphagia in Adults and Children	3
MSLP 5012	Cognition and Communicative Disorders	3
MSLP 7091	Advanced Topics in Communication Sciences and Disorders	1-9

Courses chosen from the Master of Science in Speech Language Pathology course offerings.<sup>1</sup>

### Health Sciences

HSCI 7301	Education	3
HSCI 7302	Research	3
HSCI 7303	Clinical Delivery	3
HSCI 7091	Selected Topics in Health Sciences	1-9

<sup>1</sup> Requires approval of the student's major advisor, the program director, and the respective department chair.

## Electives (Up To 12 Credit Hours)

Elective courses should be a part of the student's program plan and must be approved by the student's major advisor, the program director and permission granted by the course instructor. Courses taken in other schools should be designated as open for cross enrollment and should follow the course cross-enrollment policies (<http://catalog.uthscsa.edu/generalinformation/generalacademicpolicies/coursecrossenrollment/>).

## Objective/Program Outcomes

The educational objectives of the program are designed to prepare outstanding allied health professionals to assume major educational, leadership, and research positions within their professions, as well as to provide career advancement opportunities. The program will prepare individuals for careers as faculty in colleges and universities, as educators in multiple settings, as outcome and health services researchers, as leaders within allied health, and more broadly, within health care and higher education. The program is unique in Texas, providing an interdisciplinary/ interprofessional health science core and the opportunity to take additional, discipline-specific coursework and engage in research relevant to allied health. The outcome of the program will be a graduate who can address the larger issues of health and wellness across the health care continuum.

Each course is evaluated by students anonymously using a standardized course and instructor evaluation system (IDEA). The IDEA system (<https://www.ideaedu.org/>) provides each faculty, program director and department chair with a personalized on-line dashboard and a wealth of resources to improve instruction. Summary data is reviewed each semester by personnel in the School of Health Professions Dean's office and distributed for review to each of the school's departments. Course evaluations are reviewed by each faculty member and the program director. Suggestions for change and additions are incorporated as appropriate.

Program Outcomes Assessment includes administration and review of annual Graduate Exit Surveys, Graduate Six-Month Follow-Up Surveys, graduate job placement, and monitoring graduate career success in achieving leadership positions.

## Program Goals and Student Learning Outcomes

The goals of the program are to: (1) prepare competent health science professionals at the doctorate level to assume leadership roles as educators, researchers and leaders; (2) provide leadership training in specific clinical-related allied health specialty areas; and (3) develop individuals who can formulate appropriate questions, organize and test hypotheses, and apply research results to improve health care.

Student Learning Outcomes for the Ph.D. in Health Sciences have been developed for each major core area and are mapped to individual courses. The four major core areas which all students must complete are: Education (12 SCH), Research and Statistics (16 SCH), Leadership (10 SCH) and Professional Track (9 SCH). The nine hours of professional track credit provides advanced cognate courses in specific allied health sciences. In addition, students will take up to 12 hours of elective courses, which will be individualized based on the student's interests and

career goals. The 12 hours of electives may include advanced science courses, leadership, measurement and statistics, and research courses that are available at UT Health Science Center. Elective courses will require approval by the student's major advisor.

Students must complete a minimum of 9 semester credit hours of dissertation, generally over a one-year period (at least two semesters).

Because this is a Ph.D. in Health Sciences (vs. a doctoral program in a specific allied health professional area), outcomes for the major core areas are the same for all students for the education, research and statistics and leadership core areas.

Prior to graduation, all students in the program will demonstrate achievement of the competencies described below in each of the core competency areas of education, research and leadership. Students will also demonstrate achievement of the required competencies in their individual professional track cognate areas.

## Education Core (12 SCH)

Upon completion of the program, the student will be able to:

1. Demonstrate enhanced critical thinking and analytical skills related to educational program design, development, implementation, administration and evaluation.
2. Exhibit the capacity for educational leadership within the setting of higher education.
3. Understand learning theory as applied to professional and adult education.
4. Apply learning theory to development and application of teaching methods and specific learning platforms.
5. Integrate learning theory and methods into the curriculum to include program and course design, delivery, administration and evaluation.
6. Integrate the historical, philosophical, social and cultural foundations of curriculum as a field of study with the development and administration of allied health professional training programs.
7. Perform a needs analysis for health science course and program development.
8. Design and implement competency-based health science program curricula.
9. Develop course descriptions, course outlines, syllabi, goals, objectives, content, learning activities and evaluation methods for specific programs and learning audiences.
10. Evaluate health science program curricula using both process and outcomes assessment.
11. Develop and implement specific teaching and learning methods for course content delivery in the classroom, teaching laboratory and clinical or practicum settings.
12. Select and apply appropriate learning platforms for course and program delivery to include traditional lecture-discussion, small group work, projects, and the use of educational technology and web-based instruction.
13. Develop criterion related testing for courses and programs to include the use of both objective and subjective testing methods and evaluation of the cognitive, psychomotor and affective domains.
14. Develop and apply program evaluation to include measurement tools and program revision based on evaluation results.
15. Develop assessment-driven, standards-based instruction for education and training.

16. Work as scholar-practitioners by applying current educational research and theory to lead the development of the health science/ allied health sciences.
17. Demonstrate effective teaching and evaluation methods that assure that learning occurs through:
  - a. The development and/or improvement of course syllabi that facilitate assurance of learning.
  - b. Preparation of effective lectures, discussions and presentations using the appropriate venue to support learning.
  - c. Delivery of course topics under the guidance of faculty mentors.
  - d. Evaluation of learning outcomes and feedback to students
  - e. Maintenance of a Teaching Portfolio.

## Research and Statistics (16 SCH)

The overall aim of the research core is to enhance the student's knowledge of scientific methods to include how to define the scientific problem, the rationale behind the review of literature, selection of the research design, data analysis, results and discussions. These courses will deepen the student's knowledge and understanding of quantitative and qualitative research methods with a focus on interdisciplinary, collaborative and outcomes research in the health sciences.

Upon completion of the program, the student will be able to:

1. Demonstrate a thorough understanding of research design and methods.
2. Understand and have the ability to interpret and apply basic and advanced research statistical models.
3. Effectively evaluate and critique research reports.
4. Identify knowledge gaps for selected allied health fields, synthesize relevant information, and formulate focused research questions to address these gaps.
5. Identify specific problem areas for research and conduct a thorough review of the literature.
6. Develop and refine specific aims, research questions, and hypotheses based on the review of the literature.
7. Select and apply appropriate research methodology to address specific research questions.
8. Develop appropriate research protocols.
9. Obtain institution review board approval for conducting research studies.
10. Initiate approved research protocols and collect data.
11. Apply appropriate statistical analyses to data collected and interpret the results.
12. Write research reports and present and publish research findings.
13. Engage in collaborative, interdisciplinary research, with a focus on outcomes and evidence-based practice.
14. Conduct research as scholar-practitioners to lead the evolution of practice in professional settings.
15. Seek funding for a collaborative, interdisciplinary research agenda.
16. Address issues in research management including:
  - a. Formation and leadership of multidisciplinary teams.
  - b. Staffing, budgeting and tracking.
  - c. Subject recruitment and retention.
  - d. Data quality control and data safety management.
  - e. Funding mechanisms and Grantsmanship.
  - f. Research ethics and regulations.

- g. Professional quality peer-review, oral and poster presentation, report, grant, and manuscript writing.
- 17. Conduct investigations that support evidence-based problem solving of direct relevance to their work and career development.
- 18. Identify appropriate funding agencies and opportunities
- 19. Develop and submit proposals to obtain grant funding.

Demonstration of Research Core Competencies is further achieved by passing the Doctoral Qualifying Examination and by successful development, conduct, completion, defense and publication of the dissertation.

## Leadership Core (10 SCH)

Upon completion of the program, the student will be able to:

1. Describe evidence-based methods for developing and evaluating leadership.
2. Demonstrate leadership development in an interdisciplinary health care environment.
3. Achieve interdisciplinary goals in practice, education, scholarship and service.
4. Practice in an interdisciplinary manner to model collaborative care.
5. Engage in reflective practice for continuous professional growth and improvement.
6. Demonstrate professional and ethical leadership.
7. Demonstrate the capacity for educational leadership within the setting of higher education.
8. Describe current issues and trends in health care and apply these to professional practice and research. Examples include:
  - a. Health care reform
  - b. Health care costs, access and quality
  - c. Interdisciplinary and collaborative health care and health care research
  - d. Evidence-base practice and comparative-effectiveness research
  - e. Health care disparities
  - f. Health care finance
  - g. Workforce issues
  - h. Health promotion and disease prevention
  - i. Management of chronic disease
  - j. Implications of targeted therapy and genetic testing
  - k. Issues in higher education
9. Conduct informed thinking and planning for organizational strategies with appropriate data.
10. Apply standards of ethical leadership and management.
11. Work as scholar-practitioners by applying current research and theory to lead the development of the health science/allied health sciences.
12. Describe the principles of management as they apply to health care organizations and institutions to include planning, organizing, controlling, and directing an operational unit.
13. Apply motivational theory and conflict management to interpersonal relationships within an organization.
14. Apply principles of management and supervision to the administration of School and university academic programs and departments.
15. Demonstrate an understanding of the governance, organization, finance, and administration of institutions of higher learning.

16. Understand the attributes and skills necessary to lead and manage professional organizations as complex and adaptive systems
17. Engage in critical thinking, analysis, and problem solving that reflects scholarly intellectual standards, incorporation of sound reasoning, and equity and fairness.

## Professional Track (9 SCH)

Professional track cognate courses in the various professional areas in which students hold certification or licensure are provided with associated learning outcomes as follows:

Upon completion of the program, the student will demonstrate:

1. An increased knowledge base in the professional specialty area.
2. Synthesis of an interdisciplinary perspective related to everyday activities and application of these perspectives as well as knowledge generated in health science to promote evidence-based practice.
3. Presentation of research related to the professional track at state and national meetings.
4. Teaching allied health-health science students in undergraduate and/or graduate programs.
5. Initiation and participation in communities of practice and other collaborations with professionals and community members to mobilize resources to best meet learner needs and enhance professional growth.
6. Development of expertise in ways that cross conventional disciplinary lines.
7. Identification of professional venues including conferences and journals for publication and dissemination of results.
8. Presentation of research findings to peers during organized extracurricular research seminars.
9. Preparation of research manuscripts suitable for submission for publication.
10. Maintenance of a Research Portfolio.
11. Use of evidence based practice as part of daily clinical decision making.

## Electives (up to 12 SCH)

Upon completion of the program, the student will demonstrate:

1. An enhanced scientific knowledge base for a better understanding of clinical systems and procedures, disease pathophysiology and management, care plans and treatment protocols.
2. Exploration of areas of scientific interest by taking science cognates in the various medical, health care systems and basic science departments of the university.
3. Exploration of areas related to interdisciplinary health care delivery, quality, health outcomes and service provision.
4. Advanced course work in the areas of education, management, and health care systems.

## Assessment of Student Learning Outcomes

The assessment of student learning outcomes includes homework assignments, tests, quizzes, class participation, attendance, and the weight of classwork, as well as other direct measures of student assessment (e.g., comprehensive qualifying examination, research

proposal prospectus defense, dissertation defense) and corresponding rubrics, all aimed at assessing and ensuring student success.

## Program Policies

All students must abide by the School of Health Professions program policies and procedures (<http://catalog.uthscsa.edu/schoolofhealthprofessions/policiesandregulations/>) and Graduate School of Biomedical Sciences program policies and procedures (<http://catalog.uthscsa.edu/biomedicalsciences/policiesandprocedures/>) as well as all general academic policies (<http://catalog.uthscsa.edu/generalinformation/generalacademicpolicies/>) and institutional policies (<http://catalog.uthscsa.edu/generalinformation/institutionalpolicies/>) listed in this catalog.

## Background Checks and Drug Screening

Background checks are required prior to matriculation. Any events that occur after the initial background check that might affect the student's status in the program must be reported to the department immediately. Students are required to comply with additional requests for background checks at any time during their course of study.

Students are responsible for the cost and fees of any/all required background checks and drug screenings.