Doctor of Philosophy in Therapeutic Science

Therapeutic Science is an interdisciplinary doctoral program involving faculty across a variety of departments and schools at KU. This program is part of a growing trend to provide interdisciplinary doctoral-level training addressing issues related to disability. The doctoral program in Therapeutic Science (http://www.kumc.edu/school-of-health-professions/therapeutic-science.html) is administered through the Department of Occupational Therapy Education (http://www.kumc.edu/school-of-health-professions/occupational-therapy-education.html) in the KU School of Health Professions.

This program is designed for graduate students with interests in disability and quality of life requiring an integrated, interdisciplinary course of study that cannot be provided by existing programs. Typically, applicants will already have obtained a graduate degree (or accumulated 24 research-related course credits at the graduate level) and have a professional credential or identity (e.g., occupational therapist, speech-language pathologist, licensed clinical social worker, clinical psychologist, special educator). Many are likely to be working in their chosen field related to issues of disability, but now seek to generate knowledge for understanding disability and improving quality of life for individuals with disabilities. Recognizing the value of insights gained through application of theoretical knowledge in work place settings, the curriculum purposely is flexible enough to allow students to pursue this program of study while working professionally.

Applications to this program are submitted online. Detailed instructions on how to apply are posted on the program website (http://www.kumc.edu/school-of-health-professions/therapeutic-science/how-to-apply.html). The program is administered through the Department of Occupational Therapy Education (http://www.kumc.edu/school-of-health-professions/occupational-therapy-education.html). Applications must be received by December 1 for consideration, with enrollment in course work typically beginning the following fall semester.

Admission requirements:

- A research-based master's degree from a regionally accredited institution is required, and must be documented by submission of official transcripts indicating the degree has been conferred before entering the program. Students with degrees from outside the U.S. must provide a transcript evaluation from an official, independent service, indicating the degree is equivalent to a U.S. degree and meets the minimum cumulative grade-point average requirement.
- Applicants must possess a cumulative grade-point average of at least a 3.0 on a 4.0 scale in a bachelor's degree program.
- Applicants who are not native speakers of English, whether domestic or international, must demonstrate they meet the minimum English proficiency requirement.
- A background check is required during the admission process; it may affect the student's eligibility to enter the program.
- A current curriculum vitae or résumé is required and must include details of the applicant's educational, professional, and research background. The following information will be critical to evaluate the application: research experience, publications, abstracts, awards, honors, leadership roles, professional presentations, and teaching or mentoring experience.
- A brief statement of academic interests and professional goals will be submitted with the online application. This statement (no more than 300 words) should include how graduate education at the doctoral level will contribute to the attainment of the student's career goals.
- Applicants will also provide a brief statement (2-3 paragraphs) of their research interests, describing how these interests align with expertise of faculty in the Therapeutic Science program. Applicants are encouraged to contact faculty prior to applying to the program.
- Three references are required and must be provided by faculty members, advisors, employers, or other people familiar with the applicant's work and character.
- If invited to join the Therapeutic Science program, applicants with options for discipline specific PhD programs will be required to submit a rationale for why the Therapeutic Science program is best suited to achieving their goals.

Applicants will be assessed based on these requirements. In addition, the extent to which the applicant's interests and goals correspond to those of the available faculty will be considered as part of the admissions review process. If invited to join the Therapeutic Science program, applicants with options for discipline specific PhD programs will be required to submit a rationale for why the Therapeutic Science program is best suited to achieving their goals.

Students not meeting the above requirements may be eligible for provisional admission. Once an applicant has been admitted, a program may defer the applicant's admission for one year after which time the applicant must submit a new application.

Admission requirements are subject to change. In most cases, use the catalog of the year student entered the program. Other years' catalogs.

The Ph.D. in Therapeutic Science (http://www.kumc.edu/school-of-health-professions/therapeutic-science.html) is an interdisciplinary program that involves faculty across a variety of departments and schools at KU that is administered through the Department of Occupational Therapy Education (http://ot.kumc.edu) in the KU School of Health Professions. The program consists of coursework, research experience, and the successful completion of a doctoral dissertation. Dissertation research culminates in a final dissertation examination consisting of an oral presentation by the candidate and an examination by the faculty. Relevant prior graduate work is taken into consideration in setting up individual programs of study leading to the Ph.D.

Degree requirements:

- Degree requirements are normally completed within 5 years of admission to the program although a maximum of 8 years is allowed.
- Cumulative grade-point average (GPA) of at least a 3.0 for all KU graduate coursework.
- Successful completion of the University's Research Skills and Responsible Scholarship (http://catalog.ku.edu/graduate-studies/kumc/#programtext) requirement prior to scheduling of the Oral Comprehensive Examination. The goal of the RS&RS requirement is to support the student in developing tools necessary for conducting ethical research, pursuing scholarly endeavors, and addressing research questions through a process that is thoughtful, strategic, and evidence-based.
- **Research Skills:** Fulfillment requires doctoral students to demonstrate competency in a research skill "distinct from, but strongly supportive of, the dissertation." In order to fulfill this requirement for the Therapeutic Science program, students must
demonstrate specific skills or competencies, listed below. The purpose of this extensive research skills requirement is to ensure that the student can implement design and analysis procedures and engage in scholarly work appropriate to the chosen content emphasis. Students will propose their own plan for fulfilling these requirements, which must be approved by the student’s mentors. Program faculty will mentor students as they obtain these skills and apply them in the student’s selected emphasis area.

Through this content, students will gain experience in the areas of research design and methodology, methods of qualitative data analysis, methods of quantitative data analysis, computer programming appropriate to the study or analysis, laboratory skills or other research techniques necessary for the discipline, knowledge of languages appropriate to the field of study. These skills are beyond those of the basic research requirements for doctoral degrees, and should include advanced training in theory and in practical applications of multiple research methodologies (e.g., beyond those employed in the dissertation research). The nine specific competencies include:

- Mastery of theoretical and conceptual background knowledge concerning human service problems, social science disciplines, and research methodologies.
- Ability to identify, define and conceptualize major social and behavioral problems, treatment methods and unresolved issues for intervention modalities.
- Ability to identify relevant sources of knowledge and information for problem solution (e.g., empirical research, related practice and technology, social innovation), and to retrieve, assess, order and synthesize their contributions for application purposes.
- Ability to engage in developmental processes, that is, to operationalize appropriate intervention procedures, to submit them to pilot and developmental testing, to revise and develop procedures as appropriate and to come up with innovative, field tested interventions.
- Ability to employ multiple methodologies in development and evaluation-needs assessment, quantitative and qualitative approaches, basic research methods, single-case experimental designs, group- and quasi-experimental designs, measurement instruments and practice related recording procedures, developmental practice and methods of placing these methods into practice, diverse techniques such as those of human service practice, task analysis and flowcharting, and selected aspects of program evaluation now employed for assessing, modifying, and developing interventions in a phased design and development sequence.

- Responsible Scholarship
  - Awareness of standards for ethical practices, and the ability to apply these standards appropriately in research settings.
  - These skills include the ethics of protection of human subjects, welfare of laboratory animals, conflicts of interest, data management, mentor/student responsibilities, collaborative research, authorship, publication standards, plagiarism, copyright, peer review, professional practices, maintenance of confidentiality, appropriate research conduct, and identifying research misconduct.
- Therapeutic Science students must demonstrate competency in the areas of applied research, teaching, and service as these areas relate to ability and disability.

- Applied Research
  - Ability to design innovative intervention strategies and techniques derived from the diverse sources of knowledge and information. This requires familiarity with social science and related data, with treatment and related technology, and a capacity to relate one to the other in new and potentially productive ways. It necessitates knowledge of the methodology of intervention design.
  - Ability to work cooperatively in practice settings, to gain the support of practitioners and other agency actors, and to handle the politics of field research generally and of outcome evaluation in particular.

- Teaching
  - Ability to communicate research results differentially both to the scientific community and to the community of professional practitioners and administrators.
  - Curriculum development, course development, lectures, continuing education, client education, staff development, advocacy.

- Service
  - Provide leadership in practice, education, or research settings, participate in committees, participate in outreach experiences.

- Successful completion of the Residence Requirement (http://catalog.ku.edu/graduate-studies/kumc/#programstext) prior to the semester the Oral Comprehensive Examination is scheduled. The requirement is met by enrollment in full-time status a minimum of two semesters. These may be any combination of consecutive or non-consecutive Fall, Spring, or Summer terms. Only one Summer term may be applied toward this requirement.

- Successful completion of TS 980 Advanced Study in Therapeutic Science which includes written preliminary examinations. Once a major portion of the program coursework and a majority or all the research skills competency requirement is completed, each student will undertake three projects on topic areas related to the student’s research interests. Written scholarly documents summarizing in detail each of these three projects will be evaluated by the student’s mentor and other appropriate program faculty, and together constitute the written preliminary examination which must be successfully completed before the student can defend his or her dissertation proposal during the Oral Comprehensive Examination (http://catalog.ku.edu/graduate-studies/kumc/#programstext).

Note that the Therapeutic Science program requires a student’s dissertation work to include at least two articles under review or accepted by peer-reviewed journals. The documents prepared for the written comprehensive exams may be used for this requirement if submitted for peer-review and publication.

- Successful completion of the Oral Comprehensive Examination (http://catalog.ku.edu/graduate-studies/kumc/#programstext). Students are recognized as formal doctoral candidates after they have passed the comprehensive examination. The format for this examination is an oral defense of a written dissertation proposal. Students must exhibit the potential for original scientific thought; be familiar with the relevant literature and be able to identify significant research questions in their field; have a good understanding of the underlying principles of the experimental methodologies proposed; show an ability to critically analyze data and to anticipate experimental outcomes; and demonstrate a comprehensive understanding of the problem...
Successful completion of the Post-Comprehensive Enrollment requirement, typically through continuous enrollment TS 990 Dissertation in Therapeutic Science.

Enrollment in a minimum of one (1) credit hour of TS 990 Dissertation in Therapeutic Science the semester the student will defend dissertation and graduate.

Successful completion of the Final Oral Examination (http://catalog.ku.edu/graduate-studies/kumc/#programstext) (dissertation defense.) At least 5 months must elapse between the successful completion of the comprehensive oral examination and the date of the final oral examination. The dissertation should be comparable in scope to justify co-authorship on a rigorously peer-reviewed manuscript. Students qualifying for a PhD degree in Therapeutic Science must have at least two articles under review or accepted by peer-reviewed journals at the time of the defense. In exceptional circumstances, the student’s advisor has the option to petition the Therapeutic Science program for a waiver of these requirements if the student’s work is deemed of sufficient merit to warrant acceptance in a scientific journal, even if it has not yet been accepted at the time of the student’s dissertation defense.

Successful Dissertation Submission and Publication (http://catalog.ku.edu/graduate-studies/kumc/#programstext) (dissertation defense) according to Office of Graduate Studies policy.

Successful completion of a minimum of 64 credit hours including core courses, dissertation related coursework and interdisciplinary content coursework. This minimum number is based on the assumption that the student already has at least 24 graduate credit hours in content courses and 6 hours in research methods and analysis courses that have been accumulated toward a master's degree before beginning the Ph.D. program. Note that most Therapeutic Science students accumulate more than the 64-credit minimum by the end of the program.

In addition to the core courses, and reflecting the interdisciplinary nature of our students’ approaches to their research focus, the Therapeutic Science program also requires the following curricular elements to be obtained. Enrollment in suitable graduate-level courses offered by other academic disciplines is both possible and anticipated, although the student’s mentors must approve the plan of study.

Successful completion of the following courses:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>TS 850</td>
<td>From Beliefs to Evidence (Fall)</td>
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<td>TS 850</td>
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<td>TS 900</td>
<td>Evolving Interdisciplinary Views of Disablement (Fall)</td>
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<td>TS 900</td>
<td>Evolving Interdisciplinary Views of Disablement (Spring)</td>
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<td>TS 950</td>
<td>Designing Effective Knowledge Transfer (Fall)</td>
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<td>TS 950</td>
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<td>TS 880</td>
<td>Independent Study/Project</td>
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<tr>
<td>TS 990</td>
<td>Dissertation in Therapeutic Science</td>
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Elective Courses
Advanced Theory elective (one course). Students will identify and explore key theories through enrollment in an advanced theory course appropriate to their background and interests. The course must have an emphasis on clinical or problem-based reasoning. Students will demonstrate an understanding of contemporary theories and be able to compare and contrast key theories, while also developing knowledge about theory-guided research and interventions.

Interdisciplinary electives (two courses). In consultation with mentors, the student will choose a content emphasis and select a series of interdisciplinary courses around that emphasis. The selection of courses for each student will be guided by a significant scientific or professional problem identified by the student, and the associated research area of interest.

Advanced Study elective (one course). This course will allow the student to pursue an in-depth study of their content emphasis. Selection of the specific course should be made in consultation with the student’s mentors.

Teaching Theory elective (one course). In consultation with mentors, the student will choose an elective to explore teaching theories appropriate to the student’s area of emphasis.

Teaching Practicum elective (one course). In consultation with mentors, the student will enroll in a practicum experience aligned with the student’s area of emphasis, in which the student will have direct experience applying teaching theory.

Focused Scholarship
Independent Study/Project. Work with a research mentor to complete a research-related study or project. Possibilities include (but are not limited to) critical examination of literature, design and execution of studies, mentoring, and publication in the professional literature. TS 880 may be used to satisfy this curricular element.

Research Process
The Therapeutic Science program requires a minimum of 12 credit hours in this curricular category, although most students accumulate more than the minimum. The content, level, and scope of the courses should reflect the nature of the dissertation research. Selection of the specific courses should be made in consultation with the student’s mentors. This course work can be applied toward meeting the Research Skills & Responsible Scholarship training required by Graduate Studies.

Research design and methods (two courses). Student & mentor together select course work appropriate for the student’s dissertation research plan. These courses may be taken outside the OT Education department’s course offerings.

Data analysis (two courses). Student & mentor together select course work appropriate for the student’s dissertation research plan. These courses may be taken outside the OT Education department’s course offerings.

Total Hours 64

The department will provide a more program-specific handbook to each student upon their entry into the program.

Degree requirements and course descriptions are subject to change. Any courses taken as an equivalent must be approved by the Graduate Director and the Office of Graduate Studies. In most cases, use the
catalog of the year student entered the program. Other years’ catalogs»
(http://catalog.ku.edu/archives).

This table summarizes a typical plan of study for this program.

The details of these courses and their sequence have some degree of flexibility, and students should consult regularly with the academic advisor and research mentor to discuss options. A full-time student should expect to take 4-5 years to complete the minimum of 64 credit hours required by this program of study. Students pursing the degree on a part-time basis will require proportionally longer. Unless special circumstances arise, the program must be completed within 8 years.

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**TECHNICAL STANDARDS**

**Doctoral Degree Program in Therapeutic Science**

A Doctoral Degree in Therapeutic Science signifies that the holder is prepared to assume leadership in research programs related to human disability. It follows that graduates must have the knowledge and skills to articulate theory and perform scientific research. Therefore, all individuals admitted to the University of Kansas Medical Center Therapeutic Sciences degree program must have the following abilities and expectations with or without accommodations.

Individuals with disabilities are encouraged to apply to the Therapeutic Science program, and reasonable accommodation will be made for qualified applicants or students who disclose a disability. Candidates who indicate upon application or after acceptance to the program that they cannot meet an expectation listed will be reviewed further by the TS-PhD Admissions Manager in collaboration with the ADA Panel for the School of Health Professions to determine if reasonable accommodations are likely to lead to successful completion of the occupational therapy graduate program.

1. **Problem Solving:** The culminating activity in the preparation of an occupational therapist is clinical reasoning. Doctoral candidates are
expected to develop advanced expertise and demonstrate skill in leadership, teaching, research design, and data analysis. Therefore, a candidate must be able to understand research, make correct observations, and engage in reasoning, analysis, and synthesis.

2. **Judgment:** The doctoral candidate will be expected to demonstrate judgment in classroom, community, and other research settings that shows an ability to make mature, sensitive, and effective decisions in the following areas: a) relationships with supervisors, peers, and subjects/patients/clients/consumers/families, b) professional behavior, c) the effectiveness of intervention or other research strategies. The candidate must demonstrate and articulate an understanding of the rationale supporting decisions and processes, and be able to provide a justification for his or her actions and performance.

3. **Communication:** A) **Written communication:** The candidate must be able to assimilate information from written sources (texts, journals, databases, medical/school records, etc.). The candidate must be able to obtain, comprehend, retain, and use new information presented in written formats. Candidates are required to compile information from written sources, interpret that information, and produce appropriate written documentation. B) **Verbal and nonverbal communication:** Candidates must be able to communicate effectively in order to elicit information from subjects/patients/clients/consumers/families, as well as supervisors and peers. Candidates must possess the ability to convey factual information, but also to communicate the more subtle cues of mood, temperament, and social responses. Candidates must develop skill in providing feedback appropriately to others, as well as personal insight and responsiveness to feedback provided by others to the candidate. Communication with subjects/patients/clients/ families and with all members of the research team or academic unit must be accurate, sensitive, effective, and efficient. Response time to emergencies/crisis situations, as well as more routine communication must be appropriate to the situation or setting.

4. **Sensorimotor:** Candidates must have sufficient gross motor, fine motor, and equilibrium functions, and functional use of sensory systems to enable them to perform all tasks essential to their career paths.

5. **Behavioral and social attributes:** Candidates are expected to exhibit professional behaviors and attitudes during participation in classroom, clinical, or research experiences. The candidate must be able to communicate effectively and sensitively with subjects and colleagues, including individuals from different cultural and social backgrounds. This includes, but is not limited to, an ability to establish rapport and communicate with others, to use appropriate language, possess flexibility toward change, and to accept responsibility for one’s own conduct. Students are expected to exhibit a positive attitude toward patients/clients, peers, and supervisors.